

How European Banks ensure they are oriented towards innovation. A multi-case study

The role of an innovation orientation as a competitive advantage for highly regulated industries (i.e. banking) facing challenging market conditions

Arturo Callau i Berenguer



Co-directors:

Ana Isabel Jiménez Zarco

Enric Serradell López

Doctoral program:

Information and Knowledge Society

Barcelona, June 2021

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1. INTRODUCTION

1.1 Study context

Innovation management is increasingly more present in the business discourse for all kind of fields of activity. However, academic literature has generally focused on technological and product innovations and in some industries, but limited research has been conducted so far in the service industry and to a lesser extent in the banking sector.

With this in mind, **this study has focused on innovation in the banking sector in Europe** in the current times (primary research conducted between 2018 and 2019), when this industry was facing an increasingly competitive landscape.

Those **competitive forces** in the banking industry came mainly from (Efma and EdgeVerve, 2019; Carletti et al., 2020; Finextra, 2020):

(i) customers

- who have become better informed,
- have higher expectations and with greater variety of needs,
- have become less loyal to their traditional banking institutions,
- are moving towards non presence channels (internet, mobile),
- are facing lower switching costs,
- and have shown a drop on their trust on the banking institutions;

(ii) competition

- which has become tougher with new entrants like Challenger Banks, which are small, recently-created retail banks that compete directly with the longer-established banks or incumbent banks,
- some of them non-traditional competitors such as FinTechs, which are companies that use new technologies that seek to improve and automate the delivery and use of financial services,
- facing overcapacity which has forced to consolidation and to set up strategic alliances;

(iii) infrastructure

- which has been turned up with technology reducing costs and providing Banks with a better understanding of their customers profiles and needs based in the use of big data,
- and introducing new channels to get in touch with customers (internet based banking, mobile based banking);

(iv) regulation

- which has been deeply developed as a consequence of 2007 financial crisis imposing higher requirements to banking institutions aiming to improve the banking sector's stability, risk management, and transparency (Allen et al., 2012) and,
- therefore, limiting profitability and at the same time forcing for higher levels of competition (Donnelly, 2016) such as the EU regulation on payment systems (Payments Service Directive that aims to modernize cross-border EU-wide payments);

(v) the pressure of relatively low interest rates,

- forcing Banks to be more efficient by reducing operating costs and trying to find new income sources, (mainly through new services' fees) in order to ensure profitability;

(vi) technology innovation –Artificial Intelligence, Internet of the Things, Cloud computing, and Blockchain,

- bringing new products and services which are adopted very rapidly by consumers,
- and at the same time provoking disruption and transformation of the financial industry,
- leading in some cases to a disintermediation of the value chain;

(vii) macroeconomic turbulences – like Covid-19 pandemic- that can re-shape the future of the banking landscape,

- the banking industry pre-Covid-19 was characterized by a low interest rates environment, tough financial regulation and compliance, and increasing digitalization and technology evolution. The post Covid-19 banking industry, may be affected by low interest rates for longer, temporary relaxation/deferral of regulation, faster digitalization and technology adoption requiring Banks to be more innovative, significant pressure on Non-Performing Loans, profitability and potentially, capital-solvency pressure (Carletti et al., 2020),
- FinTechs and Challenger Banks were well equipped when lockdowns and social distancing was implemented, whereas some incumbent Banks struggled to meet the requirements of their customers who were working remotely and required a constant digital customer experience.

To compete effectively, **Banks need to adapt to new market conditions** by quickly pivoting business models and value proposition, but alongside this, generating revenues and ensuring profitability. This could be done by process and/or **product/service innovations**, and through defining new opportunity spaces/business models.

However, those **innovations in products, services, business models alone are insufficient** to create long-term survival or a sustainable competitive advantage (Tajeddini and Trueman, 2014; Wu, 2014; Jaaron, and Backhouse, 2017), since it may limit innovations to narrow categories.

Instead, there must be a collective set of understandings and beliefs, pervasively accepted throughout the Bank and likely to occur at all levels and functions, that facilitates continual innovation to ensure long-term competitive advantage (Dobni, 2006; Siguaw et al., 2006; Accenture, 2011; Hanif and Asgher, 2018; and Tuzovic et al., 2018). This broader construct corresponds to the so-called **innovation orientation framework**.

Such innovation orientation perspective could **lead to the integration of innovation into all areas of the Banks to better create a long term sustainable competitive advantage.**

The goal of this research is **to assess how European Banks are orienting themselves towards innovation** in order to cope with the market competitive landscape. To do so, it was deemed necessary to first identify an innovation orientation framework that could be the basis for a structured assessment.

With that **purpose, the researcher reviewed existing innovation orientation frameworks aiming at identifying** the one with the most systematic approach to conceptualize such concept, **and come with an Updated Innovation Orientation Framework, which offers a corresponding propositional inventory specifically for the banking industry.**

The researcher, based on Norris and Ciesielska (2018) conclusions on innovation orientation literature review, considered Siguaw et al.'s (2006) framework as the most appropriate as a starting point to frame innovation orientation. Always based on Norris and Ciesielska (2018) research, **(i) Siguaw et al.'s (2006) innovation orientation framework is considered a reference and a good basis in research in order to frame innovation orientation, and that (ii) Siguaw et al. (2006) did move the study of innovation orientation forward in the seminal work** that provided a conceptual framework for study and integration of innovation research and gave the rise of interest and publication by researchers into innovation orientation.

According to Siguaw et al. (2006) research, innovation orientation was defined as a “multidimensional knowledge structure and a framework for understanding its consequences in an organizational context. The framework defines the innovation orientation knowledge structure as composed of a learning philosophy, strategic direction, and trans functional beliefs within an organization that define and direct the organizational strategies and actions toward specific innovation-enabling competencies and processes. These competencies are in the areas of resource allocation, technology, employees, operations, and markets. The framework then explains that these appropriately developed innovation-enabling competencies lead to innovation outcomes that in turn affect firm performance”.

Since Siguaw et al. (2006) was first published, there has been further research on the topic. The researcher, based on a literature review exercise, has **reviewed and updated** Siguaw et al.'s (2006) framework. Moreover, since the focus of the research was the **banking industry**, a literature review on innovation orientation for the service industry as a whole, and for the banking industry in particular was conducted in order to customize the innovation orientation framework to the banking industry.

With all that, the researcher came with an **Updated Innovation Orientation Framework** customized for the banking industry which was used as the basis for the primary research, aiming at identifying how European Banks are ensuring they are oriented towards innovation.

The Updated Innovation Orientation framework is intended to help identifying how innovation-striving Banks detect and develop organizational conditions and competencies needed to fulfill innovation objectives.

1.2 Relevance of this study

Industry and geographically wide, this study is **the first one to specifically focus into innovation orientation in the banking industry in Europe.** Likewise is the first one ever to compare innovation orientation between European Banks and other units of analysis such as Challenger Banks and Large Corporations.

On the theoretical side, the **Updated Innovation Orientation framework** the researcher has come to, provides a **fuller and more integrated view** than what was available in the existing previous literature on what it takes to for a Bank to be innovative in the long run.

As such, the **Updated Innovation Orientation Framework** specific for the banking industry assembled during this research project, **could help innovation-striving Banks identify potential gaps between their current status and the components of the framework that could ensure those organizations are oriented towards innovation and could eventually gain a competitive advantage.**

Related to previously identified untapped research pathways, according to the existing literature related to innovation orientation framework (Talke et al., 2011; Engelen et al. 2014; Verma and Jayasimha, 2014), there were some areas that had not yet been uncovered and therefore needed some further research. Some of those areas of research included **comparisons of strongly innovation-oriented firms to weakly innovation-oriented firms; longitudinal examinations of innovation-oriented firms**, especially in relation to their intra-industry and their weaker innovation counterparts; and a **comparison of innovation-oriented firms by industry.** **This study has focused on covering those research areas specifically for the banking industry in Europe.**

Therefore, given **there was no research on how the innovation orientation framework could be applied in the banking industry, nor there was a specific innovation orientation framework for that industry** – which this research has brought- this research project **brings value to the banking industry, has covered some yet untapped research areas and also opens some further research pathways for the future.**

1.3 Objectives

The final goal of this study is to identify how European Banks are oriented towards innovation in the long run –assessed by to what extent European Banks are applying the different components of the Updated Innovation Orientation Framework-, and whether this orientation towards innovation is considered as a competitive advantage. Hence, the research question to be answered in this study was set up as:

How are European Banks ensuring they are oriented towards innovation?

In order to answer the research question, the researcher has analyzed to what degree European Banks have implemented the five key components of the Updated Innovation Orientation Framework: (1) Knowledge Structure, (2) Organizational Competencies, (3) Innovation Outcomes, (4) Firm's performance, and (5) Environmental turbulences and Innovation Pitfalls.

To do so, the researcher has split the research question into five sub-questions –one per every framework component:

1. **How is implemented within Banks the Innovation Orientation Knowledge Structure (composed by the strategic direction, learning philosophy, and trans functional acclimation)?**
2. **What are the specific innovation-enabling organizational competencies and processes Banks have in place?**
3. **What are the innovation outcomes Banks are focusing on (in terms of innovation speed, form, type, and collaboration)?**
4. **How is the innovation orientation framework impacting on Bank's performance and long-term competitive advantage and what environmental turbulences could impact?**
5. **How environmental turbulences impact on innovation orientation and what pitfalls have been identified by Banks when focusing on innovation orientation?**

By answering those questions, the researcher has been able to find the required **knowledge structure** that make Banks to adopt an innovation orientation; identified the required **organizational competencies** to ensure a successful innovation orientation; as well as to determine the **innovation outcomes this innovation orientation generates**; and how **Banks' performance** could be affected. Finally, what are the **environmental turbulences** that may affect the innovation orientation of Banks and what **pitfalls** Banks consider could affect the whole process.

1.4 Methodology and research design

Case study is the preferred methodology when the proposed research is largely exploratory addressing “how” and “why” questions (Yin, 2018; Gummesson, 2017) and when the research question requires a need for richness of data (Stavros and Westberg, 2009). Therefore, a **multi-case exploratory study approach** (Yin, 2018) was considered to be the best suited research methodology for this study to gain an understanding of how European Banks ensure they are oriented towards innovation.

In order to enrich the analysis, other comparable units of analysis were also included in the multi case study: Large Corporations in industries that share common attributes to Banks (regulated industries, industries facing market changes, and service-related industries) and Challenger Banks. The latter are small, recently created retail banks that compete directly with the incumbent banks, offering modern financial technology practices, such as online-only operations, that avoid the costs and complexities of traditional banking.

The research to be conducted (a multi-case exploratory study) required for richness of data and attention to context in order to study organizations (i.e. Banks). Based on this need of a broad source of data, it was assessed as the most appropriate research design to be used a **mixed sequential model design** -based on Rocco et al. (2003) classification-, which allows integrating, in the same study, quantitative and qualitative methodologies, with the purpose of having a better understanding about the object of study.

Following the above-mentioned research design, the study started with **in-depth interviews** with **academic experts** in innovation (**7 interviews**), **large Corporations (10 interviews)**, and **Challenger Banks (16 interviews)**. The insights from those interviews were used to validate/complement the Updated Innovation Orientation Framework.

From there, applying a **mixed sequential model design in stages** (Rocco et al., 2003), in-depth interviews were performed with senior and middle management representatives from **16 European Banks -qualitative research** - which accounted for roughly 50% of the total banking assets in Europe by 2018- complemented with interviews with a leading innovative bank in the US and another in Asia. The latter were used as a reference to identify among the European Banks those that could be considered as more advanced in terms of innovation orientation implementation, which has been denominated by the researcher as Pioneer Banks.

Those in-depth interviews (46 interviews in total) were followed by on-line interviews (72 valid on-line questionnaires) with peers of the Banks representatives’ interviewees –**quantitative research**– to validate the qualitative research evidences.

The researcher ensured consistency of data gathered during the research process through a triangulation exercise with public available information related to the Banks participating in the interviewing process. The data collection started in February 2017, with the bulk of the interviews carried on between 2018 and 2019.

1.5 Doctoral thesis structure

This doctoral thesis is structured as follows:

- **Chapter 1: introduction**
- **Chapter 2:** devoted to the conceptual **framework** including the literature review
- **Chapter 3:** the chosen **methodology and research design** are described alongside with the research questions and sub questions
- **Chapter 4:** details of the gained **evidence** and its interpretation according to the set-up framework
- **Chapter 5: discussion of the results** compared to the initial framework and literature review followed by some management recommendations
- **Chapter 6:** presents the **conclusions**, the theoretical and managerial implications, limitations of this study and future research lines.

2. FRAMEWORK

2.1 Introduction

The innovation orientation theory has emerged within the literature in the last 40 years particularly within the development of other strategic orientations, with the bulk of the literature in the area developed in the past 15 years (Norris and Ciesielska, 2018). However, according to those researchers, after conducting a systematic literature review, it was found a relatively small return on the number of articles (124 articles) on the topic of innovation orientation, highlighting that **this area of research is still developing and has so far been under researched**.

Moreover, the research has not yet settled on one widely accepted definition of innovation orientation and instead, much of the empirical investigations either do not define innovation orientation (Pearson, 1993; Dobni, 2006; Saenz et al., 2007; Prajogo and McDermott, 2014; Zobel et al., 2017) or utilize a range of definitions without selecting a strong single definition on which to frame innovation orientation (Grinstein, 2008; Chou and Yang, 2011; Kraiczy et al., 2014; Lee et al., 2016). Therefore, it has been deemed relevant to assess the evolution of the **innovation orientation concept** and to come with a definition to be used in this research.

After the concept of innovation orientation has been set for the purpose of this research, it was then considered relevant to come with a framework for such concept to be used as a base to be used during the primary research. However, a **minority of research** on innovation orientation, to date, has consisted on **developing a framework or model of innovation orientation** to be applied by scholars to explore innovation orientation in practice and through empirical study (Siguaw et al., 2006; Simpson et al., 2006; Jones and Rowley, 2011). The review of such research on the different **conceptual frameworks of innovation orientation** is presented. The final goal being to assess what innovation orientation framework is to be considered as the most appropriate and accurate to be used in this research project.

Based on Norris and Ciesielska (2018) conclusions on innovation orientation literature review, Siguaw et al. (2006) has been considered as the most appropriate innovation orientation frameworks as a starting point to frame innovation orientation. Always based on Norris and Ciesielska (2018) research, (i) **Siguaw et al.'s (2006) innovation orientation framework** is considered **a reference and a good basis in research in order to frame innovation orientation, and it is considered that (ii) Siguaw et al. (2006) did move the study of innovation orientation forward in the seminal work** by providing a conceptual framework for study and giving the rise of interest and publication by researchers into innovation orientation.

Since there has been further research on the topic after Siguaw et al. (2006) study was first published, that framework has been **reviewed and updated** with recent research conclusions on the topic. The Updated Innovation Orientation framework is presented, after the before mentioned literature review, in section *2.6 The Updated Innovation Orientation Framework* of this chapter and is the basis for this research.

Since the focus of the research is the banking industry, a literature review on innovation orientation for the service industry as a whole and for the banking industry in particular are included in sections (2.3. *Innovation orientation in the services industry*) and (2.4. *Research on innovation and innovation*

orientation in the banking industry) respectively of this chapter. The goal of those reviews was to customize the general innovation orientation framework concluded in section (2.6 *The Updated Innovation Orientation Framework*) for the banking industry. As it will be highlighted later, **there is limited research conducted on innovation orientation applied to the banking industry.**

The **Updated Innovation Orientation Framework** customized for the banking industry is presented as the conclusion of this chapter. This framework is to be used as the background for the primary research and has been used to answer the **research questions and sub questions of this project**, all included in the final section of this chapter (2.7. *Research questions*).

Since during 2020 there has been an **extraordinary macroeconomic event** – Covid-19 pandemic- it has been deemed relevant to provide with an analysis on how macroeconomic events such this one, could impact the approach of the banking industry in regard to innovation orientation (please refer to section 2.5. *Special note on Covid-19 impact on banking*).

2.2 Innovation orientation: definition and framework

2.2.1 Defining innovation orientation

Whilst a range of key definitions is utilized within the innovation orientation research field, the research has not settled on a widely accepted definition of innovation orientation and instead much of the empirical investigations either do not define innovation orientation (Dobni, 2006; Saenz et al., 2007; Prajogo and McDermott, 2014; Zobel et al., 2017) or utilize a range of definitions without selecting a firm single definition on which to frame the concept (Grinstein, 2008; Chou and Yang, 2011; Kraiczy et al., 2014; Lee et al., 2016).

Only a few research papers have come with a definition of innovation orientation (Manu 1992; Berthon et al., 1999; Siguaw et al., 2006; Chen et al., 2009; Dobni, 2010; Human and Naude, 2010; Stock and Zacharias, 2011; Engelen et al., 2014; Das et al., 2017; and Tuzovic et al., 2018). Following the most comprehensive definitions on innovation orientation and the evolution of such concept across time is presented (please refer to Table 2.1 for further details):

- Manu (1992) first defined the Innovation Orientation concept as being the **sum of all innovation plans** within a firm, stating that this type of orientation has a strategic nature because it gives firms a new guideline to approach the market.
- Hurley and Hult (1998) stated that innovation orientation refers to an **organization's openness to new concepts and propensity to change through adopting new technologies, resources, skills and administrative systems**. This conceptualization implies that a learning philosophy should be an inherent element of innovation orientation. Most of the studies citing Hurley and Hult's (1998) definition of innovation orientation do so from an innovation culture perspective, linking innovation culture to innovation orientation based outcomes (Zhou et al., 2005; Naranjo-Valencia et al., 2011) or innovation orientation antecedent factors (Siguaw et al., 2006; Simpson et al., 2006; Ayuso et al., 2011; Ngo and O'Cass, 2011).
- Berthon et al. (2002) defined innovation orientation as related to those firms that devote their efforts to **inventing superior products based on customers' insights**. This conceptualization incorporates two approaches to **innovation orientation** - the **openness to innovation** and **innovation capability** (Burns and Stalker, 1977).
- Worren et al. (2002) described innovation orientation as a link between **product modularity and the strategic intent** of a firm to develop new products or enter new markets with existing products. For those researchers, innovation orientation is considered a strategic intent which provides direction to an organization-wide commitment to a significant number of innovations. As a strategic initiative, **innovation orientation is broad in scope and involves the full firm and every functional area** of the organization (Amabile, 1997; Worren et al., 2002).

- Siguaw et al. (2006) presented a conceptual model that identified a range of potential **antecedent factors**, categorized as “organizational competences” and a range of **overarching factors**, that also impact on an organization’s innovation orientation. Siguaw et al. (2006, p. 558) state that “long term survival through innovation appears based not on specific, discrete innovations or on a single market or learning orientation but rather on an overarching, organization-wide knowledge structure, called innovation orientation”. For Siguaw et al. (2006), the innovation orientation is often defined and framed in terms of innovation results, usually as new products and processes results. **Although the desired results are the focus of innovations, they do not define the orientation. The innovation orientation guides the strategy of a company, the learning and the functional interactions that have as a result the innovation.**
- Chen and Huang (2009) defined innovation orientation inspired by the previous existing literature. They stated that innovation orientation refers to a firm (i) **openness to new ideas** as part of the organizational culture as pointed by Hurley and Hult (1998); (ii) the **propensity towards change** by adopting new technologies, resources, skills and administrative systems (Zhou et al., 2005); (iii) and **the ability to innovate** (Burns and Stalker, 1977). The innovation openness is a critical component of the innovation process and is determined by the degree to which the members of a firm will consider adopting new ideas (Berthon et al., 1999). The ability to innovate is the ability for organizations to introduce new processes, products or ideas (Hult et al., 2004).
- Like much of the previous literature (Manu, 1992; Hurley and Hult, 1998; Berthon et al., 1999; Nambisan, 2002; Olson et al., 2005; Zhou et al., 2005; Siguaw et al., 2006; Keskin, 2009; Wu et al., 2015), Dobni (2010) defined innovation orientation as **a multi-dimensional concept that is built on four overarching areas: intention, infrastructure, influence and implementation.**
- Human and Naude (2010) defined innovation orientation as “a sub-construct positioned within the wider field of innovation and relates to an innovation-based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organization’s competitive posture and strategic focus. **It is a multifaceted construct that includes a range of core common variables such as innovation culture, competition-based understanding, organizational flexibility and specific capital and knowledge capabilities and is particular relevant for that managers and executives to understand how to manage innovation at the firm level”.**
- Stock and Zacharias (2011) identified patterns of innovation orientation that utilized configuration theory tradition drawn on the internal arrangements of the **company’s strategy, structures, processes, systems, culture and leadership as fundamental variables that shape organizational design** (Meyer et al., 1993; Vorhies and Morgan, 2003). These variables already appeared in several previous conceptual papers and studies related to innovation orientation (e.g. Manu, 1992; Siguaw et al., 2006) and thus appear to be important elements of innovation orientation.

- Based on Siguaw et al. (2006), Engelen et al. (2014) framed the concept of innovation orientation on three main components: **a corporate learning philosophy, a clear strategic directions and a cross-functional acclimatization.**
- Das et al. (2017) came with a concept of innovation orientation where **internal and external factors are key elements to be factored in.** As such, firms need to be able to use their current capabilities as well as exploring and embedding new technologies in order to be oriented towards innovation. The internal elements that firms should align with their innovation orientation are business strategies, culture, leadership style, and performance incentives. On the other hand, market dynamics, competitive climate, and technological advances are viewed as external factors that should also be considered.
- Tuzovic et al. (2018) **provided a definition of innovation orientation for a specific industry (service industry)** aiming at leading to a sustained leading position. Their concept was based on companies having some foundations (innovation climate; human capital; and resource configuration) and capabilities (embrace ambidexterity; learning and knowledge; orchestrate collaboration; and reinvent customer value).

Other research has come to a conceptualization of innovation orientation but limiting the definition to the relationship with certain corporate aspects such as **corporate strategy** (Talke et al., 2011; Altindag and Zehir, 2012; Prajogo et al., 2013; Teixeira and Werther, 2013; Kuan-Liang and Chao-Hung, 2014; Dhewanto and Sohal, 2015; Dobni and Sad, 2018); **organizational learning and knowledge management** (Ussahawanitchakit, 2008; Fidel et al., 2015); **corporate culture** (Chen and Huang, 2009; Dobni, 2010; Cheung et al., 2010; De Jon et al., 2015); **organizational ambidexterity** (Kortmann, 2015); **types of innovation** (Caerteling et al., 2011; Prajog and McDermott, 2014); **means to improve customer engagement, process performance and job satisfaction** (Appiah-Adu and Singh, 1998; Wang and Cheung, 2004; Olson et al., 2005; Caerteling et al., 2011; Teichert and Bouncken, 2011; Luo and Wang, 2012); **corporate performance** (Chou and Yang, 2011; Zehir et al., 2011; Wu et al., 2015; Zhang et al., 2015; De Jon et al., 2015; Ionescu, 2015; Cohen et al., 2019; Bar Am et al., 2020); and to the broader concept of **innovation** (Caerteling et al., 2011; Baregheh et al., 2012; Kraiczy et al., 2015; Kortmann, 2015).

Table 2.1: Innovation orientation conceptualization

Author	Key components of innovation orientation concept	Innovation orientation concept
Manu (1992)	<ul style="list-style-type: none"> • Order Market Entry • New products • R&D expenses 	The innovation orientation is defined using three constructs, considering both the actions and results of the organization.
Hurley and Hult (1998)	<ul style="list-style-type: none"> • Learning philosophy • Culture perspective • Innovation outcomes 	Innovation orientation as the firm openness to new concepts and propensity to change through adopting new technologies, resources, skills and administrative systems.
Berthon et. al (2002)	<ul style="list-style-type: none"> • Isolation • Track • Training • Interaction 	The innovation orientation is operationalized based on strategic archetypes measured on a scale called ICON (Innovation - Consumer). The authors consider that the evaluation should be closely linked with consumer orientation and view antecedent
Worren et al. (2002)	<ul style="list-style-type: none"> • Involvement of all functional areas of the firm 	Innovation orientation as a link between product modularity and firm's strategy to launch new products and enter new markets.
Dobni (2006)	<ul style="list-style-type: none"> • Context • Culture • Execution 	Defined innovation orientation as a multi-dimensional concept that is built on four overarching areas: intention, infrastructure, influence and implementation.
Siguaw et al. (2006)	<ul style="list-style-type: none"> • Learning philosophy • Strategic direction • Cross-functional acclimation 	The innovation orientation as a multidimensional construct. The action of innovation are results not part of the innovation orientation.
Bouncken et. Al. (2007)	<p>Company's inclination towards:</p> <ul style="list-style-type: none"> ○ Encouraging individual and organizational creativity, ○ Continuous search of new product concepts, ○ Product improvement and continuous development, ○ Improvement of creativity by developing internal incubators of ideas ○ Rapid deployment and cross-functional innovation; ○ Horizontal and vertical participation of all employees in the development of new ideas 	Innovation orientation based on the idea of the organization inclination towards vertical and horizontal exchange of new ideas.
Chen and Huang (2009)	<ul style="list-style-type: none"> • Opening towards innovation • Capacity to innovate 	Innovation orientation refers to an organization openness to new ideas as part of the organization's culture and propensity for change by adopting new technologies, resources, skills and administrative systems.
Zhou (2009)	<ul style="list-style-type: none"> • Investing in Innovation • Innovation promotion • Encouraging innovative thinking 	A restricted purpose has been given to this approach: innovation orientation focuses mainly in the intention to innovate.
Dobni (2010)	<ul style="list-style-type: none"> • Intention • Infrastructure • Influence • Implementation 	The innovation orientation signifies more than behaviors and actions. It refers to the intention to innovate and the ability to introduce new products, services, processes and systems that bring added value to the organization. A critical component of the innovation is the cultural openness to innovate.
Human and Naude (2010)	<p>Multifaceted construct that includes a range of variables:</p> <ul style="list-style-type: none"> • Innovation culture, • competition-based understanding, • organizational flexibility • specific capital and knowledge capabilities 	Innovation orientation as a sub-construct positioned within the wider field of innovation and relates to an innovation-based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organization's competitive posture and strategic focus.
Cheung et al. (2010)	<ul style="list-style-type: none"> • Acceptance and encourage new ideas • Allocation of resources to implement new ideas 	The innovation orientation as a part of the corporate culture.
Talke et al. (2011)	<p>The approach of innovation orientation from a strategic perspective based on:</p> <ul style="list-style-type: none"> ○ Proactive market orientation ○ Proactive technology orientation 	The strategic innovation orientation gives guidance and direction, collectively leading to lasting competitive advantages. This guidance reflects the organizational philosophy based on a set of values and beliefs that guide innovation activity across the organization
Stock and Zacharias (2011)	<p>Patterns of innovators:</p> <ul style="list-style-type: none"> ○ Top down ○ Customer oriented ○ Integrated ○ Isolated 	Performance differences across innovation patterns. Integrated approach leads to highest innovation scores, but pro-active customer oriented and top down innovators enjoy greatest financial results
Engelen et al. (2014)	<ul style="list-style-type: none"> • Learning philosophy • Strategic direction • Cross-functional acclimatization 	Based on Siguaw et al. (2006) operationalization.

Prajog and McDermott (2014)	<ul style="list-style-type: none"> Explore the relationship between organizational factors for connectedness, centralization, and formalization and modes of business environment on innovation orientations (explorative and exploitative) 	Environmental dynamism has a considerable impact on explorative innovation compared to exploitation orientation .
De Jon et al. (2015)	<p>Eight essentially practices with impact on innovation success:</p> <ul style="list-style-type: none"> Aspire: innovation led growth with targets cascaded Choose: investment in coherent, time-risk balanced portfolio of initiatives resourced to win Discover: differentiated actionable customer, business, market and technology insights Evolve: creation of new business models providing defensible, robust, and scalable profit sources Accelerate: beating competition with fast and effective development and launch of innovations Scale: launch innovations Extend: use of external networks Mobilize: people motivated, rewarded, and organized to innovate rapidly 	<p>Cohen et al. (2019) showed that mastering the eight essentials leads to significantly higher performance (2.4x higher economic profit) through innovation orientation.</p> <p>Bar Am et al. (2020) concluded that in crisis periods it should be prioritized Discover, Evolve, and Choose essentials. In times of broad economic stability – Aspire and Choose- are the most important essentials.</p>
Ionescu (2015)	<ul style="list-style-type: none"> Innovation orientation and organization performance 	Direct, strong and positive link between the innovation orientation and market and financial performance.
Das et al. (2017)	<ul style="list-style-type: none"> Firm needs to be able to use its current capabilities as well as exploring and embedding new technologies. Factors such as leadership style, business strategies, culture, and performance incentives are some of the internal elements that businesses should align with their innovation orientation. On the other hand, market dynamics, competitive climate, and technological advances are often viewed as external factors that should be considered 	Innovation orientation framework composed of internal and external factors
Tuzovic et al. (2017)	<ul style="list-style-type: none"> Foundations: Innovation climate; human capital; resource configuration Capabilities: Embrace ambidexterity; learning and knowledge; orchestrate collaboration; reinvent customer value 	Innovation orientation framework for the service industry leading to a sustained leading position
Dobni and Sad (2018)	<ul style="list-style-type: none"> Interdependency of innovation/ strategy based on: <ul style="list-style-type: none"> Dynamic capabilities view Innovation orientation Disruptive innovation theory 	Framework to integrate innovation into the strategic process
Cohen et al. (2019)	<ul style="list-style-type: none"> Innovation commitment: Set bold aspirations; make tough choices; and mobilize resources at scale 	Framework to catalyze breakthrough growth

In an intend to come with a definition for the concept of innovation orientation, after the conclusions derived from the above mentioned literature review, **innovation orientation could be defined as an innovation-based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organization’s competitive posture and strategic focus** (Berton et al, 2002; Worren 2002; Siguaw et al., 2006; Human and Naude, 2010; Stock and Zacharias, 2011; Talke et al., 2014; Engelen et al., 2014; Das et al. 2017; Tuzovic et al., 2018; Dobni and Sad, 2018).

Innovation orientation is seen, as a multiple construct (Manu 1992; Siguaw et al. 2006; Human and Naude, 2010; Dobni, 2010; Stock and Zacharias, 2011; Engelen et al., 2014; Tuzovic et al., 2017); **with a focus on driving innovation-based practices and values throughout the organization primarily through four core aspects considered as antecedents: culture, flexibility in structures, capital and knowledge capabilities and understanding environmental dynamics** (Hurley and Hult, 1998; Berton et al, 2002; Worren 2002; Siguaw et al., 2006; Chen and Huang, 2009; Human and

Naude, 2010; Dobni, 2010; Stock and Zacharias, 2011; Engelen et al., 2014; Das et al. 2017; Tuzovic et al., 2017) **with the aim of driving positive organizational performance generated by the innovation orientation outcomes** (Siguaw et al., 2006; De Jon et al., 2015; Ionescu, 2015; Cohen et al., 2019; Bar Am et al., 2020).

This definition is well aligned with that of Norris and Ciesielska (2018) who after conducting a literature review on the latest research on innovation orientation, came to a similar definition to the concept of innovation orientation, defined as **“innovation-based strategic orientation based on a multiple construct with core antecedents driving positive organizational outcomes”**.

2.2.2 Innovation orientation framework – literature review

Based on the previous section where innovation orientation was defined **-as an innovation-based strategic orientation based on a multiple construct with core antecedents driving positive organizational outcomes-**, this section covers the literature review on research focusing on innovation orientation, its relationship with corporate strategy, its antecedents and the its potential outcomes at firm’s performance are key theoretical foundations **for the construction of a conceptual framework of innovation orientation.**

Therefore, literature review has been conducted following a holistic perspective to cover those three main areas: **corporate strategy and innovation, antecedents of innovation orientation and its outcomes.** Therefore, it was first assessed, based on literature review, the **interdependency of innovation orientation and corporate strategy**, as to identify to what extent innovation orientation could help firms achieve their strategic goals and the shifts required in order to be oriented towards innovation. Then, it was taken a dual approach of categorizing whether innovation orientation was considered as a “process” whereby different antecedent variables were identified as **antecedents** towards an innovation orientation, whilst also including analysis on innovation orientation as a “thing” that is fixed in existence and is used as a variable that links innovation orientation as a defined construct or “thing” (Whetten and Cameron, 2005) with varying organization-based **outcomes.**

The following sections cover the literature review from these three perspectives: strategy and innovation orientation, the innovation orientation antecedent factors, its outcomes and impact to firm’s performance, having as a final objective the construct of an innovation orientation framework, to be used during the primary research of this research project.

Corporate strategy and innovation orientation

Dobni and Sand (2018), conducted a research on the topic of corporate strategy and innovation orientation. The authors, came with a framework that defines the interdependency of innovation orientation and strategy, and then outlines the role of top management to continuously renew the positioning of the firm to engender an innovation approach that is effective and lasting.

Based on a review and synthesis of prior research, they present an operational strategy shift framework, which allows practitioners to increase, refine, and transform their firm’s capability to innovate toward achieving their strategic objectives.

Table 2.2: Innovation orientation and corporate strategy
(Adapted from Dobni and Sand, 2018)

Top management implication	Resources	Measurement
<ul style="list-style-type: none"> • Management to embrace innovation, create innovation strategy and communicate it • Management to promote collaborative culture across the organization 	<ul style="list-style-type: none"> • Clear innovation process in place with supportive IT and KPIs to move ideas forward • Innovation knowledge management system • Investments in resources, skills, time, space, learning to support innovation • Employees creativity unleashed 	<ul style="list-style-type: none"> • Performance management systems to encourage, align, empower, measure and incentive innovation • Understand customer experience to ensure customer value delivering

In order to make the strategy shift concept work, the authors suggest leaders need to come to terms with the challenges of **making their firm dynamic and adaptive; innovation will involve setting the right vision** and structures and then letting go old approaches, especially if the goal is to drive disruptive innovation (Christensen, 1997). Therefore, leaders may need to draw on current profitability to fuel future growth. It involves a **shift in thinking**, and one which may not be well seen by shareholders in the short term.

The researchers also suggest that management must develop the principles of an **innovation program** and clearly **communicate it across the organization** until it is persistent. This needs to be achieved in concert with the adoption of fresh approaches to thinking and **employee empowerment**, and supported with employee development, time commitment, and systemic initiatives that are **adequately resourced**.

Finally, management must also prepare the organization for a **paradigm shift**, which may be the biggest challenge. This shift must occur in both the **minds of leaders and employees**. The organization will require to expect and **reward failure**. Management will also need to be patient and change its focus on results in the **medium and long term** versus the short term. It will also require adjustments or further linkages to performance management and management control systems to support desired behaviors.

Antecedents factors of innovation orientation

From the literature review, four key elements arose as central **antecedents' factors to innovation orientation**: (a) capital and knowledge capabilities, (b) understanding environmental dynamics and competitiveness, (c) innovation culture (mainly empowering employees), and (d) flexible structures.

- (a) The role of capital and knowledge capability factors: Capital and knowledge capability is defined as a set of distinct and well-defined approaches and processes that consider the organizations' internal capability to manage positive and negative critical knowledge functions in different kinds of operations, and the availability of resource to support the organizations' development (Wiig, 1997). Key antecedent factors linked with the utilization and acquisition of capital and knowledge in innovation orientation are the **utilization of information on customers, consumers and competitors, and all of these variables are conceptually closely linked with market orientation** (Grinstein, 2008; Ergün and Kuşcu, 2013). This information gathering on key stakeholders, further interrelates with research that considers factors such as human capital in the form of **internal and external knowledge** (Siguaw et al., 2006; Stock and Zacharias, 2011; Kuan-Liang and Chao-Hung, 2014). Work focusing on **using gathered information from key stakeholders** (Dobni, 2010; Wu et al., 2015) is interesting in that none of the studies consider this factor as the sole focus of the research and instead consider information utilization alongside various other factors. The **ability to allocate resources** (Siguaw et al., 2006; Silva et al., 2014) to various aspects of the business is an essential aspect of knowledge and capital and links with the dynamic

management of resources and links with **organizational flexibility** (Maltz et al., 2006). **The role of IT capability** in driving and supporting capital and knowledge capability is considered as important. Chen et al. (2009) found that IT capability was closely linked with innovation orientation and helps to facilitate a range of other core antecedent factors. The work by Roach et al. (2016) suggests **networks within a firm and the ability to leverage that network and experiment are seen to have a positive relationship on innovation orientation** and ultimately firm performance.

(b) It is argued that a positive relationship between environmental uncertainty and innovation exists (Prajogo and McDermott, 2014). This is considered to be consistent with the common argument suggesting that **dynamic environments drive firms to be innovative** (Stock and Zacharias, 2011; Zhang et al., 2015). The category on **understanding environmental dynamics** is multifaceted and not only focusses on direct competition. It is therefore reasonable that a range of studies found there to be a link between the **ability of firms to manage market dynamism, competitiveness and innovation orientation** (Manu, 1992; Siguaw et al., 2006; Stock and Zacharias, 2011; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016).

There are also links made with **market orientation** directly (Grinstein, 2008; Ergün and Kuşcu, 2013) and also other aspects linked with market orientation such as gathering information on customers, consumers and competitors (Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Silva et al., 2014; Wu et al., 2015) and adopting a **cross-functional approach** (Baregheh et al., 2012), all of which are aspects identified within seminal market orientation literature (Kohli and Jaworski, 1990; Narver and Slater, 1990).

Understanding environmental dynamics are based upon two key areas, **technological dynamics and market dynamics**, whereby technological dynamics are viewed as the rate and predictability of technological changes and market dynamics involve changes in customer preferences and market competition (Wu et al., 2015).

In recent work, **environmental turbulence** and an ability to manage this dynamically has gathered interest, where **technological turbulence, perceived market turbulence and competitive intensity** are argued to have a significant positive impact upon innovation orientation (Zhang et al., 2015).

Relationship orientation has been suggested (Zehir et al., 2011) to provide a solution in mediating the impact of dynamic environments and the uncertainty that can result from them, through proactive creation, development and maintenance of **relationships with customers and other parties** that would result in mutual exchange and accomplishment of promises at a profit. It is argued that innovation orientation and relationship orientation have a strong positive link in refuting the impact of environmental uncertainty (Zehir et al., 2011). This link in relationship orientation is further supported through various studies that emphasizes the importance of **knowledge sourced from internal and external stakeholders** (Ayuso et al., 2011) and the effective acquisition of information sourced from customers, consumers and competitors (Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Silva et al., 2014; Wu et al., 2015).

(c) Innovation culture is defined as an organization's overall innovative capability of introducing new products or services into the market, or opening new markets, through combining

strategic orientation with innovative behavior and process (Wang and Ahmed, 2004). The work focusing on the core thematic antecedent grouping of innovation culture has focused on **encouraging new ideas** (Baregheh et al., 2012), **organization commitment and group work culture** (Zhou et al., 2005; Engelen et al., 2014), **leadership focus** (Zhou et al., 2005; Kraiczy et al., 2015), **leadership providing appropriate value based models** (Engelen et al., 2014), **organizational trust and respect** (Zehir et al., 2011) and, most commonly studied, **empowering employees** (Ettlie and O'Keefe, 1982; Hurley and Hult, 1998; Baregheh et al., 2012; Grundström et al., 2012).

The majority of empirical measurement tools of innovation orientation currently adopted to investigate innovation orientation highlight a focus on this **culture of innovation and employee involvement** as important contributing factors of innovation orientation (Chen et al., 2011; Ngo and O'Cass, 2011; Luo and Wang, 2012; Theodosiou et al., 2012; Fidel et al., 2015; Wang et al., 2015).

Empowering employees was seen as central in a number of studies (Ettlie and O'Keefe, 1982; Hurley and Hult, 1998; Baregheh et al., 2012; Grundström et al., 2012) with this often being linked to elements of organizational innovation culture, such as encouraging new ideas (Baregheh et al., 2012), leadership and its role as appropriate behavior model (Engelen et al., 2014), supporting individual creativity (Acikgoz and Gonsel, 2016) and organizational commitment (Zhou et al., 2005).

The concept that innovation culture requires supporting through appropriate structures was supported by Hurley and Hult (1998), who found that when members of a group are encouraged to learn and develop and are able to influence group decisions, the group has more innovativeness.

(d) **Flexibility** is seen through various aspects of innovation orientation, but flexibility in structure has received interest from multiple researchers (e.g. Van Muijen and Koopman, 1994; Maltz et al., 2006; Kraiczy et al., 2015; Siguaw et al. 2006; Zobel et al., 2017). Van Muijen and Koopman (1994) and Maltz et al. (2006) identified that **flexibility in structure and within organizational approach were essential elements of innovation orientation**. Flexible structures are defined from an organization-wide perspective, where organizations draw their innovative capabilities through capabilities of dynamic integration and change, with a focus on structures that allow for employees to be creative and feel empowered (Lazonick, 2010). An aspect of flexible structures is the ability of the organization to focus on multiple targets through **organizational ambidexterity** (McDermott and Prajogo, 2012).

The organizational structure was considered in multiple studies with links being made with the **diversity of the top management team** (Talke et al., 2011) and the use of **flat structures** (Kraiczy et al., 2015) that links heavily to supporting the innovation culture discussed previously. Three areas that were considered as essential in supporting flexibility were **organizational learning, formality of mechanisms and processes, and speed of decision making** (Maltz et al., 2006). Organizational learning helps with flexibility in structure due to a shared understanding and responsibility for what is required to be done (Hurley and Hult, 1998; Saenz et al., 2007). Remarkably, while the speed of decision making is considered a benefit of flexible structures, due to a lack of bureaucracy and hierarchical centralized decision making, Maltz et al. (2006) found that the speed of decision making had limited impact on organizational innovation orientation. In addition, Zobel et al. (2017) found that

high speed innovation through innovation orientation often had the by-product of informal mechanisms having to be utilized and then integrated into the business over time.

The notion that to achieve a positive innovation orientation requires **flexibility** (Van Muijen and Koopman, 1994; Maltz et al., 2006) and **organizational learning** (Hurley and Hult, 1998; Saenz et al., 2007) as part of the infrastructure has been researched and incorporated into many of the conceptual models of innovation orientation (Siguaw et al., 2006). Linkages between **flexibility, learning and organizational culture** have been noted as a baseline for building innovating organizations (Achtenhagen et al., 2003). Learning, both as internal sensing and development of new ideas, contributes to re-shaping processes in organizations in changing contexts.

Outcomes of innovation orientation and performance measures

Multiple studies highlight how innovation orientation is linked with organizational performance (e.g. Maltz et al., 2006; Siguaw et al., 2006; Chen et al., 2009; Zehir et al., 2011; Theodosiou et al., 2012; Jalilvand, 2017) and this link with organization-wide performance is a crucial link for the development of innovation orientation as an organizational wide construct.

Through the literature review, it appears that outcomes have been considered across many variables. To better understand the outcomes presented within the innovation orientation literature base, those have been analyzed from the **objective and subjective measures of performance** (Zehir et al., 2011) and **outcomes that while linked with innovation orientation did not directly link innovation orientation with performance measures** (e.g. Appiah-Adu and Singh, 1998; Caerteling et al., 2011; Chou and Yang, 2011; Ngo and O’Cass, 2011).

Objective measures:

Most papers focus on objective performance measures of innovation orientation whereas a smaller number focus on subjective performance measures.

The majority of literature linking innovation orientation to objective performance measures could be categorized into four key areas: **financial metrics improvement** (profitability, earnings before taxes, sales, gross sales, return on sales, return on investments, and cash flow), **business growth** (growth rate, employees, and new customers), **innovativeness** (patents, process improvement, and new products), and **market position** (repeat business and market share).

Table 2.3: Objective innovation orientation measures

Objective Performance	Measure	Literature reference
Financial	Profitability	Maltz et al. (2006), Simpson et al. (2006), Chen et al. (2009), Jaakkola et al. (2010), Chou and Yang (2011), Zehir et al. (2011), Altindag and Zehir (2012), Baregheh et al. (2012), Cheung et al. (2012), Grundström et al. (2012), Theodosiou et al. (2012), Prajogo et al. (2013), Wu et al. (2015), Lii and Kuo (2016), Roach et al. (2016), Wu (2016), Chuang and Lin (2017), Jalilvand (2017)
	Earnings before taxes	Altindag and Zehir (2012), Grundström et al. (2012)
	Sales	Appiah-Adu and Singh (1998), Walter (1999), Maltz et al. (2006), Chen et al. (2009), Jaakkola et al. (2010), Chou and Yang (2011), Theodosiou et al. (2012), Prajogo et al. (2013), Kraiczy et al. (2015), Wu et al. (2015), Lii and Kuo (2016), Roach et al. (2016), Wu (2016), Jalilvand (2017)
	Gross margin	Manu (1992), Stock and Zacharias (2011)
	Return on sales	Manu (1992), Lii and Kuo (2016)
	Return on investment	Manu (1992), Appiah-Adu and Singh (1998), Simpson et al. (2006), Jaakkola et al. (2010), Stock and Zacharias (2011), Cheung et al. (2012), McDermott and Prajogo (2012), Lii and Kuo (2016), Wu (2016), Jalilvand (2017)
	Cash flow	Manu (1992), Zehir et al. (2011)
Business growth	Growth rate	Chou and Yang (2011), Altindag and Zehir (2012), Baregheh et al. (2012), Grundström et al. (2012), Dobni et al. (2015), Kraiczy et al. (2015), Wu et al. (2015), Roach et al. (2016), Wu (2016), Chuang and Lin (2017)
	New customers	Altindag and Zehir (2012)
	Employee numbers	Altindag and Zehir (2012), Kraiczy et al. (2015)
Innovativeness	Number of patents	Ayuso et al. (2011), Dhewanto and Sohal (2015)
	Innovations introduced	Bhaskaran (2006)
	Process improvement	Ussahawanitchakit (2008), Caerteling et al. (2011), Cheung et al. (2012), Ripolles-Melia et al. (2010), Gundry et al. (2016), Lii and Kuo (2016)
	New products	Olson et al. (2005), Appiah-Adu and Singh (1998), Zhang and Duan (2010), Stock and Zacharias (2011), Chou and Yang (2011), Altindag and Zehir (2012), Dhewanto and Sohal (2015), Kraiczy et al. (2014), Zhang et al. (2015), Gundry et al. (2016), Stock and Schnarr (2016), Zhang and Zhu (2016)
Market position	Market share	Teichert and Bouncken (2011), Cheung et al. (2012)
	Repeat business	Manu (1992), Simpson et al. (2006), Jaakkola et al. (2010), Zehir et al. (2011), Theodosiou et al. (2012), Prajogo et al. (2013), Lii and Kuo (2016), Wu (2016), Chuang and Lin (2017)

Profitability measure is by large the most considered performance objective linked to innovation orientation. However hardly is profitability used as the only measure of innovation orientation in any single study. It is much more common that profitability is used as one variable in a dashboard of financial performance measures (Altindag and Zehir, 2012; Cheung et al., 2012; Wu et al., 2015; Chuang and Lin, 2017). This combinational approach is argued as being quite common given that data for the various measures used in combination such as sales (Maltz et al., 2006; Jaakkola et al., 2010), market share (Theodosiou et al., 2012; Prajogo et al., 2013) and growth rate (Altindag and Zehir, 2012; Wu et al., 2015) are often easy to calculate and provide fixed measures that often interrelate (Amsteus, 2014). Much of the research found that **innovation orientation has a strong positive effect on objective organizational performance, using a range of measures** (Appiah-Adu and Singh, 1998; Cheung et al., 2012).

Subjective measures:

A smaller number of studies consider innovation orientation performance measures using subjective measurement. Three key categories have been considered to help classifying subjective measures: **organization related** (brand performance and image, reputation, organization performance, employee confidence of future performance, job satisfaction, supplier integration and relationship), **internal capability related** (organizational learning) and **customer related** (customer equity, customer recommendations, customer satisfaction and service improvement).

Table 2.4: Subjective innovation orientation measures

Subjective Performance	Measure	Literature reference
Organization related	Brand	Chen et al. (2009), Lee et al. (2016)
	Reputation	Chen et al. (2009), Teichert and Bouncken (2011)
	Organization performance	Olson et al. (2005), Zehir et al. (2011), Guo et al. (2015), Roach et al. (2016), Sundström et al. (2016)
	Employee confidence and job satisfaction	Zhou et al. (2005)
	Supplier's integration	Lii and Kuo (2016), Yang et al. (2013), Yang et al. (2016)
Internal capability related	Organizational learning	Maltz et al. (2006)
Customer related	Customer equity	Ngo and O'Cass (2011), Teichert and Bouncken (2011), Lii and Kuo (2016), Jalilvand (2017)
	Customer recommendation	Teichert and Bouncken (2011)
	Customer satisfaction	Teichert and Bouncken (2011), Theodosiou et al. (2012), Jalilvand (2017)
	Service improvement	Guo et al. (2015), Chuang and Lin (2017), Jalilvand (2017)

Organization-related subjective measures include measures such as image (Chen et al., 2009); perceived organizational performance (Olson et al., 2005; Zehir et al., 2011) and job satisfaction (Zhou et al., 2005). For each of the measures within the organization-related grouping innovation orientation positively linked with improved perceptions of the organization, with the exception of the study by Lee et al. (2016) that highlighted that innovation orientation can negatively impact on brand performance and image if used as the sole orientation driving the change, but linked with brand orientation can have a positive effect. Internal capability development was measured through organizational learning within one study (Maltz et al., 2006), where organizational learning is viewed as an output of innovation orientation; however, in other studies, it is considered an antecedent factor of innovation orientation (Hurley and Hult, 1998; Saenz et al., 2007).

Customer-related subjective performance measures appeared as a key topic in two studies (Ngo and O'Cass, 2011; Teichert and Bouncken, 2011) that identify the subjective measures of a range of variables related to customer-based measurements such as customer equity, customer recommendations and customer satisfaction.

Internal capability-related outcomes where innovation orientation is linked with a wide range of outcomes and internal capabilities; process performance (Caerteling et al., 2011), service delivery (Chen et al., 2009), emergent strategy development (Dobni et al., 2015), competitive strategy development (Dobni, 2010), customer knowledge management (Fidel et al., 2015), internal integration and adoption of new processes (Lii and Kuo, 2016), high supply chain management competences (Hsu et al., 2011; Teichert and Bouncken, 2011), procedural and declarative memory on projects (Keskin, 2009), influence tactics (Steensma et al., 2003), marketing capabilities (Theodosiou et al., 2012), mass customization (Wang et al., 2015) and technology commercialization capability/R&D (Dhewanto and Sohal, 2015). Some of these studies link these internal capability developments to organizational performance measures (Caerteling et al., 2011; Chen et al., 2009; Dobni et al., 2015; Teichert and Bouncken, 2011; Theodosiou et al., 2012; Dhewanto and Sohal, 2015; Guo et al., 2015; Lii and Kuo, 2016; Yang et al., 2016).

Remarkably, a range of studies focus on linking innovation orientation with a range of other outcome based factors and theories, which, while can be thematically grouped into the same areas

as the subjective performance measures, mainly, organization related, internal capability related and customer related, do not often directly relate to measures of performance.

Organization-related outcomes are highlighted within a range of studies which focus on linking innovation orientation with a range of outcomes; culture (Cheung et al., 2011), strategy implementation (Kortmann, 2015), new product development and new market entry (Olson et al., 2005), relationship development (Walter, 1999), firm efficiency (Ussahawanitchakit, 2008), technology commercialization capability (Dhewanto and Sohal (2015), and supplier integration (Yang et al., 2016). These factors commonly focus on highlighting innovation orientation as having a positive relationship with organization-level outcomes.

Table 2.5: Subjective innovation orientation measures

Subjective Performance	Measure	Literature reference
Organization related	Culture	Cheung et al. (2011)
	Strategy implementation	Kortmann (2015)
	Relationship development	Walter (1999), Lii and Kuo (2016), Yang et al. (2016)
	Firm efficiency	Ussahawanitchakit (2008)
	Administrative capability	Gundry et al. (2016)
Internal capability related	Process performance	Caerteling et al. (2011)
	Service delivery	Chen et al. (2009), Guo et al. (2015)
	Emergent strategy development	Dobni et al. (2015)
	Competitive strategy development	Dobni (2010)
	Customer knowledge management	Fidel et al. (2015)
	Supply chain management	Hsu et al. (2011)
	Marketing capabilities	Theodosiou et al. (2012)
	Mass customization	Wang et al. (2015)
	Tech commercialization	Dhewanto and Sohal (2015)
	Internal integration	Lii and Kuo (2016)
Customer related	Customer benefits	Caerteling et al. (2011)
	Market orientation	Chou and Yang (2011), Sundström et al. (2016)
	Customer centric Brand values	Ngo and O’Cass (2011)

The role of innovation orientation is also considered as a moderating factor between concepts and performance measures (Bhaskaran, 2006; Cheung et al., 2012; Yang et al., 2013; Tseng and Chen, 2014; Roach et al., 2016; Wu, 2016). As such, the study by Bhaskaran (2006), innovation orientation was empirically found to have a moderating effect on profitability in highly competitive and dynamic markets.

Only few studies (Jaakkola et al., 2010; Olson et al., 2005; Simpson et al., 2006; Lee et al., 2016) highlight that innovation orientation has a negative impact upon any of the measures of performance identified. The study by Olson et al. (2005), highlights that there exists a negative effect of innovation orientation on perceived performance in some organizational settings; namely slower low growth markets. This study highlights a combinational approach that not only considers multiple performance measures, but also contextualizes performance within different market types, for example, low growth markets.

2.2.3 Conclusions on the innovation orientation framework literature review

To date, a minority of research on innovation orientation has consisted of developing a **framework or model of innovation orientation** (Pearson, 1993; Berthon et al., 1999; Siguaw et al., 2006; Simpson et al., 2006; Jones and Rowley, 2011), with the intention that future scholars could apply those frameworks to explore innovation orientation in practice and through empirical studies.

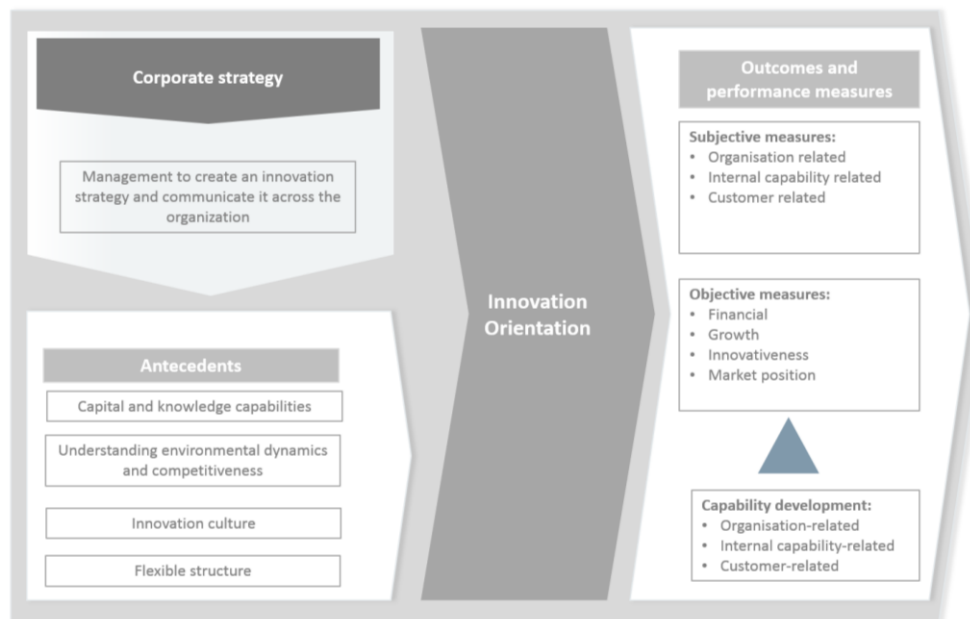
Along with limited development of innovation orientation frameworks, **there is no consistent agreed framework of innovation orientation that is widely adopted**, although there is an acceptance that innovation orientation is a multifaceted construct that includes a range of core common variables (Hurley and Hult, 1998; Siguaw et al., 2006).

From the literature review focusing on conceptualization of the innovation orientation framework, a summary of such research **could help construct an innovation orientation framework consisting of three key components** -corporate strategy, antecedents and outcomes-, aligned with the definition of innovation orientation that was concluded in section 2.2.1 *Defining innovation orientation* of this chapter: innovation-based strategic orientation based on a multiple construct with core antecedents driving positive organizational outcomes.

Such construct – please refer to figure 2.1 *Innovation orientation framework after literature review* - is based on the need for support from leadership that has to set up the **innovation strategy** (Dobni and Sand, 2018). Then the development of **core antecedents** such as specific **capital and knowledge capabilities** (Chen et al., 2009; Baregheh et al., 2012; Silva et al., 2014); **competition-based understanding** (Dobni, 2010; Ayuso et al., 2011; Stock and Zacharias, 2011; Ergün and Kuşcu, 2013); creating a **culture** that supports innovation (Ettlie and O’Keefe, 1982; Hurley and Hult, 1998; Baregheh et al., 2012; Grundström et al., 2012); and **organizational flexibility** (Van Muijen and Koopman, 1994; Maltz et al., 2006). With those, the firm could ensure is **oriented towards innovation**. Last, **firms should implement a tracking system** –measuring both objective and subjective measures- to ensure innovation orientations is generating the **expected outcomes**.

This framework is intended to present with guidelines of how to implement and measure the impact of innovation orientation and how to make organizations sustainably innovative in the long term.

Figure 2.1: Innovation orientation framework after literature review
 (Adapted from Norris and Ciesielska (2018) and Dobni and Sand (2018))



2.2.4 Innovation orientation framework to be used on this research

2.2.4.1 Introduction

After the literature review on the innovation orientation concept and existing frameworks, the innovation orientation framework conceptualized by Siguaw et al. (2006) has been considered as the most appropriate as a starting point to define and frame innovation orientation.

This decision is based on a series of facts. First, according to Norris and Ciesielska (2018) the authors who conducted a Systematic Literature Review (SLR) on innovation orientation, concluded that **Siguaw et al.'s (2006) innovation orientation definition and framework** was cited in 11 studies of **the SLR's sample (124 articles), being the most referred innovation orientation framework from the existing literature** (e.g. Simpson et al., 2006; Stock and Zacharias, 2011; Altindag and Zehir, 2012; Baregheh et al., 2012; Engelen et al., 2014; Wang et al., 2015; Yang et al., 2016), discussing components such as learning philosophy, strategic direction and trans functional acclimation. **Siguaw's et al.'s (2006) innovation orientation framework seems to be a reference and a good basis in research in order to frame innovation orientation.**

Second, according to the very same research from Norris and Ciesielska (2018), Siguaw et al. (2006) **did move the study of innovation orientation forward in the seminal work** that provided a conceptual framework for study and integration of innovation research and gave the rise of interest and publication by researchers into innovation orientation.

Third, the fact this conceptualization has been **used as the base for ulterior relevant studies** as mentioned before, and **focuses more on the structure an organization should have in order to be oriented towards innovation than rather on the outcomes** (innovation results) is considered as the most appropriate starting point to conceptualize the theoretical innovation framework to be used in this research, since the final goal is not to assess the outcomes innovation orientation generates in European banks but how Banks are implementing innovation orientation internally.

Fourth, Siguaw et al.'s (2006) framework follows the same basic structure of the construct that could be derived from the literature review – please refer to section 2.2.3 *Conclusions on the innovation orientation framework literature review* of this chapter, including three major components, (i) the need for support from leadership that has to set up the **innovation strategy**; (ii) the development of **core antecedents** such as capital and knowledge capabilities, supportive culture, organizational flexibility, and market understanding; and (iii) **expected outcomes**. But at the same times includes some moderating factors such as environmental turbulences, which are not framed in the majority of previous frameworks.

However, given that much of the work in the innovation orientation research field has been produced since the publication of the conceptual model presented by Siguaw et al. (2006), it is important to acknowledge and incorporate in that initial innovation orientation framework some key developments that have been empirically proven to impact upon innovation orientation, but that were not incorporated into the definition provided by Siguaw et al. (2006).

Therefore, **due to its relevance it has been considered appropriate to use Siguaw et al.'s (2006) innovation orientation framework as the basis for the research, conducting a comprehensive**

update of such framework by incorporating new research conclusions. The initial Siguaw et al.'s (2006) framework and the updated version are presented in the next section.

In the following section the innovation orientation framework as initially described by Siguaw et al. (2006), is summarized, validated against more recent literature, and finally, updated and complemented with ulterior articles related to this specific framework or components of it. As a conclusion of this section, the **Updated Innovation Orientation Framework** is presented.

2.2.4.2 Updated version of Siguaw et al.'s (2006) innovation orientation framework

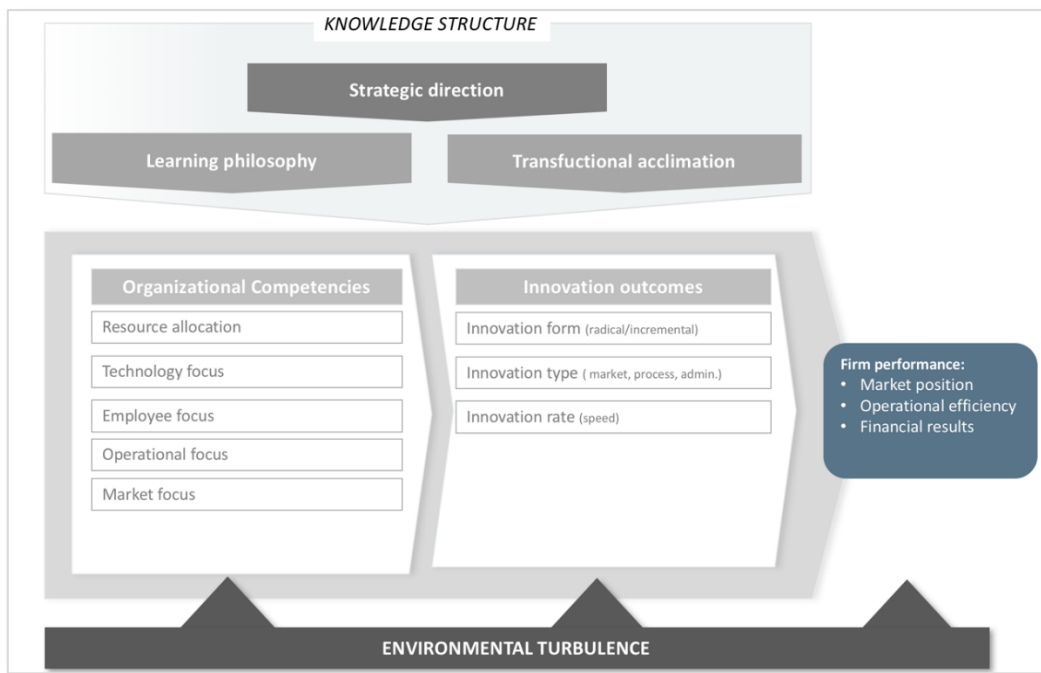
Following, the innovation orientation framework according to Siguaw et al. (2006) is described, with the updates deemed appropriate to be incorporated with ulterior research conducted on the topic.

According to Siguaw et al. (2006), the domain of innovation orientation is delineated as a multidimensional knowledge structure and a framework for understanding innovation orientation and its consequences in an organizational context.

Innovation orientation is constituted, according to Siguaw et al. (2006), of beliefs and understandings that lead to innovative action, which are the outcomes, not the constituents, of an innovation orientation. These beliefs and understandings are formed by three components (a **knowledge learning philosophy**, a **strategic direction**, and a complementary, **trans functional acclimation**) that define and direct the **organizational strategies and actions toward specific innovation-enabling competencies and processes**.

This combined innovation-directed knowledge structure guides, orients, shapes, and coordinates all **organizational competencies** (in the areas of resource allocation, technology, employees, operations, and markets), including also those embedded in formal and informal behaviors, skills and business processes to promote innovative thinking and facilitate the development, evolution and implementation of innovations. The framework then explains that those appropriately developed innovation-enabling competencies lead to **innovation outcomes** - innovation form, type, and rate- that, in turn, affect the **firm performance** including market position, operational efficiency, and financial results, with all relationships moderated by environmental turbulence.

Figure 2.2: Innovation orientation framework according to Siguaw et al. (2006)



The approach proposed by Siguaw et al. (2006) separates organizational beliefs from effective actions through considering the innovation orientation as being rather a structure of knowledge than an organizational culture or an amalgam of rules and behaviors. In this expansive approach, the knowledge capital of a firm is constantly enriched for identifying the next steps for maintaining the innovation (Martin and Salomon, 2003).

The definition of Siguaw et al. (2006) draws the innovation orientation as a set of understandings about innovation made within the structure of the firm knowledge that influence organizational activities, but not as a specific set of normative behaviors. This conceptualization assumes the same set of principles to all firms but different implementation formulas specific to each of them.

Following sections cover Siguaw et al.'s (2006) framework updated with literature review.

Innovation Orientation knowledge structure

Strategic direction:

According to Siguaw et al. (2006), innovation-oriented firms possess the inclusion of a future-oriented concept of the business, captured in the strategic beliefs and understandings that define the mission of the company and how the **activities of the organization are assembled to ensure that innovation happens in a timely fashion**. This is what the authors define as the strategic direction.

Further research has considered that the success of innovation-oriented firms strongly depends on **top management embracing and supporting the innovation process, create innovation strategy and communicate it and providing the necessary resources to implement such strategy** (Teece, 2007; Dobni and Sand, 2018).

Moreover, organizations that are successfully oriented towards innovation, according to Accenture (2011), **have a strong understanding of innovation, well-articulated innovation objectives that are closely integrated with a broader business strategy, and clear, top-down decision-making processes** -not included in Siguaw et al., (2006) framework. With these elements in place, a company is more likely to focus on the right innovation investments—those that are consistent with its business strategy and hold real potential for significant growth.

There has been relevant research on the **relationship between the strategic type an organization has –as defined by Miles et al. (1978)- and the innovation orientation of that very organization**. Kafchechi (2016) concluded there is a significant relationship between the firm's orientation toward innovation and competitive strategy; the more firm's orientation toward innovation, the firms use more a **prospector strategy** (the company often changes its products and services to be first within the market. It tends to specialize in innovation and flexibility to adapt quickly to market changes; and their strategies have a more aggressive state). The conclusion drawn by the author is that the firms having a high innovation orientation use the strategies in which the orientation towards innovation has been included, leading the firms to use the Prospector's strategy. The results of this research were similar to findings of Ozer and Markóczy (2010); Hsu (2011); Lightfoot and Gebauer (2011); Kumar et al. (2012); Malek Akhlagh et al. (2013) and Zuniga and Crespi (2013), in which **the**

importance and relationship between innovation orientation and strategic typology have been emphasized -not included in Siguaw et al., (2006) framework.

In this very same line, research done by Dobni (2010) considered as key “the relationship between innovation orientation and strategic typology”. In his study, the researcher investigates the relationship between the firm’s orientation toward innovation and the kinds of strategic typology the firm follows. Firms, having a **high innovation orientation use strategies such as market sectoring, development of products and new services for the new markets, and customization of goods and services**. Generally, **organizations having a low innovation orientation use strategies which are less aggressive and are internal focused**.

- ➔ From the literature review, new concepts should be considered in the strategic direction of innovation orientation framework as conceptualized by Siguaw et al. (2006): **the importance of a top-down decisions process, as well as having a prospector strategy profile** (Kafchechi, 2016) **and strategies such as market sectoring, development of products and new services for the new markets, and customization of goods and services** (Dobni, 2010).

Learning philosophy:

As per Siguaw et al. (2006), a requisite to an innovation-oriented firm is a learning philosophy defined as a pervasive set of **organization-wide understandings about learning, thinking, acquiring, transferring, and using knowledge in the firm to innovate**.

Current research has focused on identifying the sources of knowledge and the need for knowledge management systems to be implemented to take full leverage on the acquired knowledge. The acquisition and utilization of knowledge in innovation orientation comes from **the utilization of information on customers, consumers and competitors, and are conceptually closely linked with market orientation** (Grinstein, 2008; Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Silva et al., 2014; Wu et al., 2015) -not included in Siguaw et al. (2006) framework. This information gathering on key stakeholders, further interrelates with research that considers factors such as human capital in the form of **internal and external knowledge** (Ayuso et al., 2011; Stock and Zacharias, 2011; Kuan-Liang and Chao-Hung, 2014). Moreover, it is concluded that leading innovation-oriented companies take advantage of ideas **from both inside and outside the organization** (Accenture, 2011).

As a consequence, **Knowledge Management has turned into a top priority for modern organizations** (Pancholi and Pancholi, 2014). Bantaue and Rayburn (2016) state that organizations that can create knowledge and apply it to provide new value propositions to customers through innovative services and products would enjoy a **competitive advantage in the future** -not included in Siguaw et al., (2006) framework. Venkitachalam and Willmott (2017) go even further considering Knowledge Management as a **strategic asset**: strategic knowledge management is seen as “harnessing know-how that is comparatively non-replicable so as to influence decision making and innovation orientation”.

According to Velayati et al. (2020), **limited views of knowledge-as-systems and lack of an end-to-end approach towards knowledge-based innovation would be detrimental to the**

operationalization of Knowledge Management strategies to create long-term value. In order to develop innovation capabilities, **organizational learning should be strengthened** through appropriate mechanisms. The authors also concluded that **monitoring competitors, receiving timely feedbacks from customers and use of the experiences of global players could serve as important facilitators of organizational learning and innovation.** Firms should never cease learning. This would help them to be fully aware of market dynamism and even proactively initiate changes through constantly refreshed understanding of current and future forces affecting rivalry.

- ➔ From the literature review, new concepts have been identified to be incorporated in the learning philosophy of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **the utilization of information and knowledge coming from different stakeholders (customers, consumers and competitors) coming from both internal and external sources** (Grinstein, 2008; Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Silva et al., 2014; Wu et al., 2015). **Knowledge Management is considered as a priority and strategic asset by innovation-oriented companies since it could become a competitive advantage** (Pancholi and Pancholi, 2014).

Trans functional acclimation:

Typically, a unique set of structures and guiding principles that determine activities and behaviors are embedded in each functional area of a company. **The various functional areas of an innovation-oriented company, however, should be guided by a unique, embedded knowledge structure, defined by Siguaw et al.(2006), as trans functional acclimation,** that encourages and facilitates knowledge transfer across and within subunits to gain diversity of views and fosters cooperative beliefs and understandings among all functional areas to direct them towards innovation.

Opoku and Essien (2011) further developed this concept. The authors considered **intelligence generation, dissemination and responsiveness** as key elements for innovation-oriented firms. These three dimensions assess the degree to which an organization (i) engages in multidepartment market **intelligence** generation activities; (ii) disseminates this intelligence vertically and horizontally through both **formal and informal channels**; and (iii) develops and implements product and services innovation programs on the basis of the intelligence generated. **Innovation-oriented firms should therefore strive to engage in multi-department market intelligence generation activities, disseminate this intelligence vertically and horizontally through both formal and informal channels** -this component not included in Siguaw et al. (2006) framework-, and develop and implement innovation programs on the basis of the intelligence generated.

The **impact of organizational culture in knowledge sharing** has been also further researched. Oyemomi et al. (2018) refer to switching modes of knowledge proposed by Sullivan and Nonaka (1986), i.e. socialization, externalization, combination and internalization of knowledge, and state that successful conversion and sharing of knowledge is to a great extent influenced by organizational culture and support. They further point out that **an enabling culture, in which knowledge sharing is encouraged, results in improved innovation performance.** Similarly, fostering an organizational

culture that **encourages interactions** among members improves learning and resource sharing and innovation performance (Yiu et al., 2019).

Velayati (2020), concluded that one of the most cited problems in firms is the tendency to keep knowledge and experiences to oneself, rather than sharing it with others although such **collaborative practices have been found to positively impact organizational dynamism and innovation** in practical and theoretical terms. In many cases, “organizations are seen as a constellation of individual silos suffering from low efficiency in knowledge sharing and management”.

- ➔ From the literature review, new concepts have been identified to be incorporated in the trans functional acclimation of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **Innovation-oriented firms encourage multi-department market intelligence generation activities, disseminate this intelligence vertically and horizontally through both formal and informal channels** -Opoku and Essien (2011). **This is enabled by a corporate culture, in which knowledge sharing is encouraged** (Oyemomi et al., 2018; Yiu et al., 2019; Velayati, 2020). **All those actions resulting in improved innovation performance.**

Organizational competencies

Organizational competencies are the activities an organization is good at doing (Warren, 2002). A more innovation capable organization is one that is able to build and deploy distinctive resources faster than the others (Winter, 2003). According to Siguaw et al. (2006), with this ability arising from the existence of a clearly identified learning philosophy, a strategic direction, and a trans functional acclimation aimed at innovation. **Firms possessing strong innovation orientations encourage the acquisition of competencies and the improvement of processes, procedures, and practices that facilitate innovation.**

The organizational competencies that emerge from a strong innovation orientation are skills or activities that become more refined and valuable with continuous investment over time (Prahalad and Hamel, 1990; Hitt et al., 1998). Siguaw et al. (2006), and recent literature, suggest that the dominant organizational competencies required to implement an innovation orientation are built and accumulated over time in the domains of **resource allocation, technology competencies, employee competencies, market competencies, and operations competencies** (Wolfe et al. 2011; Aarikka-Stenroos, 2014; Banteau and Rayburn, 2016; Ergun 2018; Guimaraes et al., 2019; Zhou et al., 2019).

Resource allocation:

According to Siguaw et al. (2006), firms that embrace an innovation orientation will provide the resources, such as capital, tools, and human resource talent, for a broader range of innovations and are more likely to fund radical innovations. Related to resource allocation, Siguaw et al. (2006) came to the following proposition: *“Firms with a strong innovation orientation are more likely to devote*

resources to all areas of the firm in efforts that specifically encourage the creation, development, and implementation of innovations”.

Recent research is aligned with that vision incorporating new elements. Silva et al. (2014) concluded that innovation-oriented firms **direct resources specifically toward innovative ideas, are supportive of human resources who champion new ideas**, “regardless of the employee’s job title”, and reduce the “bureaucratic red tape needed to get approval to pursue an idea”. Furthermore, those firms are willing to place the human talent needed behind innovations to ensure success. Moreover, **innovation oriented firms provide sufficient resources to fully develop and sustain innovation** within the organization at a higher rate than competitors and recognize that the innovative process **is a long-term investment requiring commitment** (Chen, 2009; Aarikka-Stenroos, 2014; Ergun, 2018; Zhou et al., 2109) -not included in Siguaw et al., (2006) framework.

- ➔ From the literature review, a new concept have been identified to be incorporated in the resource allocation component of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **the relevance of a long-term investment commitment into innovation** (Chen, 2009; Aarikka-Stenroos, 2014; Ergun, 2018; Zhou et al., 2109).

Technology competencies:

According to Siguaw et al. (2006), innovation-oriented firms are proactive in researching, developing, acquiring, and using new technologies to affect innovation. Related to technology competencies, Siguaw et al. (2006) came to the following proposition: *“Firms with a strong innovation orientation are more likely to develop and deploy new technologies to stimulate and sustain innovation”.*

Recent research also supports Siguaw et al. (2006) view. As such, Chen et al. (2009) found that IT capability was closely linked with innovation orientation helping to facilitate a range of other core antecedent factors.

According to Accenture (2011), in order to achieve greater success in business innovation, **leading innovation orientation companies adopt new technologies** to simplify processes and operations. Implementing flexible and agile technologies allow companies to adapt quickly, increase speed to market with new business models and reduce overall IT costs.

Wolfe et al. (2011) concluded that technology has become an **essential enabler of innovation**, providing abundant opportunities for product and process innovation, achievement of economies of scale and scope, and data-intensive decision making. In the services industries, technology is widely perceived as a game-changer, which influences customer experience positively when applied to service innovation (Banteau and Rayburn, 2016).

Employee competencies:

Siguaw et al. (2006) stated that management must appreciate, encourage, direct, and enhance the willingness of employees to place their energy and diversity of ideas in the service of a set of collective understandings and beliefs to help orient or guide an overall innovation community. As Tang (1999) suggested, leadership that works to assemble an open employee environment can significantly affect organizational innovation. Siguaw et al. (2006) came to the following proposition related to employee competencies: *“Firms with a strong innovation orientation are more likely to implement formal and informal policies, procedures, practices, and incentives specifically devoted to stimulate and sustain innovation-directed individual employee actions”*.

Literature has also highlighted the importance of **empowering** employees -not included in Siguaw et al., (2006) framework- in innovation oriented firms (Baregheh et al., 2012; Grundström et al., 2012; Ergun, 2018) with this being linked to organizational innovation culture, such as **leadership** (Engelen et al., 2014), **supporting individual creativity** (Acikgoz and Gonsel, 2016), **encouraging new ideas** (Baregheh et al., 2012), and the positive impact of **internal networks** and **experimentation** on innovation orientation (Roach et al., 2016).

Also, innovation-oriented firms have a **clear performance management structure that measures and rewards for desirable behaviors which encourage innovation** (Van den Broeck et al., 2010; Accenture, 2011; Yusof and Abidin, 2011; Deci and Ryan, 2012; Rothmann et al., 2013; Tastan 2015; Velatenyavi, 2020).

- ➔ From the literature review, new concepts have been identified to be incorporated in the employee competencies component of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **the importance of empowering employees in innovation oriented firms** (Baregheh et al., 2012; Grundström et al., 2012; Ergun, 2018) alongside with the need of **supporting individual creativity** (Acikgoz and Gonsel, 2016), **encouraging new ideas** (Baregheh et al., 2012), and the positive impact of **internal networks** and **experimentation** on innovation orientation (Roach et al., 2016).

Market competency:

Siguaw et al. (2006) proposed that innovation-oriented firms value, develop, and implement market competency activities to enhance innovation. That is, the beliefs and understandings surrounding learning, strategic direction, and trans functional acclimation will encourage the collection of customer and competitor intelligence and the dissemination of that intelligence across all functional areas so that product innovations provide greater value added for customers than do competitive products. These aggregate findings suggested the following proposition: *“Firms with a strong innovation orientation are more likely to implement policies, procedures, practices, and incentives specifically devoted to gathering and disseminating information about customer and competitor markets to stimulate and sustain innovation”*.

In the very same line, a range of recent studies found to be a link between the **ability of firms to manage and capture** – through gathering information on customers, consumers and competitors (Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Silva et al., 2014; Wu et al., 2015) - **environmental dynamism** (not just limited to market dynamics as suggested by Siguaw et al., (2006) but also incorporating technological dynamics) **and innovation orientation** (Stock and Zacharias, 2011; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016) adopting a **cross-functional approach** (Baregheh et al., 2012).

More recent literature has come to the brother concept, **absorptive capacity** -not included in Siguaw et al., (2006) framework-, which is defined as a channel for knowledge from strategic leadership, competitive intelligence, technology support and management, and the necessary innovation processes themselves to flow through the entire organization affecting the decision making process of managers and lower workers alike to ultimately increase the likelihood of innovation success (Guimaraes et al., 2019).

- ➔ From the literature review, new concepts have been identified to be incorporated in the market competencies component of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **Innovation-oriented firms should have developed market competencies to manage and capture the environmental dynamism, which includes both market and technological dynamism** (Stock and Zacharias, 2011; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016). **This could be enabled by developing an absorptive capacity** (Guimaraes et al., 2019).

Operations competency (processes / structure / culture):

According to Siguaw et al. (2006), operations competency relates to all management-controlled activities that affect the work of an organization—the **processes** and way of working and the formal (**structure**) and informal (**culture**) organization design, including how management views work process change and all communication channels. Innovation-oriented firms specifically develop operational competencies that facilitate new learning, continuous change, and improvement in administrative and work processes and encourage gathering and disseminating information from an array of sources to improve the mechanisms and processes within the firm. Related to the operations competency, Siguaw et al. (2006) came with the following proposition: *“Firms with a strong innovation orientation are more likely to organize and coordinate operational processes and structures and to engage in shaping the organizational culture to stimulate and sustain innovation”*.

Recent research is aligned with the approach of Siguaw et al. (2006). As concluded by Accenture (2011) leading innovation-oriented firms have the structures and processes in place to run with good ideas when they strike. In those firms, innovation is managed quickly and efficiently from beginning to end. Those firms **embed innovation within the organization to ensure a repeatable, predictable and continuous approach. Strong governance helps to ensure a simple and transparent decision-**

making process that supports efficient resource allocation and a balanced portfolio of innovation projects reflective of the firm's investment plans and risk appetite.

The organizational structure is considered in multiple studies with links being made with the **diversity of the "top management team"** (Talke et al., 2011) and the use of **flat structures** (Kraiczy et al., 2015) that links heavily to supporting the innovation culture and **flexibility in structure** -not included in Siguaw et al., (2006) framework- (Lazonick, 2010; McDermott and Prajogo, 2012; Kraiczy et al., 2015; Zobel et al., 2017). According to those researchers, flexible structures are defined from an organization-wide perspective, where organizations draw their innovative capabilities through capabilities of dynamic integration and change, with a focus on structures that allow employees to be creative and feel empowered (Lazonick, 2010). An aspect of flexible structures is the ability of the organization to focus on multiple targets and results through **organizational ambidexterity** (McDermott and Prajogo, 2012).

Three areas are considered as essential in supporting flexibility: **organizational learning, formality of mechanisms and processes, and speed of decision making**. On the later, however, interestingly enough, whilst the **speed of decision making** -not included in Siguaw et al., (2006) framework- is considered a benefit of flexible structures, due to a lack of bureaucracy and hierarchical centralized decision making. Maltz et al. (2006) found that the speed of decision making had limited impact on organizational innovation orientation. In addition, Zobel et al. (2017) found that high speed innovation through innovation orientation often had the by-product of informal mechanisms having to be utilized and then integrated into the business over time.

As an invisible yet very powerful force, organizational culture has been found to positively associate with financial and market performance, organizational effectiveness, employee attitudes, knowledge management practices and innovation orientation (Kaasa and Vadi, 2010; Van den Broeck et al., 2010; Naranjo-Valencia et al., 2011; Deci and Ryan, 2012; Rothmann et al., 2013; Hoogan and Coote, 2014; Szczepańska-Woszczyńska, 2015; Tastan, 2015)

Furthermore, leading innovation oriented firms organizations cherish an innovative culture that promotes **entrepreneurialism/employee autonomy** (Chen et al., 2011; Fidel et al., 2015; Luo and Wang, 2012; Ngo and O'Cass, 2011; Theodosiou et al., 2012; Wang et al., 2015), **encourages new ideas** (Baregheh et al., 2012), **networking, collaboration** (Zhou et al., 2005; Engelen et al., 2014) and **risk-awareness/taking/management** -not included in Siguaw et al., (2006) framework- by having strong support from leadership (Kraiczy et al., 2015; Engelen et al., 2014), and **organizational trust and respect** (Zehir et al., 2011).

One component Siguaw et al. (2006) framework did not include was the effects of leadership styles on firm's innovation orientation. Leaders directly affect the innovation process and their leadership behavior may encourage or discourage risk taking and innovation (Jung et al., 2003; Oke et al., 2009; Engelen et al., 2014).

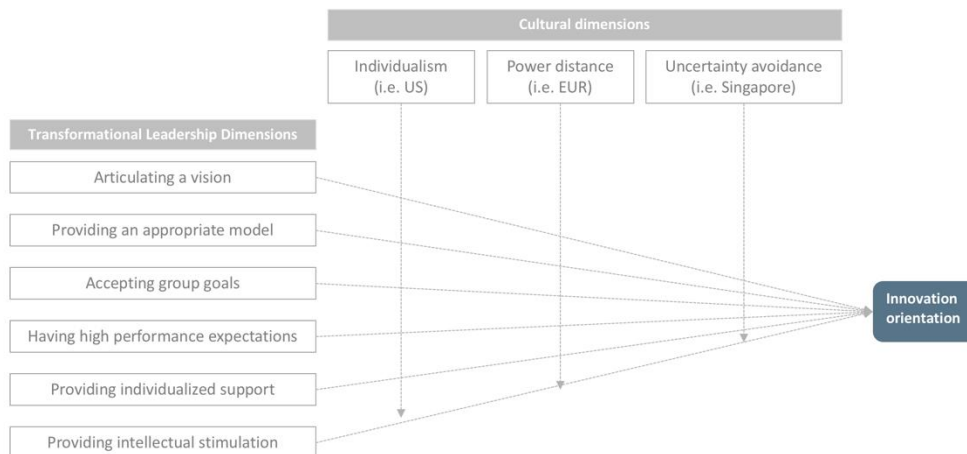
Still related with leadership and innovation, recent research has been focusing on the pathways to successfully managing the paradoxes of innovation. According to Hunter et al. (2018) innovation often places conflicting and paradoxical demands -perhaps the most well-known is the exploitation

of innovation/exploration of innovation dilemma first outlined by March (1991) building on earlier work by Shumpeter (1934)- on leaders attempting to enhance it. To manage such paradoxes, there are several pathways. The first is the **ambidextrous pathway** that requires a leader capable of engaging in a range of behaviors in a resilient fashion. The second is a shared leader approach, where two leaders help distribute the unique and conflicting demands of innovation (Mainemelis et al., 2015; Hunter et al., 2017). The question that emerges is how to decide which pathway is most viable for a given organization or circumstance. Hunter et al. (2018) concluded that rather than making the case for a single approach to leading, they proposed the notion that there are multiple ways to be successful. Neither pathway is particularly easy nor is either pathway without its own unique difficulties.

- ➔ From the literature review, new concepts have been identified to be incorporated in the operations competency component of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **Innovation-oriented firms have a flexible structure which with certain formalization of mechanisms and processes, may accelerate the speed of decision under certain circumstances** (Van Muijen and Koopman, 1994; Maltz et al., 2006; Lazonick, 2010; McDermott and Prajogo, 2012; Kraiczy et al., 2015; Zobel et al., 2017). **Flexible organizations need to have the ability to focus on multiple targets and results through ambidextrous organization / leadership** (McDermott and Prajogo, 2012; Mainemelis et al., 2015; Hunter et al., 2017). Leading innovation-oriented firms cherish an innovative culture that promotes **among others, risk-awareness/taking/management** (Engelen et al., 2014; Kraiczy et al., 2015)

A special focus has been made on **the relevance of national culture impact on innovation orientation**. Since the research focus on a cross-geography analysis (Europe with some references to the US and Singapore) it was deemed relevant to assess to what extent national cultures could impact on the innovation orientation of firms depending upon where they are based. National culture is defined by Kluckhohn (1951) as patterned ways of thinking, feeling, and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values. Based on that concept, Engelen et al. (2014) built upon the established relationship between top management's transformational leadership and firm-level innovation by factoring in the national culture.

Figure 2.3: Transformational leadership and innovation orientation – cross cultural perspective
(Adapted from Engelen et al.,2014)



The dimensions of national culture used most frequently in academic research are **individualism**, **power distance**, and **uncertainty avoidance** (Triandis, 2004). Individualism refers to the degree of “I” consciousness within a culture (Hofstede, 1984). Power distance refers to “the extent to which less powerful members of organizations and institutions [...] accept and expect that power is distributed unequally” (Hofstede and Bond, 1988). In high power-distance cultures, decision power typically lies only in the hands of leaders (Hofstede, 1984), while in low power-distance cultures, decisions are typically dispersed and delegated to lower hierarchical levels (Nakata and Sivakumar, 2001). Uncertainty avoidance refers to the degree of structure required for people to feel comfortable with a situation (Hofstede, 2001). In high uncertainty-avoidance cultures, people try to avoid uncertain situations because they perceive uncertainty as a threat (Luque and Javidan, 2004), whereas in low uncertainty-avoidance cultures people feel comfortable with uncertain situations and tend to see uncertainty as opportunity (Kemper et al., 2011).

Their findings reveal that **six transformational-leader behaviors positively influence innovation orientation but with differing levels of intensity. Only two of these relationships, “providing an appropriate model” and “accepting group goals,” are culturally independent, while the other behaviors’ effects tend to be culturally dependent.** For example, “providing intellectual stimulation” has a stronger effect in collectivist cultures, cultures with high power distance, and low uncertainty-avoidance cultures than in other cultures. Similar culture-dependent findings emerge for other leader behaviors.

The moderating results of culture provide insight into the transformational-leader behaviors that must be adapted to the cultural setting in order to strengthen the positive effect on innovation orientation. The results suggest that transformational leaders in **individualist cultures (i.e. US) who wish to increase their firms innovation orientation should focus on articulating a vision, having high performance expectations, and providing individualized support, while eschewing intellectual stimulation. Leaders in high power-distance cultures (i.e. Europe) should pursue intellectual stimulation and individualized support but avoid high performance expectations. In**

cultures with high uncertainty avoidance (i.e. Singapore), high performance expectations appear to be productive, while intellectual stimulation does not.

- ➔ Bearing in mind that the research will be focusing on a cross-geography analysis (Europe being the main area to be covered) it was deemed relevant to include and assess **the relevance of national culture impact on the innovation orientation framework** (Engelen et al., 2014).

Innovation outcomes

Innovation form (radical vs. incremental):

An innovation orientation is likely to affect both forms of innovation presented in the literature: radical and incremental. **Radical innovations** redefine the market and cause disruptive change within the organization (Lawless and Anderson, 1996; Lu and Chen, 2010; Un, 2010; Bakovic et al., 2013). **Incremental innovations** are minor changes stemming from an orderly, natural progression in knowledge (Lawless and Anderson, 1996; Lu and Chen, 2010; Un, 2010; Bakovic et al., 2013; Oerlemans et al., 2013). Cumulatively, incremental innovations may have a large impact, but singularly they are almost imperceptible because their effects are small (Hollander, 1965).

According to Siguaw et al. (2006), organizations with stronger innovation orientations build the organizational competencies that make it possible to produce more innovations of all types—from radical to incremental and in between— up to a point of diminishing return. In that sense, they came with the following proposition related to the innovation form: *“Strong innovation orientation firms will have organizational competencies that are more likely to produce greater numbers of both radical and incremental innovations, although the relationship is nonmonotonic.”*

Recent research has identified some specificities of innovation form by industries. As such most innovation in the **service industry are less radical**, involving shifts away from the fundamental characteristics of services: intangibility, heterogeneity, inseparability, and perishability (Tether, 2015).

Wolfe et al. (2011) when analyzing innovation in the financial services in Canada, concluded that there was a substantial degree of innovation in the sector, and these innovations were often **incremental** product improvements, aimed at market differentiation, and therefore easily imitated.

However, Das et al. (2017) state that while traditionally financial institutes could rely on incremental innovation in their existing services, they now **need radical innovation to reshape the market**.

From the literature review one could infer there has been a shift from the initial perspective of Siguaw et al. (2006) in the sense that companies in the services industries should be focusing more in the radical form of innovation due to market conditions. This point should be confirmed during the primary research phase.

Innovation type (market, process or business model oriented):

An innovation orientated firm, according to Siguaw et al. (2006), should increase innovations in processes, administrative innovations, products, and beyond. Innovation orientation means making innovation the focus of the whole organization. As a result, innovative activities should occur across all functional areas and within all types of tasks. They came with the following proposition: *“Strong innovation orientation firms will have organizational competencies that are likely to produce more innovations in all of the innovation types— marketing, process, and administrative innovations.”*

Recent literature has focused on the very same innovation types as described by Siguaw's et al. (2006). The considered different types of innovations are in **products or services** (i.e., markets), **processes**, **administrative** and **business models** innovations (Bergfors and Larsson, 2009; Chenavaz, 2012; Wong, 2012; Cordero et al., 2013; Wang et al., 2015; Hanif and Asgher, 2018). Process innovations are changes in ways of doing business or producing products and services: anything that alters the way the work gets done, the way the jobs get designed, or the way the execution occurs (Smeds, 2001). Administrative innovations involve organizational structure and administrative process; they are indirectly related to the basic work activities of an organization (Damanpour, 1991) and may include downsizing layers of the organization and creating a flatter organizational structure. Wang et al. (2015) and Hanif and Asgher (2018) state that both product and process innovations can be combined and occur jointly while business model innovations are complex, difficult to develop and implement and require more resources as compared to product and processes.

Most recent literature has also focused on similar types of innovation although under different categories. As such, Hasiao et al. (2017) offered four metrics against which innovation can be categorized: stand-alone innovative service, products or items; innovations in structural configurations related to existing services/product offering; innovations resulting from improvements in or repositioning of existing services; and innovations in business models that affect the whole organization.

From another point of view, Snyder et al. (2016) argued that innovation could be classified based on four different measures: innovativeness extent -or the degree of change caused by the implementation of the service/product innovation; the nature of change -or whether it requires changes in the core service/product, processes, business models, etc.; perceived newness of the service/product- along a continuum of new-to-the-firm versus new-to-the-market; and means of provision -the technology, channels, customer interfaces, etc.

Innovation rate (fast vs. slow):

Based on Siguaw et al., 2006, innovation-oriented companies are argued to have the organizational competencies to modify the timing of innovations, to speed the cycle appropriately, and to absorb the innovations occurring outside the environmental scanning logic because they are more proficient in fostering a synergistic environment conducive to change. They formally stated, the following proposition: *“Strong innovation orientation firms will have organizational competencies that are more likely to take innovations from inception to implementation at a faster rate, although the relationship is nonmonotonic.”*

Innovation collaboration [new component]:

Innovation is not only limited to internal sources of knowledge, and competencies but also those sources of information, knowledge and competencies coming from outside the boundaries of the organization. As such, in recent years, due to the importance of customer understanding and market trends identification as the main sources of knowledge and ideas, many firms are increasingly shifting to open innovation and customer-driven innovations models in which useful information, knowledge, ideas and competence are widely disseminated outside the borders of any particular firm.

Taking into account increasing trend towards customers' integration into the innovation processes, a new model of innovation has been recently occupying both, scientists and practitioners worldwide, i.e. **open innovation** model opposed to the closed innovation model, which was not initially factored in Sigauw et al., (2006) innovation orientation framework.

Open innovation is defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough et al., 2006). According to the idea of open innovation, a shift from the previously closed boundaries of an organization to a semi-permeable membrane should enable an innovation to easily move between the internal R&D and external environment making internal R&D efforts more successful (Santamaria et al., 2010). Moreover, the central role of innovation is to research new ideas that have saleable potential at the open market (Laursen and Salter, 2006).

According to Chesbrough (2003a) and Elmquist et al. (2006) due to the mobility of highly experienced and skilled people, the development of financial structures such as private venture capital and shorter product life cycles have caused the innovation processes to exceed the boundaries of a company. Therefore a closed innovation approach is no longer sustainable requiring to be replaced by an open innovation approach.

Given that intellectual assets and knowledge flows became inseparable components of the new economy, open innovation is extended for the most recent definition which states that **open innovation is distributed innovation process based on consciously managed knowledge flows outside an organization, using tangible and intangible mechanisms equivalent to the organization's business model** (Chesbrough and Bogers, 2014).

However, according to recent research, open innovation should not be considered as the only source of innovation. As such according to Thompson et al. (2020), **innovating with external partners does not always give companies a competitive advantage**. It needs to be balanced with internal efforts. Forging partnerships and investing in third parties does not always confer a competitive advantage; often it only helps incumbents catch up with rivals. The need to acquire capabilities quickly is important, but **companies must also continue to invest in developing key capabilities internally, even if that takes more time**. External innovation should be treated as a way to broadening their innovation project portfolio/knowledge. According to their research, companies are looking to source innovation from outside their organization since they are desperate to access digital capabilities and applications quickly. Companies are using several kinds of partners, such as universities, think tanks, consultants, crowdsourcing platforms, startups, and innovation labs (which

are internal structures that serve as bridges to external innovation). Indeed, internal innovation may be even more critical because it offers the possibility of differentiation.

- ➔ From the literature review, and due to its relevance, it has been decided to include the **innovation collaboration approach** as a new component in the innovation orientation framework, under the innovation outcomes. In that sense, it will be assessed to what extent firms are pursuing open innovation in order to be oriented towards innovation (Chesbourg et al., 2006; Santamaria et al., 2010; Chesbrough and Bogers, 2014; Thompson et al., 2020)

Organization performance

According to Siguaw et al., 2006, **the introduction of various types of innovation** (i.e., marketing, process, administrative and business model) **would lead to higher levels of performance**. However, the relationship between both numbers of innovations and the speed of the innovation development process and performance measures such as return on investment (ROI) and profitability was considered nonmonotonic—that is, that after some ideal point, the returns from more or faster innovations diminish—because of the inability of the organization to focus on many innovations and to adequately develop innovations prior to commercialization.

Recent studies still support the **positive impact of innovation orientation on organizational performance, profitability and growth** (Todorovic and Schlosser, 2007; Tang et al., 2008; Chen et al., 2009; Lisboa et al., 2011; Ngo and O’Cass, 2011; Zehir et al., 2011; Theodosiou et al., 2012; Cheung et al., 2012; Lofsten, 2014; Tajeddini and Trueman, 2014; Jalilvand, 2017) and this link with organization-wide performance is a crucial link for the development of innovation orientation as an organizational wide construct.

Despite the potential impact of innovation orientation in firm’s performance, Siguaw et al. (2006) did not provide an extensive view on the measurements of innovation orientation on business outcomes and performance. Those measurements, according to the literature, have primarily relied upon two general approaches that have involved the use of either **objective or subjective measures** of performance (Zehir et al., 2011). The **objective** approach uses the absolute values of quantitative performance measures that can be categorized into four key areas, namely, **financially in terms of profitability** (Altindag and Zehir, 2012; Cheung et al., 2012; Wu et al., 2015; Chuang and Lin, 2017), **commercially in terms of sales growth, market share, sales growth rate and value for the customer** (Maltz et al., 2006; Jaakkola et al., 2010; Altindag and Zehir, 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Wu et al., 2015; Witwell et al., 2015; Gustaffson et al., 2020), **and innovativeness** (Chou and Yang, 2011; Wu et al., 2015).

The second approach has often used **subjective** measures of performance that could be categorized under three major blocks: **organization related** (Ussahawanitchakit, 2008; Cheung et al., 2011; Zehir et al., 2011; Kortmann, 2015; Dhewanto and Sohal 2015; Yang et al., 2016), **internal capability related** (Chen et al., 2009; Keskin, 2009; Dobni, 2010; Caerteling et al., 2011; Hsu et al., 2011;

Teichert and Bouncken, 2011; Theodosiou et al., 2012; Dhewanto and Sohal, 2015; Dobni et al., 2015; Fidel et al., 2015; Wang et al., 2015; Lii and Kuo, 2016) **and customer related** (Ngo and O’Cass, 2011; Teichert and Bouncken, 2011).

- ➔ From the literature review, it has been deemed relevant to include in the innovation orientation framework the **distinction between objective and subjective performance metrics** when measuring the impact of innovation orientation in firm’s performance (Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Yang et al., 2016; Chuang and Lin, 2017; Gustaffson et al., 2020)

Moreover, based on Dobni and Sand (2018) framework, it has been identified an item not included initially in Siguaw et al. (2006) innovation orientation framework that was the **performance management system**. Dobni’s understanding is that firms need to have in place performance management systems to encourage, align, empower, measure and incentive innovation. These systems are complementary to the view of Siguaw et al. (2006) that assessed the impact of innovation orientation on firm’s performance but not formally considered these tools as a key component of the innovation orientation framework.

Furthermore, based on Stock and Zacharias (2011), it has been deemed relevant to include in the framework the analysis of **the types of innovation and its impact on performance**. Those researchers identified typical patterns of innovation orientation and their associated performance outcomes. The authors developed a framework that identifies four patterns: (i) integrated innovators; (ii) internally driven preservers; (iii) proactive customer-oriented innovators; and (iv) top-down innovators. Their results revealed performance differences across these patterns. An integrated approach leads to the highest innovativeness scores, but proactive customer-oriented innovators and top-down innovators enjoy the greatest financial success.

Table 2.6: Innovation types
(Adapted from Stock and Zacharias, 2011)

Innovation types	Characteristics	Innovation orientation results
<ul style="list-style-type: none"> • Integrated innovator 	<ul style="list-style-type: none"> • Clear strategy • Structure and process in place • HR systems • Culture • Leadership 	<ul style="list-style-type: none"> • Highest in innovation
<ul style="list-style-type: none"> • Internally driven preservers 	<ul style="list-style-type: none"> • Centralized structure driving innovation orientation • Not implement Company driven innovation • Not focus on customer information • Only internal sources 	
<ul style="list-style-type: none"> • Pro-active customer-oriented innovators 	<ul style="list-style-type: none"> • Spanning activities • Customer orientation • Innovation culture • HR Systems (customer-oriented employees, promoting creativity and unconventional thinking) 	<ul style="list-style-type: none"> • Highest performance in terms of firm results
<ul style="list-style-type: none"> • Top-down innovators 	<ul style="list-style-type: none"> • Top down approach • Lack of interaction with customers • Strong strategy and leadership innovation 	<ul style="list-style-type: none"> • Highest performance in terms of firm results

- ➔ From the literature review two new concepts have been identified to be incorporated in the organization performance component of the innovation orientation framework as conceptualized by Siguaw et al. (2006): **Innovation-oriented firms have performance management systems in place** (Dobni and Sand, 2018) **and should consider following a specific innovation type based on the innovation orientation performance results that are sought** (Stock and Zacharias; 2011).

Environmental turbulence:

Siguaw et al. (2006) stated that any number of variables may moderate or mediate the innovation orientation to organization performance path, but **environmental uncertainty** was considered the most apparent and well-documented factor in the literature and therefore was included in the framework. Environmental uncertainty, or turbulence, may be viewed as occurring along a continuum, with clarity, certainty, and stability about environmental demand at one extreme and ambiguity and uncertainty at the other (Friedman and Goes, 2000). For the most part, the innovation literature supports the idea that environmental turbulence facilitates innovation (e.g., Calantone et al., 2003; Chandy et al., 2003). The logic underlying this association is based on research suggesting that product innovation is generally an expensive process for which the costs are rarely recouped (Miller et al., 1988); therefore, firms in stable environments have less need of incurring those costs, whereas firms in turbulent environments must constantly innovate to stay ahead of the competition and to meet changing customer needs (Miller et al., 1988). After their literature review, Siguaw et al. (2006) came with the following proposition: *“Environmental turbulence will moderate the relationships among a firm’s innovation orientation; organizational competencies; innovation form, type, and speed; and firm performance.”*

Recent literature support that a positive relationship between environmental uncertainty and innovation exists (Prajogo and McDermott, 2014). This is considered to be consistent with the common argument suggesting that **dynamic environments drive firms to be innovative** (Stock and Zacharias, 2011; Zhang et al., 2015). The category on understanding environmental dynamics is multifaceted and not only focusses on direct competition, but also on factors that can influence competition within a marketplace. It is therefore understandable that a range of studies found there to be a link between the ability of firms to dynamically manage **market dynamism** -, changes in customer preferences and market competition-, **technological turbulence** -rate and predictability of technological changes- and **innovation orientation** (Lichtenthaler, 2011; Stock and Zacharias, 2011; Hung and Chou, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Alexiev et al., 2016; Sundström et al., 2016; Hanif and Asgher, 2018).

Most recent literature (Bar An et al., 2020) has focused on the impact of global macroeconomic events, such as Covid-19 pandemic, concluding they have a significant financial and human toll, stranding assets and human capital and causing significant social and economic dislocation. However, **many of these dynamics are ingredients for disruption from which new business models could emerge**.

- ➔ From the literature review it has deemed relevant to categories the environmental turbulences mediating in firm’s innovation orientation into two major categories: **market and technological dynamism related turbulences** (Lichtenthaler, 2011; Stock and Zacharias, 2011; Hung and Chou, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Alexiev et al., 2016; Sundström et al., 2016; Hanif and Asgher, 2018). Moreover, a specific overview on the impact of **big macroeconomic events** – such as Covid-19 pandemic- in innovation for the core unit of analysis has been conducted (Bar An et al., 2020).

Innovation orientation as a long-term competitive advantage:

Siguaw et al. (2006) concluded that a real source of competitive advantage is an innovation orientation, specifically its **knowledge structure** -that is clear, specific, unique, pervasive, and guides action toward innovation- and **strategic intent** that directs functional competencies. Therefore, firms willing to be oriented towards innovation should have a collective set of understandings and beliefs, pervasively accepted throughout the firm and likely to occur at all levels and functions, that should facilitate continual processes to **insure long-term competitive advantage**.

Those conclusions are in line with previous research to Siguaw et al. (2006) and current research. As such, Porter (1980) stated that, in certain situations, firms could utilize **proactive innovative behaviors in order to increase their competitive positioning** in relation to other firms.

Lieberman and Montgomery (1988) argued that **innovative first-mover firms were able to gain significant advantages over follower firms**. They defined such first-mover advantages in terms of the ability of pioneering firms to earn higher economic profits through such advantages as technological leadership and increased buyer switching costs (Lieberman and Montgomery, 1988).

According to Bharadwaj et al. (1993) a firm's competitive advantage was conceived as the range of outcomes from the firm's innovation activities that enables the firm to achieve superior market advantages and resist erosion by competitors. According to the literature, those competitive advantages outcomes include the **establishment of new markets, the attraction and retention of new and existing customers, increased customer loyalty, cost efficiencies, maintaining or enhancing market share and outperforming competitors and brand reputation** (de Brentani et al., 2010; Lisboa et al., 2011; Salunke et al., 2013; Mahr, Lievens and Blazevic, 2014; Tajeddini and Trueman, 2014; Wu, 2014). **Organizations should constantly look for innovative products or services to stay ahead of their competitors** and engage customers with their offerings (Jaaron, and Backhouse, 2017).

The pitfalls of Innovation orientation [new component]:

Most innovation orientation research has focused on factors that affect innovations, primarily rate, speed and benefits and then research that examined innovation as a system-based, firm-wide orientation toward innovation. Interestingly, only a small number of studies (Olson et al., 2005; Simpson et al., 2006; Jaakkola et al., 2010; Lee et al., 2016) highlighted that **innovation orientation had a negative impact upon any of the measures of performance variation related to innovation orientation.**

One of the most comprehensive study aiming at understanding outcomes of the innovation orientation, both positive and negative was the one from Simpson et al. (2006).

That framework of positive and negative outcomes of an innovation orientation offers a comprehensive understanding of the consequences of adopting an innovation orientation framework like the one described by Siguaw et al. (2006).

Likely **positive outcomes** identified in that study include more, faster, and higher quality innovations, along with employee, customer and competition related advantages, and operational excellence. The **negative outcomes** include too many unwarranted changes, market risks, employee dissatisfaction, and increased costs.

Table 2.7: Innovation orientation outcomes: the good and the bad
(Adapted from Simpson et al., 2006)

Pitfalls to innovation:	
Focus:	<ul style="list-style-type: none"> • Commitment to unprofitable new product development • Cost intensive innovation orientation
Change management:	<ul style="list-style-type: none"> • Too much change for the sake of change • Too many innovations beyond core competencies • Unprofitable innovations
Market risk:	<ul style="list-style-type: none"> • Product failures • Fast followers catching up
Employees attitudes:	<ul style="list-style-type: none"> • Jon stress among employees • Dissatisfaction • Burnt out / turnover
Costs:	<ul style="list-style-type: none"> • Increasing cost base due to innovation projects

This research indicated that **embracing an innovation orientation may not be the panacea that prior studies had suggested**, warranting some caution. Therefore, the authors suggest that companies should **avoid producing innovations that stray beyond a firm’s core competencies, recruiting employees that resist change or who cannot manage the stress of a dynamic environment, and developing measures that fail to financially account for both the positive and**

adverse costs of innovation. Additionally, the set of likely outcomes specified should be used for benchmarking the success of innovations.

- ➔ From the literature review it has deemed relevant to include the assessment of the innovation orientation framework **potential pitfalls as well as identify the measures firms should implement to prevent from such pitfalls** -i.e. avoid producing innovations beyond core competencies, recruiting employees that resist change or who cannot manage stress of a dynamic environment, and developing measures that fail to financially account for both the positive and adverse costs of innovation- (Simpson et al., 2006; Jaakkola et al., 2010; Lee et al., 2016).

2.2.4.3 Updated Innovation Orientation framework after literature review:

Given that much of the work in the innovation orientation research field has been produced since the publication of the conceptual model presented by Siguaw et al. (2006), it has been deemed necessary to review current literature on innovation orientation frameworks in general, and in each of Siguaw's et al (2006) initial innovation orientation framework components in particular, to identify and incorporate some new developments that have been empirically proven to impact upon innovation orientation, not incorporated initially by Siguaw et al. (2006).

After such literature review, which has been presented in the previous section, the following table summarizes the update to Siguaw et al.'s (2006) innovation orientation framework:

Table 2.8: Siguaw's et al. (2006) innovation orientation framework update after literature review

Innovation orientation Framework (Siguaw et al., 2006)	New components to the innovation orientation framework, after literature review
Strategic direction	<ul style="list-style-type: none"> • Assessment of the relationship between strategic typology and innovation orientation (Kafchechi, 2016) • Need of management commitment to define innovation strategy (Dobni and Sand, 2018)
Learning philosophy	<ul style="list-style-type: none"> • Utilization of information from customers, consumers and competitors in the learning process (Grinstein, 2008; Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Silva et al., 2014; Wu et al., 2015) • Use of Knowledge Management tools as a means to manage all gathered knowledge to be activated in the innovation process (Pancholi and Pancholi, 2014; Velayati et al., 2020); • Knowledge management as a competitive advantage (Bantaue and Rayburn, 2016)
Trans functional acclimation	<ul style="list-style-type: none"> • The importance of encouraging multi-department market intelligence generation activities, disseminating this intelligence vertically and horizontally through both formal and informal channels (Opoku and Essien, 2011) enabled by a corporate culture, in which knowledge sharing is encouraged (Oyemomi et al., 2018; Yiu et al., 2019; Velayati, 2020)
Organizational competencies:	
O1: Resource allocation	<ul style="list-style-type: none"> • The relevance of a long-term investment commitment into innovation (Chen, 2009; Aarikka-Stenroos, 2014; Ergun, 2018; Zhou et al., 2019)
O2: Technology competency	<i>None</i>
O3: Employee competency	<ul style="list-style-type: none"> • The importance of empowering employees (Baregheh et al., 2012; Grundström et al., 2012; Ergun, 2018) alongside with the need of supporting individual creativity (Acikgoz and Günsel, 2016), encouraging new ideas (Baregheh et al., 2012) • Positive impact of internal networks and experimentation (Roach et al., 2016)
O4: Operations competency	<ul style="list-style-type: none"> • Innovation-oriented firms have a flexible structure which may accelerate the speed of decision under certain circumstances (Van Muijen and Koopman, 1994; Maltz et al., 2006; Lazonick, 2010; McDermott and Prajogo, 2012; Kraiczy et al., 2015; Zobel et al., 2017) • Flexible organizations need to have the ability to focus on multiple targets and results through ambidextral organization / leadership (McDermott and Prajogo, 2012; Mainemelis et al., 2015; Hunter et al., 2017). • Leading innovation-oriented firms cherish an innovative culture that promotes among others, risk-awareness/taking/management (Kraiczy et al., 2015; Engelen et al., 2014) • The relevance of national culture impact on the innovation orientation framework (Engelen et al., 2014)
O5: Market competency	<ul style="list-style-type: none"> • Innovation-oriented firms develop market competencies to manage and capture the environmental dynamism, which includes both market and technological dynamism (Stock and Zacharias, 2011; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016). • This could be enabled by developing an absorptive capacity (Guimaraes et al., 2019)
Innovation outcomes:	

IF: Innovation form	<i>None</i>
IT: Innovation type	<i>None</i>
IR: Innovation rate	<i>None</i>
	IC : Innovation collaboration / open innovation (Chesbourg et al., 2006; Santamaria et al., 2010; Chesbrough and Bogers, 2014; Thompson et al., 2020)
Firme performance:	
P1: Market position	<i>None</i>
P2: Operational efficiency	<i>None</i>
P3: Financial results	<i>None</i>
	P4: Distinction between objective and subjective performance metrics when measuring the impact of innovation orientation in firm's performance (Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Yang et al., 2016; Chuang and Lin, 2017; Gustaffson et al., 2020)
	P5: Performance management system in place (Dobni and Sand, 2018). Firms should consider following a specific innovation type based on the innovation orientation performance results that are sought (Stock and Zacharias; 2011)
Environmental turbulences	<ul style="list-style-type: none"> • Market and technological dynamism related turbulences (Lichtenthaler, 2011; Stock and Zacharias, 2011; Hung and Chou, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Alexiev et al., 2016; Sundström et al., 2016; Hanif and Asgher, 2018) • Need to consider specific assessment of the impact of big macroeconomic events – such as Covid-19 pandemic- (Bar An et al., 2020)
Pitfalls of innovation orientation	<ul style="list-style-type: none"> • [NEW]: Need to consider potential pitfalls as well as identify the measures firms should implement to prevent from such pitfalls -i.e. avoid producing innovations beyond core competencies, recruiting employees that resist change or who cannot manage stress of a dynamic environment, and developing measures that fail to financially account for both the positive and adverse costs of innovation- (Simpson et al., 2006; Jaakkola et al., 2010; Lee et al., 2016)

2.3 Innovation orientation in the services industry

It has been deemed relevant to include an analysis of the **innovation orientation in the services industry literature**, since banking –the core industry to be researched- is considered as part of the service industry. The main goals of that literature review being to assess whether new components or adjustment to the ones in the Updated Innovation Orientation framework after literature review -as described in previous section- need to be made.

This literature review has brought some considerations specific for the service industry that have been added to the Updated Innovation Orientation framework. Those considerations are summarized in the conclusion section.

Service industry form a considerable part of the world economy (62% of global value GDP in 2018 according to World Bank data; 74% of European Union value GDP in 2019). Contrary to the logical assumption that service innovation research should represent a significant share of all innovation research, the vast majority of innovation studies focus on products as opposed to services (Durst et al., 2014). The two most relevant articles covering the topic are one related to a meta-analysis of the antecedents to innovation performance in the services industry conducted by Storey et al. (2016) and a research conducted by Tuzovic et al. (2018) in the services industry aiming at understanding a service firm's capability to be a successfully oriented towards innovation. The conclusions of both articles are summarized now.

Storey et al. (2016) conducted a meta-analysis of the antecedents of service innovation performance based on 114 articles published between 1989 and 2015. This research aimed to understand service innovation. Following the key take away of Story et al.'s (2016) conclusions to be used as key insights in order to Update the Innovation Orientation framework:

First, despite common grounds between product and service innovation, these researchers refer to the marked differences in the two areas and argue that it is a mistake to generalize the findings of one to another. Whilst there are some universal success factors that transcend the boundaries between services and products, the presence of market differences implies that **it would be wrong to treat the development of new services and new products as the same.**

Second, the meta-analysis demonstrated that the **antecedents of service innovation performance are contingent on the service type** (i.e., explicit versus tacit services). The type of service play, according to their findings, a moderating role in innovation orientation performance. Therefore, managers in different types of **service firms should not approach all service innovation in the same way.** Explicit services industries, such as mainstream retail banking, insurance, telecommunications, and utilities, are process-based and are delivered with the aid of technology. Developing new services in these industries requires mechanisms to manage the large amounts of explicit information generated and to build synergies with existing systems. Tacit or experiential services such as professional services, hospitability, transportation, private / corporate / investment banking and health are more heterogeneous due to inconsistency in human performance (Dotzel et al., 2013). As the services being developed are fuzzier, the development

processes are more complex. Hence, more effort and resources are needed in managing the processes and the team involved in the service innovation process.

Third, **innovation strategy** has not been identified as a critical antecedent in meta-analyses of product innovation. According to the researchers it is, however, one of the most influential antecedents of service innovation performance. In addition, an **innovation culture** (one that supports innovation, creativity and learning) was identified as a critical antecedent to service innovation performance. It may be that an innovation strategy is taken as a given in many product firms whereas in service organizations the development of new services has not always been a priority. Services are intangible, thus can be easily and quickly copied, which may reduce a service firm's desire to innovate (de Brentani, 1989). As such, much **service innovation is incremental** in nature (Johns and Storey, 1998). This may explain the importance of **service innovativeness**, which is in the top ten of antecedents of service innovation performance (whilst it is well down the list for products). Often, competitors copy new services quickly, easily, and cheaply; unlike innovative products, which may gain years of protection via patents, proprietary technology, or simply the length of time it takes to do the development work (Prajojo, 2006). Thus, it may be that **service firms need to develop more radically new services** in order to achieve success in the marketplace and enjoy a positive performance effect similar to that of their product-oriented counterparts.

Fourth, due to the importance of customer contact staff in delivering new services, **their involvement in development is a critical antecedent of service innovation performance**. The involvement of front-line staff has been recognized as a key success factor specific to service innovation (de Brentani, 1989). Such customer service staff has not been documented to play a significant role in product innovation. Given the importance of service employees for service innovation, there is an increased need for **organic organizational design practices**, such as **reward structures and job design, to drive service innovation** (Storey and Hull, 2010). Good organizational design is therefore important in encouraging and supporting employee engagement; being one of the most important antecedents for service innovation performance.

Fifth, an emerging theme in the innovation literature is the concept of **open innovation** (Chesbrough, 2003). This seems to be particularly important for services as compared to products. **Customer integration/input and external relations are both important antecedents** for service innovation performance. It is recognized that in many service industries service ecosystems are now required, with an alliance of partners, to create customer value (Lusch and Nambisan, 2015).

In addition, **absorptive capacity**- defined as "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen and Levinthal, 1990, p. 128)- has been identified as a key antecedent of service innovation performance and its importance as a requirement for companies to manage and prosper in a business environment heavily dependent on innovation (Noblet et al., 2011; Elbashir et al., 2011; Kohlbacher et al., 2013; Popaitoon and Siengthai, 2014).

Linking open innovation theory to the resource-based view of the firm, the theory of absorptive capacity stresses the importance of an ability to acquire and assimilate outside knowledge for successful innovation (Cohen and Levinthal, 1990). **These theories suggest that for service firms, the idea of working with entities outside of the firm to develop and deliver innovations is crucial in today's economy.**

The importance of customer integration/input, external relations and absorptive capacity suggest that **there is an extensive amount of knowledge to be managed during the new service innovation process**. However, as services are intangible, knowledge will often be tacit and difficult to manage (Johnes and Storey, 1998; Blindenbach-Driessen and van den Ende, 2014). This implies a greater need for processes and tools to collect, store and share knowledge. Consequently, **knowledge integration mechanisms** are an important antecedent for service innovation performance that has not been previously identified in product innovation meta-analyses. There is a contrast in the way in which knowledge is managed during service innovation. Knowledge integration mechanisms appear to be more powerful when the knowledge to be shared is explicit rather than tacit (Storey and Kahn, 2010).

Tacit services depend more on knowledge expressed from person to person (Storey and Kahn, 2010) suggesting the increased importance of internal communications. In this context, it is imperative to manage the increased variability in production and service delivery (de Brentani, 1989), and it seems that **job rewards and structured work processes** provide a winning organizational combination. The findings show that **for tacit services there is an increased need for organic management practices such as team empowerment, organizational design and senior management support to achieve service innovation performance** (Madhavaram and Hunt, 2008; Storey and Hughes, 2013). Such practices are necessary when dealing with subtle and imprecise information, and the requirement to react opportunistically to emergent situations that transcend planned actions (Storey and Hull, 2010).

Cross-functional integration is also important. It may be that developing explicit services requires more intense integration and cross-functional teaming, increasing its relative importance. Coupled with the increasing use of virtual development teams (McDonough, Kahn and Barczak, 2001), this drives the necessity of knowledge integration mechanisms.

Innovation resources are also a key antecedent for product innovation performance but **are less important for new services**. There are two explanations according to the researchers. First, the incremental nature of most service innovations may not require as much specific resources dedicated to them. Second, as much service innovation is also spread throughout the organization and located nearer to the point of delivery, it may require less dedicated R&D resources (Blindenbach-Driessen and van den Ende, 2014).

Table 2.9: Success factors for innovation in the service industry
(Adapted from Storey et al.; 2016)

Organization characteristics:	
	Strategic direction
	Absorptive capacity
	Knowledge management
	Resource allocation
	Senior management support
Team's characteristics:	
	Front line staff involvement
	Customer integration
	Cross functional integration
	Team empowerment
Process characteristics:	
	Technical development
	R&D proficiency
	Formal development

In conclusion, in the opinion of Storey et al. (2016), **organizational characteristics** (absorptive capacity, knowledge management integration, strategic orientation, resources, organizational design, senior management support), **team characteristics** (front-line staff involvement, customer integration, cross-functional integration, team empowerment), **process characteristics** (technical development, R&D proficiency, formal development) are the factors that considerably **lead to the success or failure of service innovations**.

- ➔ Most of the innovation orientation components identified by Storey et al. (2016) for the service industry were already considered within Siguaw's et al., (2006) innovation orientation framework but **a couple of key antecedents of innovation orientation performance to be included in the updated innovation orientation framework**:
 - The need to differentiate between tacit and explicit services, since the former require the involvement of the front-line staff in the innovation process and **organic organizational design practices** to do so
 - The importance of **customer integration/input and external relations (open innovation and absorptive capacity)**.
- ➔ On the other hand, innovation orientation in the services industry would apparently require less resources than product innovation, and the innovation form would be more towards incremental than radical.

Tuzovic et al. (2018) conducted a research in the services industry aiming at understanding a **service firm’s capability to be a successful serial innovator and to generate a constant stream of industry-leading innovations.**

The researchers identified three key institutional foundations for service innovation: (1) innovation climate (i.e., leadership and service culture), (2) human capital (i.e., recruitment, training, development, engagement and incentives), and (3) resource configurations (i.e., systems, structure, and processes). These foundations enable organizations to build the following four service innovation-related dynamic capabilities: (a) embrace ambidexterity, (b) institutionalize learning and knowledge integration, (c) orchestrate collaboration, and (d) reinvent customer value.

Table 2.10: How innovators stay innovative
(Adapted from Tuzovic et al., 2018)

Foundations	Capabilities	Outcomes
<ul style="list-style-type: none"> • Lead to innovate • Innovation climate • Human resources capital • Empower and motivate to innovate • Structure to innovate • Resources: <ul style="list-style-type: none"> ○ Systems ○ Processes ○ Structure • Flexibility / agility 	<ul style="list-style-type: none"> • Institutional learning and knowledge <ul style="list-style-type: none"> ○ Learning from different sources ○ Integrating learning • Orchestrate collaboration <ul style="list-style-type: none"> ○ Relationship with internal and external partners • Embrace ambidexterity <ul style="list-style-type: none"> ○ Differentiation vs. cost leadership ○ Structured vs. open, centralized innovation ○ Incremental vs. radical • Reinvent customer value 	<p>Sustained leading industry service innovation</p>

- ➡ From this framework, **some components have been identified not initially included in Siguaw et al. (2006) innovation orientation framework** that were considered worthy to be included in the updated innovation orientation framework:
- The first one being the concept of **institutional learning and knowledge**. Tuzovic et al. (2018) understanding is that the learning and knowledge is critical to be oriented towards innovation in the long run, as Siguaw’s et al. (2006) view too, but the former considers that this aspect needs to be formalized at corporate level.
 - Secondly, it is relevant the view of Tuzovic et al. (2018) **to be open to collaborate with internal and external partners** in order to be more innovative through “collaboration orchestrating”.
 - Last, Tuzovic et al. (2018) bring as a relevant component the need to embrace **ambidexterity into the innovation outcomes**.

2.3.1.1 Updated Innovation Orientation framework specific for service industry

From the literature review on innovation orientation in the services industry analysis, the overall Updated Innovation Orientation framework would be applicable to the service industry although some considerations and adjustments should be made.

First, the relevance to differentiate between **tacit and explicit services**, since the former require the involvement of the front-line staff in the innovation process and organic organizational design practices. This should be considered in the strategic direction component of the Updated Innovation Orientation framework since it could conditionate the outcomes.

On the learning philosophy, the need to **formalize at corporate level the learning and knowledge management** coupled with the importance within the trans functional acclimation of **customer integration/input in the learning process, especially for tacit services**.

In innovation outcomes, it is reinforced the importance of develop external relations through open innovation and absorptive capacity to be more innovative. This would require a “collaboration orchestrating” and ambidexterity approaches.

On the other hand, innovation orientation in the services industry would apparently require **less resources**, and the innovation form would be more **towards incremental** than radical.

Table 2.11: Siguaw’s et al. (2006) innovation orientation framework update after service industry literature review

Updated Innovation Orientation Framework	New components specific for the service industry to the innovation orientation framework
Strategic direction	<ul style="list-style-type: none"> • Different strategies depending on type of services: tacit/explicit (Storey et al., 2016)
Learning philosophy	<ul style="list-style-type: none"> • Formalization at corporate level the learning and knowledge management (Tuzovic et al., 2018)
Trans functional acclimation	<ul style="list-style-type: none"> • Importance of customer integration/input in the learning process, especially for tacit services (Storey et al., 2016)
Organizational competencies:	
O1: Resource allocation	<ul style="list-style-type: none"> • Less resources required when compared to product innovation (Storey et al., 2016)
Innovation outcomes:	
IF: Innovation form	<ul style="list-style-type: none"> • More incremental innovation than radical (Storey et al., 2016)
IC: Innovation collaboration	<ul style="list-style-type: none"> • Collaboration orchestrating (Tuzovic et al., 2018)
Firm performance	
Environmental turbulences	
Pitfalls of innovation orientation	

2.4 Research on innovation and innovation orientation in the banking industry

After conducting a literature review on innovation orientation in the services industry and updating the innovation orientation framework with the conclusions of such review, it was deemed necessary to conduct a similar exercise for literature related to innovation orientation in the banking industry. Such literature review aiming at customizing, if necessary, the Updated Innovation Orientation framework to the banking industry, which is the core industry to be analyzed in this research.

Although there is abundant literature on financial innovation, **there is limited research conducted on innovation as a whole in the banking industry, and even at a lesser extent, regarding innovation orientation framework applied to such industry** (Bofondi and Lotti, 2006; Anderloni et al., 2009; Wolfe et al., 2011; Uz Kurt et al., 2013; Frame and White, 2014; Gartner, 2014). The relatively scarce attention paid by innovation scholars to the financial industry is remarkable, given its role as an intermediary between saving, consumption, investment, and production is fundamental for the functioning of the whole economy.

The most recent literature review on managing innovation literature in banking was conducted by Tipu (2011). A total of 700 articles were identified covering the period from 1998 to 2008. Those articles were classified by the authors into five major categories: (i) process of innovation, (ii) factors affecting innovation, (iii) outcomes of the innovation process, (iv) innovation performance measures, and (v) protection of innovation. The latter is not a topic included in Sigauw et al. (2006).

A brief summary of the topics covered by the different articles per category is presented below, highlighting the common grounds with the Updated Innovation Framework as well as new components not yet considered or that might be specific for banking industry:

(i) Various articles discuss **innovation as a process** in an organization (Cooper 1998; Oke and Goffin 2001). **Innovation strategy is the building block of innovation** and considered the antecedent of the process of innovation. The innovation process is not seen as a set of discrete functions, such as research, development, and engineering, but rather as a fluid boundary among multiple stages of innovation process. This is well aligned with the conclusions of previous literature review and included in sections (2) and (3) of this chapter.

(ii) A range of factors could influence innovation and could be related to the **learning philosophy** and **organizational competencies** of a bank. Some of the factors which could facilitate innovation include organizational structure (Berger and Udell, 2002), organizational culture (Vermeulen, 2004), human resources (Glaveli and Kufidu, 2005), technology (Berger, 2003), **legal environment** (Jawahitha et al., 2003), communication flow (Lievens and Moenaert, 2000), competition (Bradley and Stewart, 2003a), and cost structure (Gurau, 2002). All the factors previously mentioned have already been incorporated in the innovation orientation framework, but the legal environment.

(iii) The **outcomes of the innovation** process could result in different types of innovations such as product or service innovation, and radical or incremental innovation. Radical innovations refer to “path-breaking, discontinuous, revolutionary, original, pioneering, basic, or major innovations” (Green et al., 1995; Zhao, 2005). Incremental innovations are “small improvements made to

enhance and extend the established processes, products, and services” (Zhao, 2005). Therefore, no relevant new components or adjustments to the innovation orientation framework on the innovation outcomes.

(iv) According to some literature, it is imperative to assess the **innovational performance** of an organization in order to better manage the innovation process. Different innovation measures are reported in the literature such as investment in information technology and research and development expenditure (Adams et al., 2006). This metric -expenditure in R&D- was already identified as an objective metric in the literature review on innovation orientation.

(v) Finally, the **protection of innovation** is also important after the development stage and before commercializing the product or service in the market. Different means such as patents, copyrights, and trademarks, could be employed to protect the innovation so that rivals cannot copy the productive new idea (Frame and White, 2004). This specific component has not yet been contemplated in the previous section.

- ➔ From this literature review, there are two new components to be included into the updated innovation orientation framework: the **impact of regulation** in the innovation orientation process (as environmental turbulence) and the potential relevance of **innovation protection** (within the organization competencies) specific for the banking industry.

As already mentioned, **there is not a significant research conducted on Innovation Orientation specifically applied for the banking industry.** The only article that has been identified corresponds to Dobni (2006) who describes a framework –the so-called innovation Nexus- that could potentially be applied in the financial industry, to ensure it is innovative in the long run. However, this is a theoretical exposition of an innovation orientation framework with collateral relationship to the financial industry. Nonetheless, those relationships were assumed by the author to hold true without rigorous, empirical research to provide support.

More precisely, the author discusses the dynamics of innovation in the financial services industry and delineates the relationship between innovation and market-related strategy. According to the author, firms in the financial services industry face a number of challenges but at the same time do a lot of things well – from strategy formulation through execution. As a result, the next level of competitive advantage in the industry lies in the ability of those organizations to develop and sustain an innovation orientation.

To do so, the author suggests a model –called the Innovation Nexus- that identifies three areas of consideration –context, culture, and execution:

Table 2.12: Innovation Nexus
(Adapted from Dobni, 2006)

Context:	
Prosperity quotient:	Likelihood a company will embrace innovation
Strategic architecture:	Planned/fixed strategy vs. emergent strategy
Organizational learning:	Give innovation skills and learn from employees by empowerment
Culture:	
Cluster enactment:	Identify emerging opportunities at front line. Need to listen and reward
Employee constituency:	All employees need to contribute
Knowledge management:	Generation and dissemination of knowledge
Execution:	
Co-alignment:	Fit between employee behaviors and competitive environment. Speed to change and adapt
Venture experimentation:	Over investing vs. under commitment. Learn from failures
Psychological empowerment:	Information sharing, autonomy and rewarding employees. Develop competences. Ensure self-determination. Impact of one's job

According to the author, applying the Nexus framework, continuous operational-level innovation is achieved, and competitive interaction is viewed as an opportunity to discover emergent opportunities. Moreover, strategy and innovation become interdependent. Likewise, there exists interdependency between the innovation environment and innovation behaviors, which leads to a performance effect, a knowledge effect and a people effect. Innovation yields, according to the author, expeditionary ideas and business model enhancement, and those organizations that are innovative dominant their respective industries.

- ➔ Dobni's (2006) framework brings a specific component for banks not included in the Updated Innovation Orientation framework: **the convenience for Banks to set up a process to of learning from failure as a basis for future innovations to be considered, within the operational/cultural organization competencies.**

Another research, conducted by Accenture (2011) specific for the banking industry, even though does not describe an innovation orientation framework to be applied by banks, did conclude on the **barriers to innovation orientation in the banking industry**. Those barriers are **short-term focus** (most banks do not understand how innovation contributes to the wider business vision, which results in an unfocussed portfolio of projects with minimal innovation and inadequate returns to support future innovation leadership), **lack of internal capability** (slow speed to market and operations based on complex functional silos that limit their ability to integrate innovations across the organization) and a **risk-averse culture** (heavy regulation and strict compliance requirements have produced a banking industry that is conservative and risk averse by nature). According to their report, reverting those barriers could help Banks to be oriented towards innovation.

- ➔ From Accenture (2011) the pitfalls to innovation component of the updated innovation framework could be complemented with the following elements, specific for the banking industry: **short term focus, lack of internal capabilities** - slow speed to market and operations based on functional silos- and **risk averse culture**.

There are other recent articles related to innovation to the banking industry, but not specifically related to an innovation orientation framework as a whole but parts of such framework: **innovation management** -operational competencies- (Tornjanski et al., 2015); banking industry trends and organizational attributes that affect **organizations' capability in designing innovative services** (Velayati et al., 2020); analysis of **cultural traits to banks' ability to innovate** (Guimaraes et. al, 2019); the internal **barriers to radical innovation** projects in large financial services firms (Das et al., 2017); the **effects of existing service productivity** on the success of new service introductions in a financial services market -pitfalls to innovation orientation- (Aspara et al., 2017); the **innovation outcomes** Banks and financial institutions seek (a series of researchers); and the relationship between **banking service innovation and service innovation performance** (Hanif and Asgher, 2018).

The conclusions of those studies as well as the insights that bring to update the innovation orientation framework are summarized following the overall Innovation Orientation Framework components:

Innovation management – operational competencies:

The article from **Tornjanski** et al. (2015) provided an overview of conceptual frameworks for **innovation management** from a holistic perspective to facilitate discovering future business opportunities for sustainable competitive advantage in banking industry.

According to the authors, innovation management - defined “as the invention and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals” (Birkinshaw et al., 2008)- represents the implementation of inventiveness within organization, and in essence illustrates a certain pattern of organizational change (Hargrave and Van de Ven, 2006). To achieve successful innovation management, organizations have to achieve valuable performance and integration of the domains that imply **innovation strategy, management of creativity and ideas, portfolio management, implementation management and human resource management**.

A holistic approach to management innovation provides strong foundation to better understanding the dynamics in banking and represents a valuable instrument to face the challenges in volatile business environment. The authors describe a set of integrated drivers that should be incorporated into the Banks' organization, a framework to follow to ensure positive impact of innovation into business performance and a set of leading principles that could ensure sustainable competitive advantage and developing sustainable growth for Banks.

Table 2.13: Innovation management in banking
(Adapted from Tornjanski et al., 2015)

Drivers:
<i>Excellence, simplicity, sociability, satisfaction, differentiation, separability, innovation speed, technology use, product fit and innovative culture</i>
Framework:
<i>Managed innovation process</i>
<i>Strategic alignment</i>
<i>Industry foresight and customer insight</i>
<i>Core technology and competencies and organization readiness</i>
<i>Disciplined implementation</i>
Leading principles:
<i>Shifting from linear to nonlinear innovation processes, continually incorporating internal and external knowledge in the innovation process, consciously managing knowledge flows, intensifying partnerships with external stakeholders, creating a customer-centric organization and adopting the strategic innovation framework</i>

- ➔ This framework brings a couple of components not included in the operational competencies of the Updated Innovation Orientation framework, which are specific for the banking industry: the need to **establish leading principles of managing innovation** that could ensure sustainable competitive advantage and developing sustainable growth in banking and the importance to set an **innovation portfolio management scheme**.

Organization competencies and environmental turbulences:

The most recent research on innovation orientation in the banking industry that has been identified is the one conducted by Velayati et al. (2020). This research investigated **major banking industry trends in Iran as well as organizational attributes that affect organizations’ capability in designing innovative services**.

The results suggest that privatization, technological shortcomings, legislative inefficiencies, and deposit-orientation instead of market orientation were major industry trends that affect service innovation in the banking industry.

Furthermore, ambiguity in knowledge management regimes, silo mentality and the absence of a collaborative organizational culture, growing need to focus on human capital, and risk aversion were the main organizational attributes that should be addressed for effective service innovation in the banking industry.

Moreover, to effectively leverage the benefits of innovation in banking services, managers should have an end-to-end approach towards the subject.

Table 2.14: Industry trends and organization’s attributes affecting innovation in banking
(Adapted from Velayati et al., 2020)

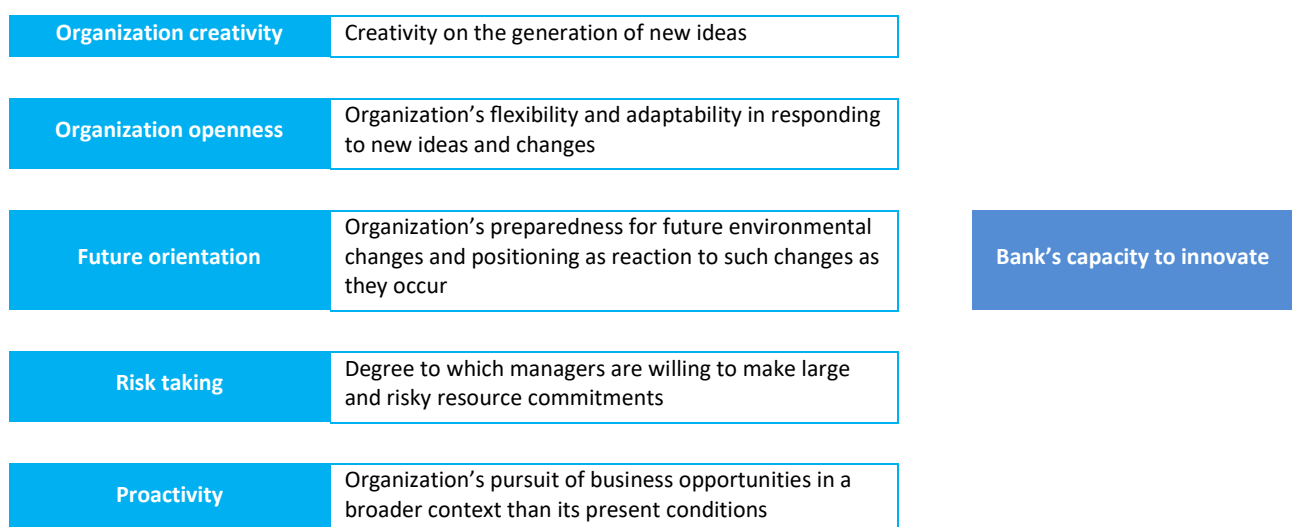
Industry trends (specific to Iran)	Organization attributes
Banking sector privatization	Knowledge management ambiguity
Technological shortcoming	Silo mentality
Legislative inefficiencies	Absence of collaborative culture
Product orientation vs. market orientation	Inertia of local legacy systems
	Lack of focus on human capital
	Risk aversion

- ➔ This research complements the Updated Innovation Orientation framework by incorporating the importance of banking industry trends potentially affecting banks' innovation orientation as **environmental turbulences** and some key **organizational attributes** that could act as barriers for Banks to be oriented towards innovation (knowledge management ambiguity, silo mentality, absence of collaborative culture, inertia of local legacy systems, lack of focus on human capital and risk aversion).

Organization competencies – cultural traits:

Guimaraes et. al (2019) research focused on organizational innovativeness - organizational climate that facilitates innovative outcomes over time (Ruvio et al., 2014) - in the banking industry in the USA, although mainly focusing on cultural traits to Bank's ability to innovate. The results provide evidence that **organization creativity** -creativity on the generation of new ideas and transforming new ideas into products, processes, and other organization changes (Amabile, 1997)-, **openness** - organization's flexibility and adaptability in responding to new ideas and changes-, **future orientation** -organization's preparedness for future environmental changes and positioning as reaction to such changes as they occur (Ford, 2002; Morgan and Strong, 1998; Venkatraman, 1989)-, **risk taking** - the degree to which managers are willing to make large and risky resource commitments (Miller and Friesen (1978), **and proactiveness** -organization's pursuit of business opportunities in a broader context than its present conditions (Lumpkin and Dess, 2001; Venkatraman, 1989)- are directly related to **bank capacity to innovate** and together help explain a significant amount of its variance among banks.

Figure 2.4: Bank's ability to innovate
(Adapted from Guimaraes et al., 2019)



The results provide significant evidence regarding the importance of the five components of organization innovativeness to the success of bank's business innovativeness. Given the importance of effectively implementing business innovation in these days of hyper competitiveness, according to the authors, banks' **capacity to innovate** is an important prerequisite for their ultimately being more successful implementing necessary changes to their services, the business processes, and the organization itself. Therefore, it behooves bank managers to do whatever they can to improve their **organization's performance in the areas of organization creativity, openness, proactiveness, willingness to take risks, and orientation to the future.**

To improve **organization creativity** top managers should encourage, be supportive and expect personnel to be resourceful problem solvers, to be continuously looking for opportunity to develop and offer new or improved services, to perform their jobs creatively and using original approaches to solve work related problems whenever possible. To increase **organizational openness** managers should be attentive that their bank as a whole and particularly its employees are always moving toward the development of **new answers**, assisting in the development of new ideas, readily available to **cooperate** with peers, subordinates and superiors, and open to new ideas and proposed changes. Further, it is important that managers are always searching for fresh new ways of looking at problems and opportunities.

To re-orient the organization **towards the future** there are also some prescriptions: managers should pay special attention so that only **challenging but realistic goals** are set for individuals, departmental units, and the organization as a whole; that all managers and employees share the **same vision** of the future; that managers conveys a clear sense of future direction to employees; and that the bank has a realistic vision of the future for all departments and employees. Regarding **risk taking**, an area that many consider anathema to respectable bankers, managers must create an environment where risk management becomes an integral part of planning and project management. Even for banks it is important that managers are not unduly shy about taking risks for the sake of creating an innovative company environment, developing an organization culture where employees understand that higher risks may be worth taking for higher payoffs, where managers encourage and support innovative strategies, knowing well that some ideas will fail, and that it is ok to take risks and not necessarily play it safe all the time, regardless of potential payoffs. Last, to improve bank **proactiveness** managers must be committed to continuously seek new opportunities for the organization, taking the initiative in an effort to shape the bank internal and external environments to the bank's advantage, being continuously prepared to introduce new ideas and services, and taking the initiative by introducing new and more effective administrative policies and techniques.

- ➔ Guimaraes et al. (2019) stressed that bank managers have to do whatever they can to improve their **organization's performance in the areas of organization creativity, openness, proactiveness, willingness to take risks, and orientation to the future.** Those five components were not included so far in the Updated Innovation Orientation framework, and they have been deemed relevant for the purpose of the research and included within the organization competencies-culture component (organizational climate that facilitates innovative outcomes over time).

Innovation outcomes – radical innovation:

Das et al. (2017) analyzed the internal barriers that seem to be key in potentially radical innovation projects in large financial services firms, by conducting a case study at a large multinational bank based in Europe. Their main research argument was that barriers to potentially disruptive and radical innovations had drawn a great deal of attention by researchers. However, the focus had been primarily on traditional product and manufacturing firms, and not so much on how innovation barriers impact the growing number of projects in the financial services sector.

The authors stated that while traditionally financial institutes could rely on incremental innovation in their existing services, **they now need radical innovations to reshape the market**. Meanwhile, it should also be noted that taking such an approach imposes risks and costs on the organization and should thus be meticulously analyzed so as to avoid exponential burden on the organization.

According to the authors, organizing for potentially radical innovation within large financial services firms by means of innovation programs and projects partially supports exploration, but not necessarily the exploitation of these types of innovations. The study highlights that if an **innovation strategy, active management support, and a separate governance structure for innovation are in place**, projects get stimulated in the exploration phase as projects do not experience a lack of appropriate resources or competition with traditional projects. But, barriers such as a restricted mindset, a lack of exploiting new ideas, an unsupportive organizational structure (Sandberg and Aarikka-Stenroos, 2014), and inertia caused by (local) systems architecture (Hölzl and Janger, 2011) do hamper further exploitation of innovations.

From those findings, the authors concluded a theoretical framework of barriers to potentially radical innovations within large financial services firms. As such, they identified six key barriers to these type of innovation projects: a lack of exploiting new ideas, inertia caused by (local) systems architecture (relevant for multi-national Banks), an unsupportive organizational structure, too much focus on risk avoidance, absence of fundamental research and development, and the not-invented-here-syndrome.

Table 2.15: Supporting elements to exploration and barriers to exploitation innovation in multi-national Banks
(Adapted from Das et al., 2017)

<i>Exploration accelerators:</i>	<i>Exploitation barriers:</i>
<i>Innovation strategy defined</i>	Restricted mindset
<i>Active management support</i>	Unsupportive organization structure
<i>Separate Innovation Governance structure</i>	Lack of exploiting new ideas
	Inertia of local legacy systems

Barriers to radical innovation in the banking industry:
<ul style="list-style-type: none"> • Lack of exploiting new ideas, • Inertia caused by (local) systems architecture, • An unsupportive organizational structure, • Too much focus on risk avoidance, • Absence of fundamental research and development, • Not-invented-here-syndrome

The authors came with the following three major conclusions: (1) unique financial industry characteristics result in differentiating sets of key internal barriers to potentially radical innovations for large financial services firms; (2) separate governance structures for innovation within large financial services firms support exploration, but do not remove barriers that impede exploitation of innovations within a firm with a decentralized organizational structure; and (3) a lack of fundamental internal research and development activities hamper the ability of large financial services firms to exploit radical innovation.

- ➔ This research therefore brings a set of new components to the Updated Innovation Orientation framework into the innovation outcomes component: **the innovation ambidexterity dilemma** (exploration vs. exploitation) and the factors that may accelerate those types of innovation; and the **barriers to radical innovation** –much needed in current market conditions- in the banking industry.

Innovation outcomes/pitfalls to innovation orientation: productivity and success of new services:

Aspara et al. (2017) conducted a systematic exploratory investigation of the **effects of existing service productivity on the success of new service introductions** in a financial services market (mutual funds in Finland). The study provides insights into the mechanism underlying the complex relationship between a firm's productivity in existing services and success in innovating new services: **being productive in existing financial services increases the firm's tendency to innovate proactively but decreases the firm's actual success in bringing the new service innovations to the market.**

According to the authors, the increased, or excessive, innovation proactivity of highly productive firms aggravates the negative effect of service productivity on service innovation success. For highly productive firms, managers tend to be proactive in bringing innovative services to the market before competitors, but the firms experience less market success with these innovations. In fact, managers at highly productive firms might be overconfident due to the firms' existing service productivity track record. These managers might be excessively eager to introduce new services to the market without assuring that the services are actually needed or well received by their customers. As a result, the **managers' excessive innovation proactivity undermines their new service success.** To avoid this discrepancy, according to the researchers, top management at highly productive financial firms should **caution their organization against being excessively optimistic or overconfident in proactively** innovating and introducing new services too early to the market. Executives who wish to simultaneously pursue high productivity in existing financial services and success in innovating new services should consider the following.

- ➔ The conclusions from Aspara et al. (2017), **-being productive in existing financial services increases the firm's tendency to innovate proactively but decreases the firm's actual success in bringing the new service innovations to the market-**, will be incorporated as a **potential innovation orientation pitfall.**

Innovation outcomes / innovation types:

Regarding the innovation types in the financial industry, Wolfe et al. (2011) argue that innovation in the financial services aim to **improve service, provide new offerings and reduce costs**. Those innovations are aimed at **market differentiation**.

Financial innovation also often entails **process innovation** in back-office systems that bring cost reductions and risk reductions (Anderloni et al., 2009; Frame and White, 2014) that focus on technologies and business practices that will allow banking operations to innovate in line with the predefined **business strategy** (Gartner, 2014).

Product innovation includes **new products or services** introduced by a bank to meet customers' needs (Uzkurt et al., 2013). Banks that are active innovators of products use **organizational systems** substantially different and more suitable for developing new products in comparison to the less active product innovators banks. (Uzkurt et al., 2013).

Innovation orientation as a competitive advantage impacting a bank's performance:

Hanif and Asgher (2018) examined the **relationship between Pakistan banking service innovation** – understood as per Durst et al. (2015), as the innovation being carried out in diverse scenarios of service sector that encompasses developing entirely new services or gradually improving existing services- **and service innovation performance** -defined as the extent to which a firm attains strategic competitive advantage and commercial success with respect to service innovation (Mennens et al., 2018; Storey et al., 2016) by sharing and managing knowledge on innovation (Hanif et al. 2016).

Typology of service innovation based on new service offering/product, new service process and new service business model was tested for their likely effect on service innovation performance of banks from a developing country context in the face of business environment characterized by dynamism –environmental dynamism refers to the rate of change and the degree of instability of the environment (Dess and Beard, 1984)- and competitiveness -environmental competitiveness is the extent to which external environments are characterized by intense competition (Matusik and Hill, 1998).

The study finds that **service innovation significantly impacts performance of the banking sector organizations** in the country case (Pakistan). This finding reinforces the previous findings that service innovation directly and significantly impacts service innovation performance (Hong et al., 2016; Mennens et al., 2018) and that innovation represents an additional means by which banks may straighten out market performance and achieve competitive advantages at the financial market (Berger and Dick, 2006; Ahir and Chokri, 2010).

- ➡ Those conclusions reinforce the previous research findings in relation to the fact that service innovation directly and significantly impacts service innovation performance and that

innovation represents an additional means by which banks may straighten out market performance and achieve competitive advantages at the financial market.

2.4.1.1 Updated Innovation Orientation framework after banking industry literature review

The literature review on innovation orientation in the banking industry lead to conclude there is limited research on this specific topic. There is no specific research concluding on a specific innovation orientation framework for the banking industry but limited to some of the components of the Updated Innovation Orientation framework.

Those specific findings to the components of such framework are incorporated into the very same framework as to consider the specificities of the banking industry and are summarized as follows.

Table 2.16: Sigauw’s et al. (2006) innovation orientation framework update after banking industry literature review

Innovation orientation Framework	New components to the innovation orientation framework, after literature review on the banking industry
Strategic direction	<ul style="list-style-type: none"> Banks innovate in line with the predefined business strategy (Gartner, 2014)
Learning philosophy	<ul style="list-style-type: none"> Barrier to avoid: knowledge management ambiguity (Velayati et al., 2020)
Trans functional acclimation	
Organizational competencies:	
O2: Technology competency	<ul style="list-style-type: none"> Barrier to avoid: inertia of local legacy systems -applicable for multinational banks (Velayati et al., 2020)
O3: Employee competency	<ul style="list-style-type: none"> Barrier to avoid: lack of focus on human capital and risk aversion (Velayati et al., 2020)
O4: Operations competency	<ul style="list-style-type: none"> Learning from failures culture (Dobni, 2006) Innovation protection mechanisms (Tipu, 2011) Establishing leading principles of managing innovation to ensure sustainable competitive advantage (Tornjanski, 2015) Importance of setting up an innovation portfolio management scheme (Tornjanski, 2015) Barrier to avoid: silo mentality, absence of collaborative culture, and risk aversion (Velayati et al., 2020) Organizational climate that facilitates innovative outcomes over time: in the areas of organization creativity, openness, proactiveness, willingness to take risks, and orientation to the future (Guimaraes et al., 2019) Banks that are active innovators use organizational systems substantially different and more suitable for developing new products in comparison to the less active innovators banks (Uzkurt et al., 2013).
O5: Market competency	<ul style="list-style-type: none"> This could be enabled by developing an absorptive capacity (Guimaraes et al., 2019)
Innovation outcomes:	
IT: Innovation type	<ul style="list-style-type: none"> Innovation in financial services aim to improve service, provide new offerings and reduce costs (Wolfe et al., 2011) Financial innovation often entails process innovation in back-office systems that bring cost reductions and risk reductions (Anderloni et al., 2009; Frame and White, 2014)
IF: Innovation form	<ul style="list-style-type: none"> Barriers to radical innovation –much needed in current banking market conditions- (Das et al., 2017) ID: Innovation ambidexterity dilemma (exploration vs. exploitation) (Das et al., 2017)
Firm performance:	
Environmental turbulences	<ul style="list-style-type: none"> Impact of regulation / legal environment (Tipu, 2011) The importance of banking industry trends potentially affecting banks’ innovation orientation -i.e. privatization processes, technology shortcoming, legislative inefficiencies- (Velayati et al., 2020)

Pitfalls of innovation orientation	<ul style="list-style-type: none">• Short term focus, lack of internal capabilities - slow speed to market and operations based on functional silos- and risk averse culture (Accenture, 2011)• Being productive in existing financial services increases the firm's tendency to innovate proactively but decreases the firm's actual success in bringing the new service innovations to the market- (Aspara et al., 2017)
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2.5 Special note on Covid-19 impact on banking

The research was conducted prior to the Covid-19 pandemic. It has been considered relevant to include an assessment of how Covid-19 pandemic might have affected the banking industry and eventually bank's innovation orientation. Following a summary of a relevant research on the topic conducted by Carletti et al. (2020).

Covid-19 is accelerating some existing trends in the banking sector, will temporarily reverse others, and will influence the players in the sector (including the regulators).

Covid-19 will deepen and lengthen the period of low or negative interest rates and will accelerate digitization and increase investment in IT, with operational risk and cyber-attacks on the rise. It will temporarily increase Non-Performing Loans (NPLs), hurting profitability, impairing the ability of banks to generate capital and buffers and constraining their capacity to provide loans. In the euro area, it will reinforce the doom loop between sovereign and bank risk, since the foreseen large increases in debt-to-GDP ratios, in particular in Southern Europe, may raise problems of sovereign debt sustainability over the medium term. The Covid-19 crisis will also lead to a temporary relaxation of capital and liquidity requirements. However, over the long run the outcome may be the opposite to protect against tail events, which seem to happen more often than expected.

In the pre-Covid-19 world, banks were facing the challenges of low interest rates, the legacy of the global crisis with high NPLs, new competitors and digitalization and a much heavier regulatory burden. **In the post-Covid-19 world, these environmental challenges and market dynamism will intensify**, with only temporary alleviation of the regulatory burden due to the impending crisis.

The Covid-19 crisis makes evident that low interest rates are here to stay for much longer than was expected before the crisis. The prospect of negative economic growth and higher indebtedness will translate into even lower interest rates. This could lead to further pressure on banks' profitability and, in turn, cutting of costs. Low rates will continue to reduce banks' net interest margins and will again suffer a surge of NPLs due to the crisis which, together with persistent low profitability, will impair their ability to generate capital, constraining the capacity to provide loans to the real sector.

Regulators and supervisors have relaxed a number of regulations to reduce the potential procyclicality of measures introduced in the last two decades and to avoid a credit crunch. Supervisors have provided temporary relief by allowing banks to fully use their capital and liquidity buffers, and have relaxed accounting procedures, introducing more flexibility in the criteria for loan classification as well as in the implementation of IFRS 9.

The Covid-19 pandemic has led to an impressive acceleration of the digitalization process in the banking industry. For example, the **industry has been operating almost entirely remotely** – online banking, remote working, e-commerce and electronic payments are on the rise and these trends are here to stay, particularly if social (physical) distancing has to remain in place in the medium term. This massive and sudden increase in digitalization channels entails a significant increase in operational risk – **cyber risk** in particular – that will require banks to make appropriate adjustments to their risk management functions. The banks that **can react quickly** will be better able to use and exploit the **benefits of more advanced technology** relative to before the crisis, but they will face the **threat of digitally able Fintech and BigTech competitors** in some segments of the business. The

rapid shift towards a more digital world as a result of the confinement policies in response to Covid-19 is a reminder that the **speed of change may take the sector** (and everyone) by surprise. This change may also speed up the adoption of different forms of digital currencies and may put the focus on the introduction of central bank digital currency.

The question arises as to what the impact on the various players –**competition**- in the banking sector will be. BigTech companies have all the ingredients to get ahead, in general, in the post-Covid world. They have the technology, customer base and Brand recognition, as well as vast amounts of data and deep pockets. However, before Covid-19, BigTech did not need the funding and had the customer data, while banks wanted the data. Post Covid-19, banks might have the upper hand in funding, with their deposit funding and large balance sheets, while BigTech has a higher cost of capital. Furthermore, banks are now back at center stage of the intermediary chain as lenders to the real economy. Banks will distribute direct support and credit (typically with partial public guarantees), or both, with the backup of the central bank. Banks may also enjoy a revitalization of relationship lending as they keep lending to customers over the crisis, with soft information more valuable than hard information. They also enjoy the protection of the safety net, with a low volatility of deposits. All these factors will give them an advantage overshadow banks and new digital entrants. While all financial institutions will suffer the consequences of this crisis, policymakers will tend to focus on saving the banks, where the majority of deposits and lending take place.

FinTech platforms may do well if they are included in the rescue schemes that governments are putting together to help SMEs. FinTech firms may be faster in providing loans to SMEs, which may work to their advantage, but they do not have large balance sheets and are dependent on secondary capital markets to unload their loans, and these markets are illiquid in times of crisis. FinTech start-ups in particular might suffer and may not be able to survive the crisis.

As a conclusion, despite it is too early to assess show Covid-19 pandemic may affect bank's innovation orientation, according to Carlette et al. (2020) it seems certain that **the financial intermediation sector will face deep restructuring**, accelerating the pre Covid-19 trend, with medium-sized Banks suffering since cost efficiencies and IT investment will be crucial in a persistent low interest rate environment. In the period of slightly over a month after the crisis struck in Europe, major banks' stocks lost 40-50% in nearly all jurisdictions. This raises questions over the ability of some banks to survive the crisis and to generate and attract capital, and over the future structure of the banking sector. Weak banks – in particular those with legacy assets from the previous crisis, high costs and obsolete technology – will not be able to sustain a long period of very low interest rates and the investment in IT needed to compete in an increasingly digital world. All these factors point towards a restructuring and consolidation in the sector.

2.6 The Updated Innovation Orientation Framework

After the literature review on the innovation orientation concept and existing frameworks, the innovation orientation framework conceptualized by Siguaw et al. (2006) was considered as the most appropriate as a starting point to define and frame innovation orientation.

Given that much of the work in the innovation orientation research field has been produced since the publication of the conceptual model presented by Siguaw et al. (2006), it was deemed necessary to review current literature on innovation orientation frameworks, to identify and incorporate new developments into Siguaw et al.'s (2006) framework. [Please refer to the table below to identify the new components incorporated to the framework after such review, tagged as LR]

Once Siguaw's et al (2006) innovation orientation was updated with more recent literature, it was deemed relevant to conduct an analysis of the **innovation orientation in the services industry literature**, to assess whether new components or adjustment to the ones in the Updated Innovation Orientation framework need to be made. Please refer to the table below to identify the new components incorporated to the framework after such review, tagged as SR.

Finally, and since banking is the core target of this research, a literature review was conducted on innovation orientation for that specific industry. Please refer to the table below to identify the new components incorporated to the framework after such review, tagged as BR.

Table 2.17: Siguaw's et al. (2006) innovation orientation framework update after literature review

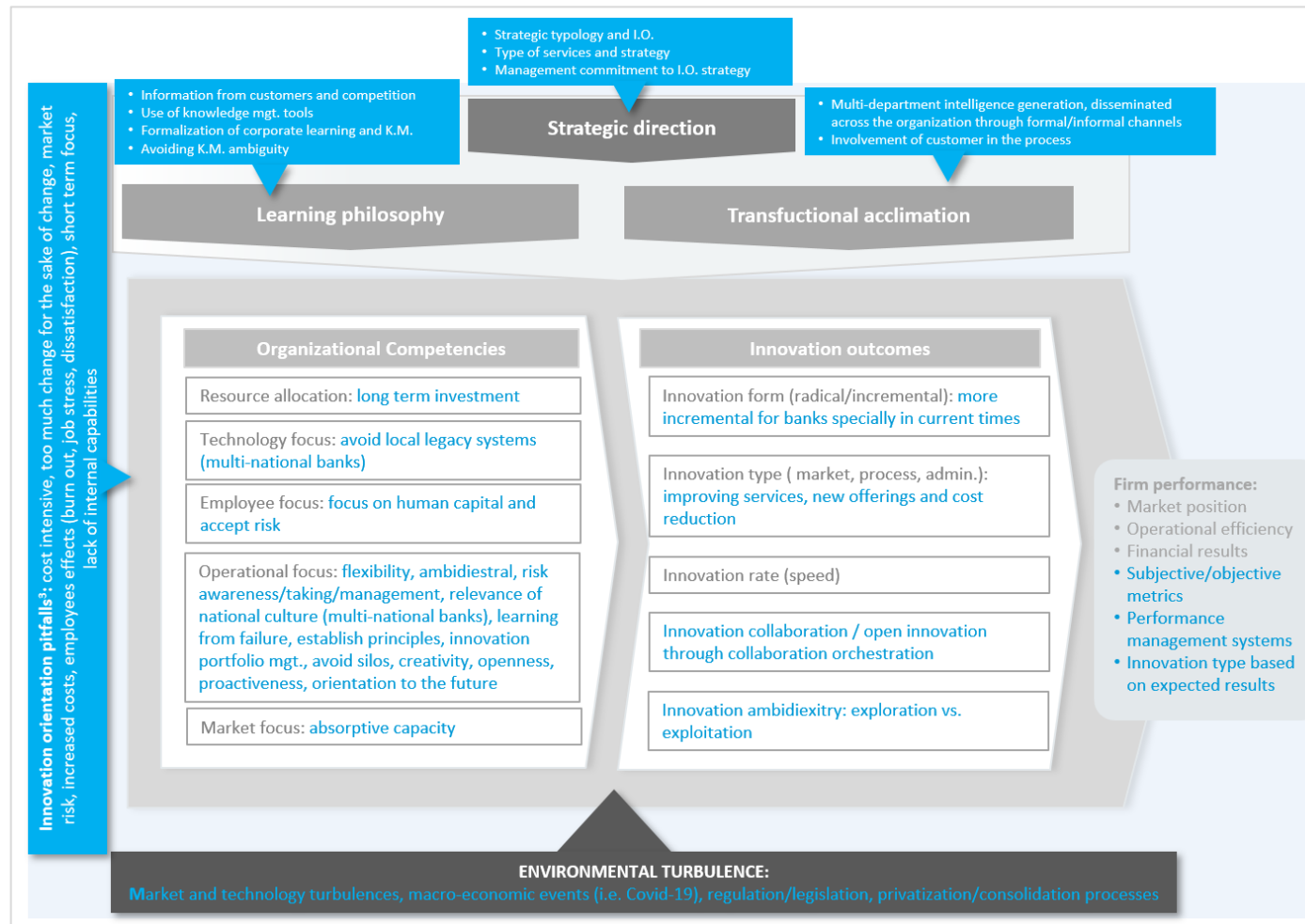
Innovation orientation Framework	New components to Siguaw et al.'s (2006) innovation orientation framework, after literature review (LR), service industry (SR) and banking industry (BR) literature review
Strategic direction	<ul style="list-style-type: none"> • LR- Assessment of the relationship between strategic typology and innovation orientation (Kafchechi, 2016) • LR- Need of management commitment to define innovation strategy (Dobni and Sand, 2018) • SR- Different strategies depending on type of services: tacit/explicit (Storey et al., 2016) • BR- Banks innovate in line with the predefined business strategy (Gartner, 2014)
Learning philosophy	<ul style="list-style-type: none"> • LR- Utilization of information from customers, consumers and competitors in the learning process (Grinstein, 2008; Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Silva et al., 2014; Wu et al., 2015) • LR- Use of Knowledge Management tools as a means to manage all gathered knowledge to be activated in the innovation process (Pancholi and Pancholi, 2014; Velayati et al., 2020) • LR- Knowledge management as a competitive advantage (Bantaue and Rayburn, 2016) • SR- Formalization at corporate level the learning and knowledge management (Tuzovic et al., 2018) • BR- Barrier to avoid: knowledge management ambiguity (Velayati et al., 2020)
Trans functional acclimation	<ul style="list-style-type: none"> • LR- The importance of encouraging multi-department market intelligence generation activities, disseminating this intelligence vertically and horizontally through both formal and informal channels (Opoku and Essien, 2011) enabled by a corporate culture, in which knowledge sharing is encouraged (Oyemomi et al., 2018; Yiu et al., 2019; Velayati, 2020) • SR- Importance of customer integration/input in the learning process, especially for tacit services (Storey et al., 2016)
Organizational competencies:	
O1: Resource allocation	<ul style="list-style-type: none"> • LR- The relevance of a long-term investment commitment into innovation (Chen, 2009; Aarikka-Stenroos, 2014; Ergun, 2018; Zhou et al., 2019) • SR- Less resources required when compared to product innovation (Storey et al., 2016)

O2: Technology competency	<ul style="list-style-type: none"> • BR- Barrier to avoid: inertia of local legacy systems -applicable for multinational banks (Velayati et al., 2020)
O3: Employee competency	<ul style="list-style-type: none"> • LR- The importance of empowering employees (Baregheh et al., 2012; Grundström et al., 2012; Ergun, 2018) alongside with the need of supporting individual creativity (Acikgoz and Günsel, 2016), encouraging new ideas (Baregheh et al., 2012) • LR- Positive impact of internal networks and experimentation (Roach et al., 2016) • BR- Barrier to avoid: lack of focus on human capital and risk aversion (Velayati et al., 2020)
O4: Operations competency	<ul style="list-style-type: none"> • LR- Innovation-oriented firms have a flexible structure which may accelerate the speed of decision under certain circumstances (Van Muijen and Koopman, 1994; Maltz et al., 2006; Lazonick, 2010; McDermott and Prajogo, 2012; Kraiczy et al., 2015; Zobel et al., 2017) • LR- Flexible organizations need to have the ability to focus on multiple targets and results through ambidiestral organization / leadership (McDermott and Prajogo, 2012; Mainemelis et al., 2015; Hunter et al., 2017). • LR- Leading innovation-oriented firms cherish an innovative culture that promotes among others, risk-awareness/taking/management (Kraiczy et al., 2015; Engelen et al., 2014) • LR- The relevance of national culture impact on the innovation orientation framework (Engelen et al., 2014) • BR- Learning from failures culture (Dobni, 2006) • BR- Innovation protection mechanisms (Tipu, 2011) • BR- Establishing leading principles of managing innovation to ensure sustainable competitive advantage (Tornjanski, 2015) • BR- Importance of setting up an innovation portfolio management scheme (Tornjanski, 2015) • BR- Barrier to avoid: silo mentality, absence of collaborative culture, and risk aversion (Velayati et al., 2020) • BR- Organizational climate that facilitates innovative outcomes over time: in the areas of organization creativity, openness, proactiveness, willingness to take risks, and orientation to the future (Guimaraes et al., 2019) • BR- Banks that are active innovators use organizational systems substantially different and more suitable for developing new products in comparison to the less active innovators banks (Uzkurt et al., 2013).
O5: Market competency	<ul style="list-style-type: none"> • LR- Innovation-oriented firms develop market competencies to manage and capture the environmental dynamism, which includes both market and technological dynamism (Stock and Zacharias, 2011; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016). • BR- This could be enabled by developing an absorptive capacity (Guimaraes et al., 2019)
Innovation outcomes:	
IF: Innovation form	<ul style="list-style-type: none"> • SR- More incremental innovation than radical (Storey et al., 2016) • BR- Barriers to radical innovation –much needed in current banking market conditions- (Das et al., 2017)
IT: Innovation type	<ul style="list-style-type: none"> • BR- Innovation in financial services aim to improve service, provide new offerings and reduce costs (Wolfe et al., 2011) • BR- Financial innovation often entails process innovation in back-office systems that bring cost reductions and risk reductions (Anderloni et al., 2009; Frame and White, 2014)
IR: Innovation rate	
IC: Innovation Collaboration – (New)	<ul style="list-style-type: none"> • LR- Innovation collaboration / open innovation (Chesbourg et al., 2006; Santamaria et al., 2010; Chesbrough and Bogers, 2014; Thompson et al., 2020) • SR- Collaboration orchestrating (Tuzovic et al., 2018)
ID: Innovation ambidexterity	<ul style="list-style-type: none"> • Innovation ambidexterity dilemma (exploration vs. exploitation) (Das et al., 2017)
Firme performance:	
P1: Market position	
P2: Operational efficiency	
P3: Financial results	

P4: Objective/subjective metrics (New)	<ul style="list-style-type: none"> • LR- Distinction between objective and subjective performance metrics when measuring the impact of innovation orientation in firm's performance (Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Yang et al., 2016; Chuang and Lin, 2017; Gustaffson et al., 2020)
P5: Performance management systems in place (New)	<ul style="list-style-type: none"> • LR- Performance management system in place (Dobni and Sand, 2018). • LR- Firms should consider following a specific innovation type based on the innovation orientation performance results that are sought (Stock and Zacharias; 2011)
Environmental turbulences	<ul style="list-style-type: none"> • LR- Market and technological dynamism related turbulences (Lichtenthaler, 2011; Stock and Zacharias, 2011; Hung and Chou, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Alexiev et al., 2016; Sundström et al., 2016; Hanif and Asgher, 2018) • LR- Need to consider specific assessment of the impact of big macroeconomic events – such as Covid-19 pandemic- (Bar An et al., 2020) • BR- Impact of regulation / legal environment (Tipu, 2011) • BR- The importance of banking industry trends potentially affecting banks' innovation orientation -i.e. privatization processes, technology shortcoming, legislative inefficiencies- (Velayati et al., 2020)
Pitfalls of innovation orientation (New)	<ul style="list-style-type: none"> • LR- Need to consider potential pitfalls as well as identify the measures firms should implement to prevent from such pitfalls -i.e. avoid producing innovations beyond core competencies, recruiting employees that resist change or who cannot manage stress of a dynamic environment, and developing measures that fail to financially account for both the positive and adverse costs of innovation- (Simpson et al., 2006; Jaakkola et al., 2010; Lee et al., 2016) • BR- Short term focus, lack of internal capabilities - slow speed to market and operations based on functional silos- and risk averse culture (Accenture, 2011) • BR- Being productive in existing financial services increases the firm's tendency to innovate proactively but decreases the firm's actual success in bringing the new service innovations to the market- (Aspara et al., 2017)

With the above-mentioned findings, the initial Sigauw et al. (2006) innovation orientation framework has been updated with the conclusions of the literature review -research on innovation orientation in general and then narrowing down to specifically the service industry and the banking industry. Following a chart with such update.

Figure 2.5: Updated Innovation Orientation framework*



(*) Notes:

- In blue the new components added to Siguaw et al's. (2006) innovation orientation framework after the literature review.
- I.O. refers to Innovation Orientation
- K.M. refers to Knowledge Management

2.7 Research questions

The main goal of this study is to **understand to what extent European Banks have implemented entirely or partially the different elements of the Updated Innovation Orientation Framework described in this chapter to ensure they are oriented towards innovation. The analysis of the innovation orientation framework applied or used in the banking industry, and to a lesser extent in Europe, has never been conducted previously.**

As mentioned in previous sections, **no available research has focused on understanding what Innovation Orientation Framework may be applied by European Banks.** There has only been **limited research in the service industry** as a whole on some of the Innovation Orientation Framework components, mainly on the antecedents of innovation performance as per the meta-analysis conducted by Storey et al. (2016), and assessment for specific service industry -the most recent identified, focusing in the airline industry as per Tuzovic et al. (2017).

On the banking industry there has only been one previous **attempt to formulate a conceptual innovation orientation framework** (Dobni, 2006) but the researcher did not conduct any primary research to confirm Banks were using such framework, but it was more a proposition based on the literature on how such innovation orientation framework for the banking industry could look like.

There are other recent articles related to innovation to the banking industry, but not specifically related to an innovation orientation framework as a whole but parts of such framework: **innovation management** (Tornjanski et al., 2015); banking industry trends and organizational attributes that affect **organizations' capability in designing innovative services** (Velayati et al., 2020); analysis of **cultural traits to banks' ability to innovate** (Guimaraes et. Al, 2019); the internal **barriers to radical innovation** projects in large financial services firms (Das et al., 2017); the **effects of existing service productivity** on the success of new service introductions in a financial services market (Aspara et al., 2017); and the relationship between **banking service innovation and service innovation performance** (Hanif and Asgher, 2018).

Therefore, this research will provide a clear vision on how European Banks are applying the Updated Innovation Orientation Framework and therefore ensuring they are oriented towards innovation.

To reach that goal, the research question has been set up as:

Research question: How are European Banks are ensuring they are oriented towards innovation?

In order to answer such research question, a series of sub-research questions have been formulated for which evidences should be collected during the primary research to be able to provide an answer.

The questions have been categorized following the same main categories described in the Updated Innovation Orientation Framework (knowledge structure, organizational competencies, innovation outcomes, firm's performance, environmental turbulences, and innovation pitfalls) aiming to cover all components of such framework and to understand to what extent European Banks are using/applying of developing those different components to be oriented towards innovation.

The questions and sub-questions have been formulated based on previous research that has covered that specific component of the innovation orientation framework. The literature references are included for every specific question.

Therefore, answering those questions and sub-questions will help understanding how and to what extent Banks (and more specifically, European Banks) may be applying some or all elements of such Innovation Orientation framework to ensure they are oriented towards innovation. Those answers would be a novelty since they have never been formulated and answered neither for the service industry as a whole nor for the banking industry in particular. Moreover, providing such answers will help practitioners in that industry to benchmark and see what components are applied by other European Banking institution to be oriented towards innovation and how they do so.

Sub-research questions:

Q1: How is implemented within Banks the Innovation Orientation knowledge structure?

- SQ1: [Strategic direction] **Have banks a clear strategic direction leading to innovation?**
(Dobni, 2006; Siguaw et al., 2006; Gartner, 2014; Tornjanski, 2015; Kafchechi, 2016; Storey et al. 2016; Dobni and Sand, 2018)
- SQ2: [Learning philosophy] **Have banks a pervasive set of organization wide understanding about learning, thinking, acquiring, transferring and using knowledge to innovate?**
(Dobni, 2006; Siguaw et al., 2006; Grinstein, 2008; Chen et al., 2009; Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Pancholi and Pancholi, 2014; Silva et al., 2014; Wu et al., 2015; Velayati et al., 2020; Bantaue and Rayburn, 2016; Storey et al. 2016; Tuzovic et al., 2018; Velayati et al., 2020)
- SQ3: [Transfuctional acclimation] **Are the functional areas of the bank guided by a unique embedded knowledge structure that encourages and facilitates knowledge transfer across and within subunits to retain diversity of views and fosters cooperative beliefs and understandings among all functional areas to direct them toward innovation?**
(Dobni, 2006; Siguaw et al., 2006; Opoku and Essien, 2011; Storey et al. 2016; Oyemomi et al., 2018; Yiu et al., 2019; Velayati, 2020)

Q2: What are the specific innovation-enabling organizational competencies and processes in place?

Are banks ...

- SQ4: [Resource allocation]... **devoting resources to all areas of the Bank in efforts that encourage the creation, development and implementation of innovations?**
(Dobni, 2006; Siguaw et al., 2006; Chen, 2009; Aarikka-Stenroos, 2014; Storey et al. 2016; Ergun, 2018; Zhou et al., 2019)

- SQ5: [Technology competencies] ... **developing and deploying new technologies to stimulate and sustain innovation?**
(Siguaw et al., 2006; Storey et al. 2016; Velayati, 2020)
- SQ6: [Employee competency/human resources] ... **implementing formal and informal policies, procedures, practices and incentives specifically devoted to stimulating and sustain innovation-directed individual employee actions?**
(Dobni, 2006; Siguaw et al., 2006; Baregheh et al., 2012; Grundström et al., 2012; Acikgoz and Günsel, 2016; Roach et al., 2016; Storey et al. 2016; Ergun, 2018; Velayati, 2020)
- SQ7: [Market competency] ... **implementing policies, procedures, practices, and incentives specifically devoted to gathering and disseminating information about customer and competitor markets to stimulate and sustain innovation?**
(Ayuso et al., 2011; Dobni, 2006; Ergün and Kuşcu, 2013; Siguaw et al., 2006; Stock and Zacharias, 2011; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016; Storey et al. 2016; Guimaraes et al., 2019)
- SQ8: [Operations competency] ... **organizing and coordinating operational processes and structures and engaging in shaping the organizational culture to stimulate and sustain innovation?**
(Van Muijen and Koopman, 1994; Dobni, 2006; Maltz et al., 2006; Siguaw et al., 2006; Lazonick, 2010; Tipu, 2011; Baregheh et al., 2012; Grundström et al., 2012; McDermott and Prajogo, 2012; Uzkurt et al., 2013; Engelen et al., 2014; Kraiczy et al., 2015; Mainemelis et al., 2015; Tornjanski, 2015; Storey et al. 2016; Hunter et al., 2017; Zobel et al., 2017; Guimaraes et al., 2019; Velayati et al., 2020)

Q3: What are the innovation outcomes Banks are focusing on?

Are Banks' organizational competencies more likely to...

- SQ9: [Innovation form] ... **produce radical and/or incremental innovation?**
(Siguaw et al., 2006; Storey et al., 2016; Das et al., 2017)
- SQ10: [Innovation type] ... **produce innovation in which of the innovation types – marketing, processes, business models and/or administration?**
(Siguaw et al., 2006; Anderloni et al., 2009; Wolfe et al., 2011; Frame and White, 2014)
- SQ11: [Innovation speed] ... **take innovations from inception to implementation at a faster or slower rate?**
(Aspara, 2017; Dobni, 2006; Siguaw et al., 2006)
- SQ12: [Innovation collaboration] ... **innovate internally/cooperatively with third parties/acquire innovation?**
(Chesbourg et al., 2006; Santamaria et al., 2010; Chesbrough and Bogers, 2014; Tuzovic et al., 2018; Thompson et al., 2020)

Q4: How the whole innovation orientation model is impacting on Bank's performance and long-term competitive advantage and what environmental turbulences could impact?

- **SQ13a: The more innovations introduced (market, process, business models and administrative) the higher the level of Bank performance?**
(Siguaw et al., 2006; Stock and Zacharias, 2011; Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Storey et al. 2016; Yang et al., 2016; Chuang and Lin, 2017; Hanif and Asgher, 2018; Dobni and Sand, 2018; Gustaffson et al., 2020)
- **SQ13b: The more both radical and incremental forms of innovation are implemented, the higher the level of Bank performance?**
(Siguaw et al., 2006; Stock and Zacharias, 2011; Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Storey et al. 2016; Yang et al., 2016; Chuang and Lin, 2017; Hanif and Asgher, 2018; Dobni and Sand, 2018; Gustaffson et al., 2020)
- **SQ13c: The greater the speed of innovation developed, the higher the level of the Bank performance?**
(Siguaw et al., 2006; Stock and Zacharias, 2011; Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Storey et al. 2016; Yang et al., 2016; Chuang and Lin, 2017; Hanif and Asgher, 2018; Dobni and Sand, 2018; Gustaffson et al., 2020)
- **SQ14: Are environmental turbulences moderating the relationship among a Bank's innovation orientation, organizational competencies, innovation outcomes and firm performance?**
(Siguaw et al., 2006; Lichtenthaler, 2011; Stock and Zacharias, 2011; Tipu, 2011; Hung and Chou, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Alexiev et al., 2016; Sundström et al., 2016; Hanif and Asgher, 2018; Bar An et al., 2020; Velayati et al. 2020)
- **SQ15: Is innovation orientation considered being a long competitive advantage for Banks when compared to those institutions that have not implemented such structure to ensure they are oriented towards innovation?**
(Siguaw et al., 2006; Storey et al. 2016)

Q5: What are the pitfalls identified by Banks when focusing on innovation orientation?

- **SQ16: May innovation orientation imply some pitfalls to those Banks having implemented such framework?**

(Simpson et al., 2006; Jaakkola et al., 2010; Accenture, 2011; Lee et al., 2016; Aspara et al., 2017)

3. METHODOLOGY AND RESEARCH DESIGN

3.1 Introduction

This chapter aims to **describe the methodology and research design** that has been deemed appropriate to use in order to answer the research questions and sub-questions as formulated in section 2.7 *Research Questions in Chapter 2. Framework*.

The content of this chapter includes three main sections. The first section of the chapter includes the rationale followed to select the **methodology** to be applied in this research project. A **multi-case exploratory study** approach -based on Yin (2018) classification- was used to gain an understanding of how European Banks ensure they are oriented towards innovation. In order to enrich the analysis, other comparable units of analysis were also included in the multi case study: Large Corporations in industries that share common attributes to Banks (regulated industries, industries facing market changes, and service-related industries) and Challenger Banks. The latter are small, recently created retail banks that compete directly with the incumbent banks, offering modern financial technology practices, such as online-only operations, that avoid the costs and complexities of traditional banking.

The second section presents the **design of the research** that has been used to collect all the evidences necessary to answer the research questions and sub-questions. The research to be conducted (a multi-case exploratory study) requires for richness of data and attention to context in order to study organizations (i.e. Banks). Based on this need of a broad source of data, it has been assessed as the most appropriate research design to be used a **mixed sequential model design** -based on Rocco et al. (2003) classification-, which allows integrating, in the same study, quantitative and qualitative methodologies, with the purpose of having a better understanding about the object of study.

Following the above-mentioned research design, the study started with **in-depth interviews** with **academic experts** in innovation, **large Corporations, and Challenger Banks**. The insights from those interviews were used to validate/complement the Updated Innovation Orientation Framework as defined in section 2.6 *The Updated Innovation Orientation Framework in Chapter 2. Framework*.

From there, applying a **mixed sequential model design in stages** (Rocco et al. 2003), in-depth interviews were performed with senior and middle management representatives from **Banks - qualitative research**. Those in-depth interviews were followed with on-line interviews with peers of the Banks' representatives' interviewees -**quantitative research**- to validate the qualitative research evidences.

The third and last section covers some technical aspects of the research: the **coding methodology** that was used to code all in-depth interviews; a reference to the information **triangulation** that was applied to ensure consistency of data collected; and the assessment of the **role of the researcher**.

3.2 Methodology discussion

This section presents the rationale followed to **select the research methodology** used to collect and analyze data and from there, derive the research conclusions.

The first question to solve when choosing a research methodology is the reason for that choice. There are different methodologies that could be used, such as experimental, survey, archival analysis, and history. Each of them has its own specific advantages and disadvantages. In order to assess which is the most suitable one, three basic criteria have been used: (i) the form of research question; (ii) if the research requires control on behavioral events; and (iii) if the focus is on contemporary events. With these three elements, a table can be created that helps assess the methodology that is most suitable in each case (Yin, 2018).

Table 3.1: Research methods by relevant situations
(Adapted from Yin, 2018)

Method	Form of research question	Control requirement over behavioral events	Contemporary events
Experiment	How, why?	YES	YES
Survey	Who, what, where, how many, how much?	NO	YES
Archival analysis	Who, what, where, how many, how much?	NO	YES/NO
History	How, why?	NO	NO
Case study	How, why?	NO	YES

In the case of this research project, the methodology to apply would be the **case study** since (i) the research question is a how (“*How European Banks are ensuring they are oriented towards innovation?*”); (ii) the research does not require control on behavioral events; and (iii) the focus is on contemporary events since the research wanted to focus on how Banks are currently ensuring they are oriented towards innovation.

Given the fact that the research targets to cover a series of European Banks, the methodology according to Yin (2018), would be the so-called **multi-case exploratory study**, which is described as case study organized around two or more case studies. This in opposition to a single-case study, which corresponds to a case study organized around a single case chosen because it was critical, common, unusual, revelatory, or longitudinal case.

With all the above, a **multi-case exploratory study** was adopted for three main reasons.

- First, case studies are deemed a suitable method when the proposed research is largely exploratory addressing “how” (in this case “*How European Banks are ensuring they are oriented towards innovation?*”) and “why” questions (Gummesson, 2017; Yin, 2018) and when the research question requires a need for richness of data (Stavros and Westberg, 2009).
- Second, case research is known for its descriptive power and attention to context and recommended to study organizations that represent outstanding successes or notable failures (Ghauri, 2004).

- Third, scholars have emphasized the importance of case studies in understanding the management of innovation in organizations (Damanpour et al., 2009; Van de Ven and Huber 1990). This view is particularly applicable to this study because the innovation orientation – innovation outcomes and performance relationship is path dependent and takes place over time (Damanpour et al., 2009).

3.3 Research design

3.3.1 Rationale to use the mixed sequential model design

As per previous section, the research to be conducted is a multi-case exploratory study requiring for richness of data and attention to context in order to study organizations (i.e. Banks) that represent outstanding successes or notable failures in innovation orientation.

Based on this need of a broad source of data, it has been assessed as the most appropriate research design to be used a **mixed design**. Johnson and Onwuegbuzie (2004) defined mixed designs as “(...) the type of study where the researcher mixes or combines research techniques, methods, approaches, concepts or quantitative or qualitative language in a single study” (p . 17). They also affirm that mixed designs allow obtaining better evidence and understanding of the phenomena and, therefore, facilitate the strengthening of theoretical and practical knowledge. They also emphasize that researchers must have appropriate knowledge about the paradigms that they are going to integrate through mixed designs, so that this strategy is guaranteed. Likewise, Driessnack et al. (2007) defined mixed methods as “(...) a single study that uses multiple or mixed strategies to answer research questions and / or test hypotheses”.

Along the same line of thought, Creswell (2008) argues that mixed designs allow integrating, in the same study, quantitative and qualitative methodologies, with the purpose of having a better understanding about the object of study.

Some researchers (Johnson and Onwuegbuzie, 2004; Onwuegbuzie and Leech, 2006) stated that research with a mixed design could be of two types: (i) with mixed model: in which both quantitative and qualitative methods are combined in the same stage or phase of research; and (ii) with mixed method: in which case, quantitative methods are used in one stage or phase of the research and qualitative methods in another. Since the goal of the research is to collect both qualitative and quantitative data on the same research phase when interacting with each unit of analysis, the research design would be considered based on those authors as a **mixed model design**.

Rocco et al. (2003) proposed a classification of mixed model and mixed method designs, in which they indicated different combinations, based on the exploratory or confirmatory goals of the research. For designs that respond to a mixed model, as for this study, in which quantitative and qualitative strategies are mixed, they proposed the following types: (i) Type VII: Simultaneous, confirmatory or exploratory studies. Quantitative and quantitative data collection followed by the analysis; and (ii) Type VIII: Sequential approach in stages. One stage one approach (either qualitative or quantitative), the next stage the other. Every stage strengthens the previous one. Since this research intends to collect data from certain units of analysis that will be reinforced or complemented with data collected from related units of analysis at a later stage, will therefore fall into Rocco et al.'s (2003) Type VII classification, i.e., a **mixed sequential model design**.

This research design selection, that combines qualitative and quantitative sources of information is aligned with Norri and Ciesielska (2018) conclusion on what could be the most appropriate design to be used when conducting **research on innovation orientation**. As they concluded, “a wider range

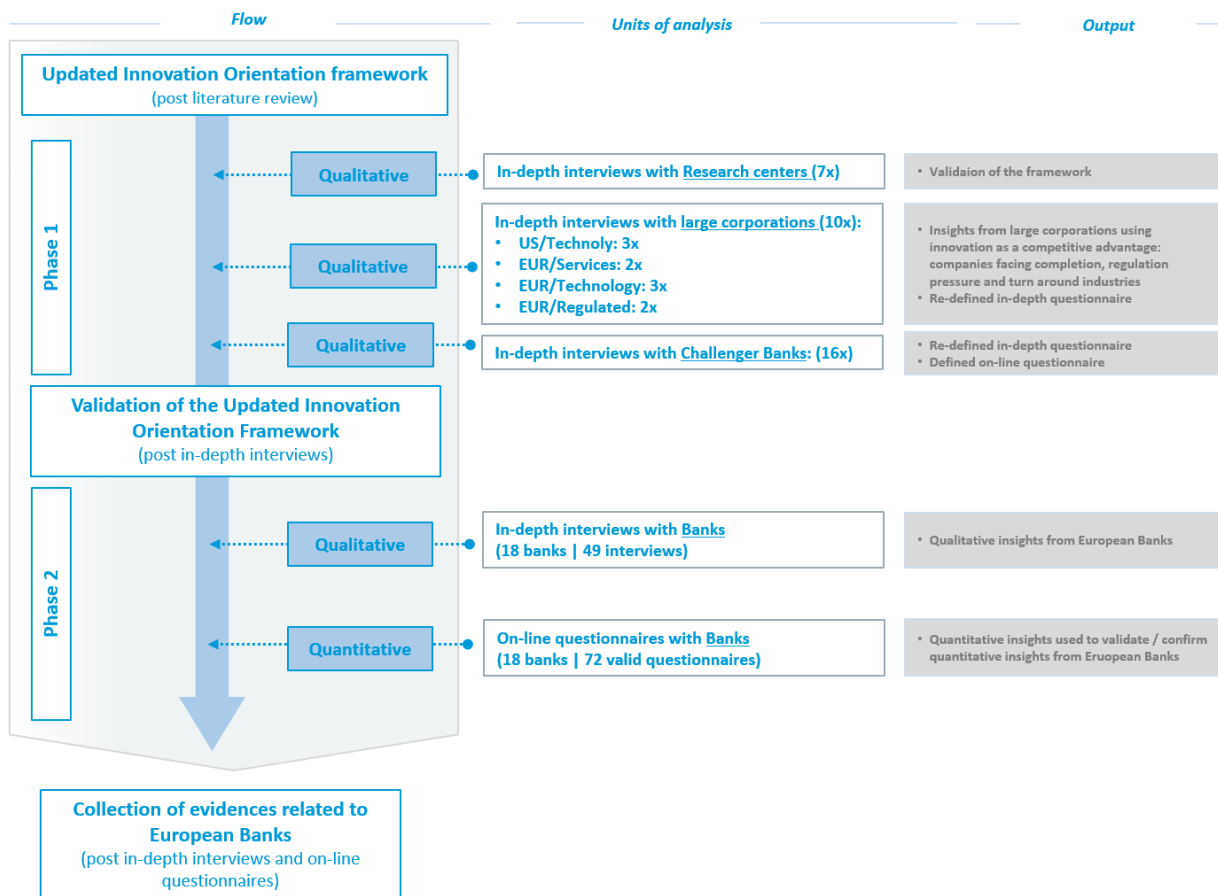
of research methodologies may enhance the research of innovation orientation, given the major bias towards cross-sectional quantitative-based data collection, and the notable **limited application of qualitative, or mixed, methodological approaches conducted within a longitudinal framework**, the utilization of more varied methodological approaches could yield currently undiscovered phenomena within innovation orientation studies”.

According to the very same authors, research into organizational wide innovation orientation has primarily utilized quantitative analysis to identify specific antecedents, or linked characteristics, but this approach has resulted, “in a silo effect being observed in the development of innovation orientation as a holistic construct”. Therefore, the selected research design - **mixed sequential model design**- seems to be the most appropriate for this research project focusing on organizational wide innovation orientation.

3.3.2 The mixed sequential model design applied to this research

The following figure describes the research process that has been followed during the data gathering phase applying a mixed (qualitative and quantitative data gathering) sequential model design.

Figure 3.1: Mixed sequential model design applied to the research



The data collection process contained two main phases. The first one was designed to **test the Updated Innovation Orientation Framework** that was conceptualized after the literature review (please refer to section 2.6 *The Updated Innovation Orientation Framework in Chapter 2. Framework*). To do so, in-depth interviews were conducted with experts in innovation from leading research centers, large corporations from industries that share common attributes to Banks (regulated industries, industries facing market changes, service industries, and highly technology-based firms), and Challenger Banks. The details of this phase are further developed in section 3.3.3 *Validation of the Updated Innovation Orientation Framework*.

The second phase consisted in **identifying, contacting and interviewing the key European Banks that are the target of this research**. Those interviews were **complemented with specific interviews with leading innovative US and Asian Banks**.

There was a twofold data collecting approach. In-depth interviews (qualitative) and on-line questionnaires (quantitative) that were answered by team members of those people from the banking industry that had previously been interviewed face-to-face. The latter with the intention to complement and validate the qualitative data collected. The second phase is detailed in section 3.3.4 *Collection of evidences related to European Banks*.

The details of the total conducted interviews per unit of analysis are as follows (82 in-depth interviews and 72 valid on-line questionnaires):

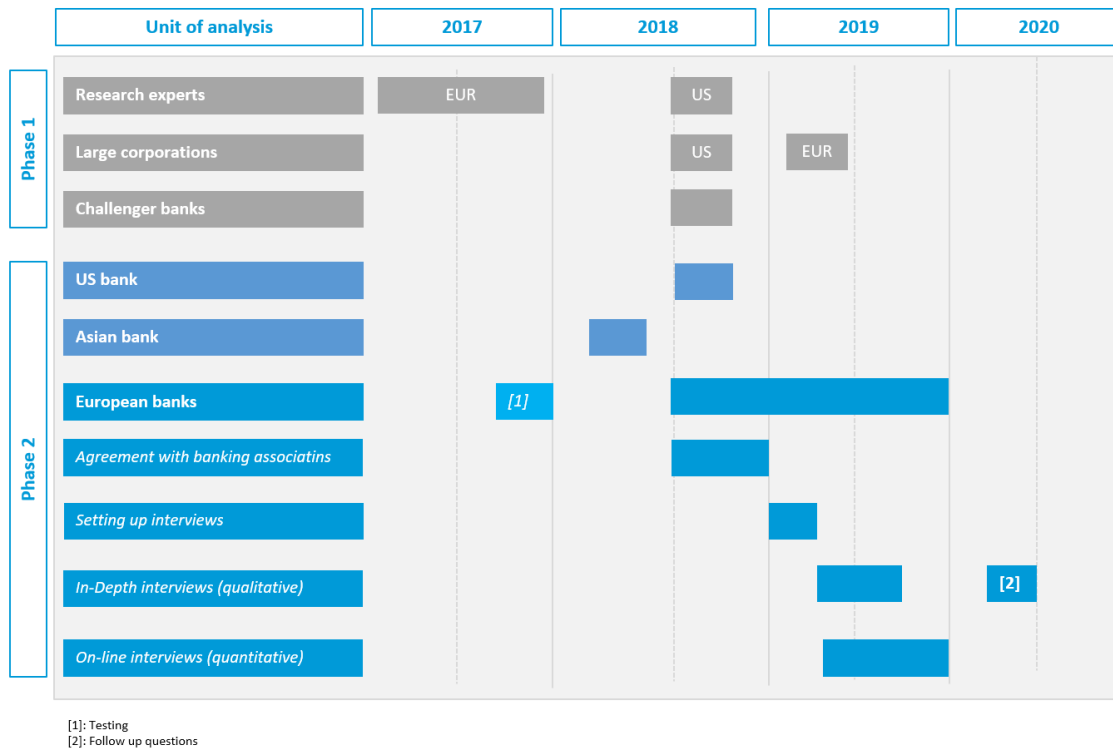
Table 3.2: Demographics of interviews per Unit of Analysis and geography

Unit of analysis	Europe	US	Asia	TOTAL
Research experts (<i>in depth interviews</i>)	4	3	-	7
Large corporations (<i>in depth interviews</i>)	7	3	-	10
Challenger Banks (<i>in depth interviews</i>)	4	11	1	16
Banks participating in study	16	1	1	18
In-depth interviews	46	2	1	49
On-line questionnaires (valid)	72	-	-	72
Total in-depth interviews	61	19	2	82

All those interviews were performed starting in 2017 with research experts' in-depth interviews and some testing interviews with Banks' representatives, with the bulk of interviews with Banks' conducted between 2018 and 2019.

Following a calendar with the data collection stages per unit of analysis and time frame:

Figure 3.2: Data collection stages per unit of analysis



Collected data from in-depth interviews (qualitative) was **coded** following pre-set up coding criteria – please refer to section 3.4.1 *Qualitative data coding*-, whilst data from on-line questionnaires (quantitative) was validated and aggregated.

Finally a **triangulation** exercise – understood as the convergence or corroboration of the data collected from a series of sources and interpreted with respect to the same phenomenon by Driessnack et al. (2007) - was conducted comparing Banks corporate statements with gathered information from interviews and questionnaire (please refer to section 3.4.3 *Triangulation* for further details).

3.3.3 PHASE 1: validation of the Updated Innovation Orientation Framework

The first phase was designed to **test the Updated Innovation Orientation Framework** that was conceptualized after the literature review (please refer to section 2.6 *Updated Innovation Orientation Framework on chapter 2. Framework*).

To do so, first experts in innovation from leading innovation research centers were interviewed followed by interviews with large corporations from industries that share common attributes to Banks (regulated industries, industries facing market changes, service industries, and highly technology based firms); and lastly Challenger Banks.

The body of interviews were iteratively reviewed after interviews with a given unit of analysis was concluded. The main goals of doing so were to identify key themes and patterns that emerged among the participants and to uncover the Updated Innovation Orientation Framework to be tested with European Banks.

This methodology required that the researcher analyzed responses from informed constituents or key opinion leaders to identify those inherent patterns. The informed constituents for this phase were research experts in innovation, representatives of large corporations and representatives from Challenger Banks.

Research centers:

As a first step, the research focused on gathering insights from **research experts** in innovation from European and US based institutions since those two main geographies were to be covered during the research with Banks. The researcher was not able to conduct any interview with any expert in innovation from Asia.

The **main goal** of those interviews was to identify potential updates on the innovation orientation framework from those scholars and their insight on whether the Updated Innovation Orientation framework was accurate enough and could therefore be used as the basis for the research with European Banks.

Those **experts were identified through publications, research papers, and previous contacts the researcher gained through training programs attended in those educational institutions.** After contacting them by email or telephone –when possible- and once the experts agreed on participating in the research, the researcher sent prior to the meeting the questionnaire to be used during the interview (the detailed questionnaire can be found in *Appendix 1 – Questionnaire used with Research Experts*).

The questionnaire included questions to understand experts view on innovation orientation and their assessment on the Updated Innovation Orientation framework. Those questions were expected to be answered on the experts' best knowledge. A summary of the questionnaire follows:

- Innovation orientation: From your point of view, how does a company ensure it is oriented towards innovation? What triggers to be innovative, what organizational competencies should have, what outcomes should aim and how innovation should be measured in terms of impacts on performance?
- Innovation orientation framework: From the innovation orientation model synthesized by Siguaw et al. (2006) and updated by the researcher leading to the Updated Innovation Orientation framework, do you consider any element missing/or most relevant to others? Which one(s)?

All interviews were conducted by the researcher who asked the open questions but then probed to elicit greater detail or clarification as needed.

The **total number of interviews conducted was 7** with 4 respondents coming from research centers in Europe and 3 from the US. Interviews with European experts were conducted from February 2017 till December 2017, and those with US based experts in August 2018.

Table 3.3: Demographics of Research Experts interviews

Geography	Number of Interviews	Date of interview
Europe	4	Feb.2017-Dec.2017
US	3	Aug.2018

The interviews were conducted either by telephone, using on-line face to face tools or in person, lasting on average 45 minutes. All the interviews were tape-recorded and transcribed (please refer to *Appendix 2 – Summary of Research Experts interviews*). Some of the experts shared further materials and articles with the researcher following the interview.

Once transcribed, the researcher summarized the findings by coding the contents of the responses, which was classified following the key components of the innovation orientation framework. The analysis of those interviews is included in *Chapter 4 - Case Study Evidences*, section *4.2.1 – Evidence from interviews with Research Experts*.

Large Corporations:

The second step focused on gathering insights from **large corporations** from industries that share common attributes to Banks (regulated industries, industries facing market changes, service industries, and highly technology-based firms) from Europe and US. By large corporations the researcher understands any firm that would not follow into the Small and Medium categorization in terms of revenues, total assets and/or number of employees.

The **main goal** of these interviews was to understand to what extent **large corporations** in similar circumstances as the ones Banks are facing (new market conditions, industries in turn around stages, and regulated industries), **are ensuring they are oriented towards innovation** in the long run. Likewise, the researcher wanted to test the Updated Innovation Orientation framework with actual firms and assess to what extent that framework is currently in place and would make sense for any firm.

The corporations **were identified through Alumni associations where the researcher is member of, professional social networks, and participating in international innovation fairs (Four Years from Now – Mobile World Congress 2019 edition, Barcelona - Spain).**

After contacting them by email or through third contact persons and once the experts agreed on participating in the research, the researcher sent prior to the meeting the questionnaire to be used during the interview (this questionnaire can be found in *Appendix 3 – Questionnaire used with Large Corporations*).

The questionnaire included three open questions related to innovation orientation. The first one on how those corporations are ensuring they are oriented towards innovation. Then the Updated Innovation Orientation framework was presented. The interviewee had to identify what elements from that framework were considered as critical or key and then if the interviewee considered any other component that was missing as to complement such framework.

All interviews with those corporations were conducted by the researcher who asked the open questions but then probed to elicit greater detail or clarification as needed. Respondents were asked to use their own experiences within their current position to answer those questions.

The **total number of interviews conducted was 10** with 7 respondents coming from large corporations headquartered in Europe and 3 from the US. Interviews with European experts were conducted during February 2019, and those with US based experts in August 2018. The interviewees were Innovation related executives, corporate ventures, heads of strategy, and C level managers.

The demographics of the interviewees is the following:

Table 3.4: Demographics of Large Corporations interviews

Industry	Geography	Interviewee position	Date of interview
Services – aviation	Europe	Innovation Head	Feb.2019
Retail - textile	Europe (HQ). Global presence	Innovation Head	Feb.2019
Technology – telecom	Europe (HQ). Global presence	Corporate Venturing Head	Feb.2019
Technology – equipment	Europe (HQ). Global presence	Chief Innovation Officer	Feb.2019
Technology – equipment	US (HQ). Global presence	Chief Strategy	Aug.2018
Technology – automotive	Europe (HQ). Global presence	Corporate Venturing Head	Feb.2019
Technology – search engine	US (HQ). Global presence	Head of Corporate Strategy	Aug.2018
Technology – e-commerce	US (HQ). Global presence	CEO	Aug.2018
Regulated – pharma	Europe (HQ). Global presence	Innovation Head	Feb.2019
Regulated - utilities	Europe (HQ). Global presence	Innovation Head	Feb.2019

HQ – Interviewee working in Corporate Headquarters

All interviews were conducted face to face, lasting on average 30 minutes. All interviews with European corporations were tape-recorded. None of the US corporations gave permission to record the interviews. In that case, the researcher took extensive notes. All interviews were transcribed (please refer to *Appendix 4 – Summary of Large Corporations interviews*).

Once transcribed, the researcher summarized the findings by coding the contents of the responses, which was classified following the key components of the innovation orientation framework, as previously used with the research experts. With these insights the researcher was able to update the in-depth questionnaire that should be used with the following units of analysis

The analysis of those interviews is included in *Chapter 4 - Case Study Evidences*, section 4.3 – *Evidence from interviews with Large Corporations*.

Challenger Banks:

The third step was dedicated on gathering insights from **Challenger Banks** from Europe and US. Challenger banks according to Zhuplev (2018) are “small, recently-created retail banks that compete directly with the longer-established banks or incumbent banks, sometimes by specializing in areas underserved by the larger banks. As well as new entrants to the market, some challenger banks have been created following divestment from larger banking groups or wind-down of a failed large bank”.

Challenger Banks distinguish themselves from the historic banks by “modern financial technology practices (Fintech), such as online-only operations, that avoid the costs and complexities of traditional banking. In order to be defined as a bank, the company must be authorized to accept retail deposits by the national regulators (i.e. National Central Banks, European Central Bank for the eurozone, or the Prudential Regulation Authority in UK). Challenger Banks embody the core principles of innovation that drive competitive advantage to the traditional banks. Challenger embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge” (Zhuplev, 2018).

Fintech, which is a key attribute for Challenger Banks as per above mentioned definition, is used to describe new tech that seeks to improve and automate the delivery and use of financial services. The word is a combination of "financial technology". The term was initially applied to the technology employed at the back-end systems of established financial institutions. Nowadays, there has been a shift to more consumer-oriented services and therefore a more consumer-oriented definition (Investopedia, 2020).

The **main goal** of these interviews was to get insights from those financial services firms that have become key competitors of traditional Banks (key unit of analysis of this research), which base growth on innovation orientation to differentiate from traditional players. The idea was to understand to what **extent these dynamic firms are really oriented towards innovation** and what elements they do consider as critical from the Updated Innovation Orientation framework.

The Challenger Banks were **interviewed during a congress** that took place in San Francisco (US) in August 2018, where the researcher had the opportunity to attend and have direct access to representatives from the most prominent Challenger Banks at that time. The researcher managed to schedule face to face meetings during the congress.

The questionnaire (please refer to *Appendix 5 – Questionnaire used with Challenger Banks*) included three open questions related to innovation orientation. The first one how those firms are ensuring they are oriented towards innovation. Then the Updated Innovation Orientation framework was presented. The interviewee was invited to identify what elements from that framework were considered as critical or key and then if the interviewee considered any other component that was missing as to complement such model.

All interviews were conducted by the researcher who asked the open questions but then probed to elicit greater detail or clarification as needed. Respondents were asked to use their own experiences within their current position to answer those questions.

The **total number of interviews conducted was 16 (corresponding to 16 Challenger Banks)** with 11 respondents coming from Challenger Banks based in the US, 4 in Europe, and 1 in Asia. The interviewees were C level representatives (CEO, CSOs and CFOs). The details of the demographics of the interviewees follows:

Table 3.5: Demographics of Challenger Banks interviewees

Function	Region	US	Europe	Asia
Chief Executive Officer (CEO)		9	3	1
Chief Corporate Strategy Officer (CSO)		2	-	-
Chief Financial Officer (CFO)		-	1	-
	TOTAL:	11	4	1

All interviews were conducted face to face, lasting on average 30 minutes. All interviews were tape-recorded. All interviews were transcribed (please refer to *Appendix 6 – Summary of Challenger Banks’ interviews*).

Once transcribed, the researcher summarized the findings by coding the contents of the responses, which was classified following the key components of the innovation orientation framework, as previously used with the research experts and large corporations.

The analysis of those interviews is included in *Chapter 4. Case Study Evidences*, section 4.4 *Evidence from interviews with Challenger Banks*.

3.3.4 PHASE 2: Collection of evidences related to European Banks

Once the Updated Innovation Orientation framework was validated by the experts in innovation, Large Corporations and Challenger Banks representatives, the second phase of the research started.

This phase consisted in **identifying, contacting and interviewing European Banks, which are the key unit of analysis of this research, complemented with specific interviews with leading innovative US and Asian Banks, used as a point of comparison.**

There was a twofold data collecting approach. In-depth interviews (**qualitative research**) with representatives of the Banks included in the research. Then it followed on-line questionnaires (**quantitative**) that were answered by team members of those people that were first in-depth interviewed. The latter with the intention to complement and validate the qualitative data collected, **applying the mixed sequential model design.** It was considered by the researcher that having multiple respondents would give a different, more accurate picture of the situation in each Bank. The interviews should also be useful to analyze potential contradictions of the innovation discourse in each Bank and try to figure out what of it was real and what was simply a construct on the innovation discourse.

The **main goal** of all these interviews was to understand to what extent European Banks are oriented towards innovation. First by answering a series of open question included in the in-depth questionnaire, and afterwards, by comparing those evidences to the ones collected by the on-line questionnaire sent to the peers of those in-depth interviewed. The objective of also including some interviews with leading innovative Banks from the US and Asia was twofold. First to check the consistency of the in-depth questionnaires with Banks and secondly to assess to what extent there is a major difference across regions on the innovation orientation of Banks.

Banks and contact persons were facilitated by three international Banks associations. Those associations, after understanding the scope and goals of the research, were very kind to promote the research project through their internal communication channels with their Banks' members, then to suggest and encourage their members to participate in the research project. Once the Banks agreed in participating, the associations sent to them the contact details of the researcher, who from then on took over the relation with the Banks.

Thanks to their support, the researcher was able to involve in this research project leading banking institutions in Europe. Due to request from some of the participating Banks to no disclose any reference to such institutions, the researcher has decided not to disclose any information related to any of the participating Banks.

To give an overview of the reach of the Banks analyzed, following a summary table with reference to the 16 European Banks, ranked by total assets as of December 2018 indicating the country where the Banks is headquartered (most of the Banks do have operations across Europe and some of them across the globe):

Table 3.6: Information on European Banks included in the research

Bank	Headquartered
Bank 1	UK
Bank 2	UK
Bank 3	UK
Bank 4	Spain
Bank 5	Germany
Bank 6	France
Bank 7	Switzerland
Bank 8	Italy
Bank 9	The Netherlands
Bank 10	Scandinavia
Bank 11	France
Bank 12	Belgium
Bank 13	Austria
Bank 14	UK
Bank 15	The Netherlands
Bank 16	Germany

Those Banks accounted for 47% of total Banking assets in Europe and 57% of the total net results of European Banks in 2018.

After contacting the different Banks representatives (mainly Innovation related officers, marketing officers, commercial officers, operations officers) either by email or telephone a convenient date was set up to conduct the **in-depth interviews**. Those interviews took place by using telephone, on-line face to face tools or in person, lasting between 45-60 minutes. To facilitate the interview, questionnaires were sent prior to the interview (this questionnaire can be found in *Appendix 7 – Questionnaire used with Banks*).

At the end of the interview, the researcher asked the interviewee to re-send to a group of between 2-5 of their immediate colleagues a link to an on-line questionnaire which contained self-explanatory indications. Explanations were given, reinsuring that those on-line interviews were meant to complement the face to face interviews. To increase the response rate, the researcher offered respondents an individualized report on the findings and sent two reminders to the contact person, one after four weeks and another one six weeks after the initial invitation. Please refer to the on-line questionnaire detail section for further details (*Appendix 9- On-line questionnaire used with Banks*).

The questionnaire was based on extensive literature review (Please refer to section 2.7 *Research questions on Chapter 2. Framework*). An initial version of the questionnaire was pre-tested with representatives of a Bank not included in the final group of Banks to be analyzed during fourth quarter 2017. With the feedback received, the questionnaire was refined.

The in-depth questionnaire included open questions related to the different components of the Updated Innovation Orientation framework. The goal was to cover the whole framework and understand how every Banks was using/assessing/implementing every single component.

All interviews were conducted by the researcher who asked the open questions but then probed to elicit greater detail or clarification as needed. Respondents were asked to use their own experiences within their current position to answer those questions.

When authorization was granted, in-depth interviews were tape-recorded (88% of the interviews recorded). For those with no authorization, the researcher took extensive writing notes.

All interviews were transcribed (please refer to *Appendix 8 – Summary of Banks’ interviews*). Once transcribed, the researcher summarized the findings by coding the contents of the responses, which was classified following the key components of the innovation orientation framework, as previously used with the rest of units of analysis.

The Evidence chapter includes the analysis of those interviews.

The **total number of in-depth interviews conducted was 49**. Of which 46 interviews with European Banks representatives, 2 from the US and 1 from Singapore. The researcher considered the sample as sufficient, as Mariampolski (2001) notes that “most studies are effectively conducted with ... 15–30 individual in-depth interviews.” The Banks in US and Singapore were included as according to different public sources (i.e. Lafferty Quality Ratings and EFMA innovation awards) are referents in innovation in the banking industry, and both were considered as clear examples of a Pioneer Bank.

Pioneer Banks for the purpose of this research are banking institutions that through the interviews have provided enough evidence they are well in advance in the level of implementation of the Updated Innovation Orientation framework when compared to their peers. Those Banks would correspond to what Stock and Zacharias (2011) described as “pro-active customer-oriented innovators”. The rest of Banks are considered as mainstream Banks. The researcher classified the Banks among those two groups (Pioneers and Mainstream) when the interviews had been conducted and analyzed. The aim of this classification was to understand what the key common traits were, if any, among those Banks more advanced in the implementation of the Updated Innovation Orientation framework and what the key differences and gaps to the Mainstream Banks when compared to the Pioneers. The final goal being to identify what a Mainstream bank should implement in order to become a Pioneer bank in terms of innovation orientation if this was its strategic objective.

The demographics of the interviewees is the following:

Table 3.7: Demographics of Banks in-depth interviews

	Europe	US	Asia	TOTAL
Total Banks participating (% of total)	16 (88%)	1 (6%)	1 (6%)	18
o/w Pioneer Banks (% of total Banks)	2 (11%)	1 (6%)	1 (6%)	4
o/w Follower Banks (% of total Banks)	14 (77%)	-	-	14
Total interviews (% of total interviews)	46 (94%)	2 (4%)	1 (2%)	49 (100%)
o/w with Pioneer Banks (% of total interviews)	8 (16%)	2 (4%)	1 (2%)	11 (32%)
o/w with top executives	3	2	-	5
o/w with innovation related executives	5	-	1	6
o/w with Follower Banks (% of total interviews)	38 (78%)	-	-	38 (78%)
o/w with top executives	22	-	-	22
o/w with innovation related executives	16	-	-	16

The non-European interviews took place during the second quarter of 2018, and all European interviews during second and third quarter of 2019 with follow up questions in April/May 2020.

The on-line questionnaire included questions related to the different components of the Updated Innovation Orientation framework.

The questionnaire was based on a comprehensive literature review. The researcher adopted from some questions previously used and validated scales from existing literature. Most of the questions use scales with a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree).

An initial draft of the questionnaire was pre-tested with representatives of a Bank not included in the final group of Banks to be analyzed during fourth quarter 2017. With the feedback received, the questionnaire was refined.

Most of the respondents are leading managers working for the person that was in-depth interviewed.

Through the in-depth interviewees, the participants were sent an email with key instructions and a link to the questionnaire. Respondents were asked to use their own experiences within their current position to answer those questions. After eight weeks of sending the invitation to participate (including two reminders), the researcher considered no further responses could be obtained from that specific Bank and data was transferred to the main quantitative data base.

Once all on-line responses from all participants Banks were gathered, the researcher checked all responses were valid (at least 80% of the questionnaire had to be completed). Once this step concluded, the researcher summarized the findings. Please refer to *Appendix 9 – On-line questionnaire used with Banks* and *Appendix 10 – On-line questionnaire used with Banks results*.

Chapter 4. Case Study Evidences, section 4.6 *Evidence from European Banks* includes the analysis of all the interviews conducted with Banks.

The **total number of quantitative questionnaires received was 84**. Of which 72 were considered valid (86%). The researcher estimates that the total potential of questionnaires sent was 147 (3 questionnaires re-sent per in-depth interviews in EUR).

The demographics of the interviewees is the following:

Table 3.8: Demographics of Banks quantitative interviews

	Assuming...	... 2x in-depth	... 3x in-depth	o/ of received
Total estimated on-line questionnaires re-sent:		98	147	
Total number of questionnaires received:	84	86%	57%	
Total number of valid questionnaires:	72	73%	49%	86%

Distribution of valid questionnaires per Bank/function	Total	Management	Innovation
Pioneer Banks	11	3	8
(% out of total valid questionnaires)	15%	4%	11%
Follower Banks	61	40	21
(% out of total valid questionnaires)	8%	6%	29%
Total	72	43	29

The quantitative research was conducted from second quarter 2019 to year end.

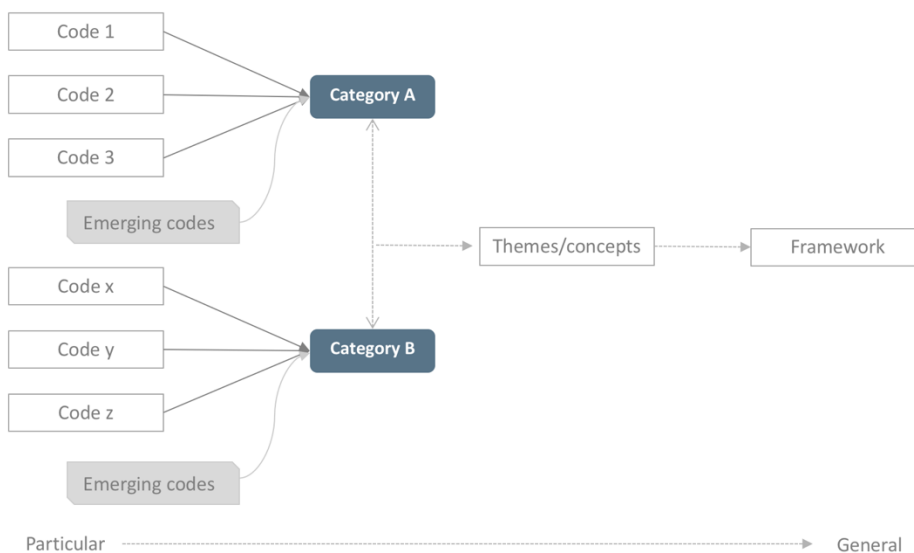
3.4 Technical aspects of the research

3.4.1 Qualitative data coding

The process that has been followed for the interpretation of the in-depth interviews has been the following:

- Transcription of recorded interviews and consolidation of researcher notes
- Transcriptions review to make sure all recordings were correctly transcribed
- Selection of the code unit
- Once the transcriptions were considered as to be ready for analysis, the coding process used could be summarized as follows:

Figure 3.3: Data coding



Selections of the code labels or codes:

The word “code” is used to designate the label of any kind which is attached to a piece of data, or more precisely, “codes are labels that assign symbolic meaning to the descriptive or inferential information compiled during a study” (Miles, Huberman, and Saldaña, 2014).

The best principle for the naming of codes was that of Cunningham, who suggested that a priority was “precision of name: the codes should have names that capture the essence of their content” (Cunningham, 2004).

For this study, since the key goal was to understand how European Banks are oriented towards innovation applying all or part of the innovation orientation framework components, the researcher has used as code labels the different components of the Updated Innovation Orientation framework (please refer to *chapter 2. Framework, section 2.6 The Updated Innovation Orientation framework*).

Thus, the code labels were defined a priori of the coding stage, and were the following:

Table 3.9: Coding/Categories used in the in-depth interviews coding exercise

Updated Innovation Orientation framework	Codes	Categories
Strategic direction	Strategic direction	Knowledge Structure
Learning philosophy	Learning philosophy	
Trans functional acclimation	Trans functional acclimation	
Organizational competencies: - O1: Resource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	- O1: Resource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	Organizational competencies
Innovation outcomes: - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs internal - ID: Innovation ambidexterity	- IF: Inn. form (radical/ incremental) -IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs. Internal - ID: Innovation ambidexterity	Innovation outcomes
Firm performance: - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems	- P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems	Firm performance
Environmental turbulence	Environmental turbulences	
Innovation orientation pitfalls	Innovation orientation pitfalls	

Once code labels were decided, the interview transcripts were coded classifying relevant code units into the different code labels. To facilitate the task, the researcher used color codes, as the ones used in the above summary table.

During the coding phase, another set of codes emerged from reading and analyzing the interviews. These “emergent codes” correspond to those ideas, concepts, actions, relationships, meanings, etc. that came up in the data and are different than the pre-set codes.

Following the consensus within the literature on data analysis seems to be that coding should not be exhaustive and is in fact a process for reducing the data. Creswell (2015) regards coding as an act of “winnowing”, while Miles, Huberman, and Saldaña 2014 consider it as “data condensation”. Therefore, not everything has been coded since in most of the interviews, the responses covered far more than the content related to the innovation orientation framework. Interviewees were not cut or invited to focus their responses to the innovation orientation framework since the purpose of the research was to identify to what extent the different units of analysis (Large Corporations, Challenger Banks and Banks) are suing this model, even though they might not be aware of the existence of such model.

Group the units by codes (categories) and counting

Once interviews were coded, those codes were classified into categories. Categories “are broad units of information that consist of several codes aggregated to form a common idea” (Creswell,

2013). Thus, there are codes at a primary level and categories or themes at a secondary level, which are formed from analysis of codes rather than of data. Once again, the categories as for the codes, were defined using the Updated Innovation Orientation framework.

“Counting is easy; thinking is hard work” (Saldaña, 2016). Whether or not to count codes is rarely a question that beginning researchers ask, but is one that they should, and one which often emerges when it comes to reporting data. Some qualitative researchers are very much against the principle of counting in qualitative research, because “counting conveys a quantitative orientation of magnitude and frequency contrary to qualitative research” (Creswell, 2013).

In this study, the researcher has considered relevant counting code frequency, since this has been able to provide a useful indicator for the importance of a given code. Harding (2013), for example, suggests that a code shared by one quarter of the participants in a study is worth consideration in the final analysis. As such the researcher has summarized the evidences highlighting those concepts that were commonly mentioned by a larger number of interviewees and then the less frequently shared responses.

Ensuring reliability:

Conceptions of reliability are largely taken from quantitative research. “Reliability is generally defined as the consistency of a measure, or the degree to which scores approximate each other across multiple assessments of an instrument or multiple ratings of the same event” (Syed and Nelson, 2015). To translate this into the language of coding suggests the following type of reliability: consistency over time with the same researcher. For that purpose, a sample of 5 interviews (out of a total of 49) that were previously coded, were re-coded starting from a clean version to compare the coding results. The researcher did not find significant differences between the two coding exercises.

3.4.2 Role of the researcher

According to Chenail, 2011, instrumentation rigor and bias management are major challenges for qualitative researchers employing interviewing as a data generation method in their studies.

Being the researcher a member of the group with which the research was conducted may have increased the risk of affinity bias, “investigators may limit their curiosities so they only discover what they think they don’t know, rather than opening up their inquiries to encompass also what they don’t know they don’t know” (Chenail, 2011).

To mitigate these biases, the researcher engaged in an "interview of the investigator" technique. This method allowed to reflect upon the responses to uncover hidden biases that may have negatively influenced the interviews and subsequent findings (Chenail, 2011).

During the time data was collected for this thesis; the researcher served as Head of Management Control for a Banking Institution –which has not been included in the research. This role was separated from the Innovation department; the researcher was not a member of the Innovation Team nor did participate in any decision-making capacity around innovation. However, the researcher participated in several projects where the Innovation department was involved and had access to organizational information related to corporate innovation programs.

Throughout the data collection process, the researcher continually checked and validated that data were collected as objectively as possible.

3.4.3 Triangulation

Multiple sources in case research help to validate and triangulate (triangulation refers to the use of some combination of different observations, say interviews and documentary evidence). It would mean obtaining and comparing various texts covering the same event, emerging ideas and interpretations (Golden, 1992).

In order to be able to triangulate the gathered information during the in-depth and on-line interviews, corporate information related to the 16 European Banks included in the research was analyzed. Corporate information refers to corporate presentations made public by the different banks on the topic of corporate strategy, strategic plans and innovation strategy when available.

All the material assessed corresponds to corporate presentations or transcripts of investors’ presentations that covered partially or totally the Bank’s corporate strategy and/or the innovation strategy. Presentations analyzed were made public during fiscal year 2019.

The analysis of those presentations was made following the Updated Innovation Orientation framework, identifying from the corporate messages those that were related to any aspect of such framework.

Please refer to *Chapter 4. Case Study Evidence* section 4.6.3 - *Triangulation: corporate statements vs. in-depth interviews vs. on-line questionnaires* for the summary of the conclusions from the

analysis of that information, and *Appendix 11 –Corporate statements* for the details for every single European Bank included in the study.

4. CASE STUDY EVIDENCES

4.1 Introduction

This chapter includes the **evidences gathered** from the **interviews with the different units of analysis: innovation research experts, Large Corporations, challenger Banks and European banks.**

For European Banks, the evidences are complemented with the **quantitative research analysis** coming from the on-line questionnaires. Please refer to *Appendix 10. On-line questionnaire used with Banks results* for the detailed quantitative study results.

The evidences were derived by **coding the in-depth interviews** with the different units of analysis. Please refer to section *3.4.1 Qualitative data coding* on chapter *3. Methodology an Research design* for further details on the coding process.

The evidences are presented, for every unit of analysis, following the Updated Version of the Innovation Orientation framework components (Please refer to *Chapter 2. Framework*, section *2.6. The Updated Innovation Orientation framework*):

Table 4.1: Codes of the Updated Innovation Orientation framework components

Updated Innovation Orientation framework	
Strategic direction	(S)
Learning philosophy	(L)
Transfunctional acclimation	(T)
Organizational competencies:	
- O1: Resource allocation	(R)
- O2: Technology focus	(TC)
- O3: Employee focus	(E)
- O4: Operational/culture focus	(O)
- O5: Market focus	(M)
Innovation outcomes:	
- IF: Inn. form (radical/ incremental)	(F)
- IT: Inn. type (market, process, admin)	(TY)
- IR: Innovation rate	(RT)
- IC: Collaboration vs internal	(C)
- ID: Innovation ambidexterity	(X)
Firm performance:	
- P1: Market position	(MK)
- P2: Operational efficiency	(EF)
- P3: Financial results	(FR)
- P4: Objective/subjective metrics	(JM)
- P5: Performance management systems	(MS)
Environmental turbulence	(TR)
Innovation orientation pitfalls	(P)

The researcher has included, as supportive element to the evidence, selected verbatims from the in-depth interviews. Verbatims for the different units of analysis can be found in *Appendix 2. Summary of Research Experts interviews; Appendix 4. Summary of Large Corporations interviews; Appendix 6. Summary of Challenger Banks interviews; and Appendix 8. Summary of Banks interviews.*

To get to those verbatims, the researcher first transcribed and coded all the interviews, using the coding methodology described in section 3.4.1 *Qualitative data coding* on chapter 3. *Methodology an Research design.*

Once interviews were transcribed and coded, the researcher selected for every question the considered relevant verbatims for the study. Relevance was based on those comments that (i) could be considered as an example of shared point of view across interviewees due to its high code frequency when counting for a any given question; (ii) brought differentiated or unique insights to a specific question; or (iii) that stated a contradictory point of view. Among those relevant verbatims, the researcher has included a selection as a supportive element in the following evidences' section.

The verbatim reference includes the unit of analysis (E: Expert; LC: Large Corporations; CB: Challenger Banks; and B: European Banks), the innovation orientation framework component –as per table 4.1 *Codes of the Updated Innovation Orientation framework components-*; and a correlative number assigned to the verbatim when included in the verbatim list summary for every question.

In order to keep privacy requested by interviewees, any reference to the organization, names, markets where they operate or any relevant information that could help identifying the person or the organization, have been removed or renamed intentionally. Moreover to avoid the possibility to identify any participant by their answers, the order (and the number assigned) in the responses summary does not forcely correspond to the same entity for every question.

4.2 Evidences from interviews with research experts

4.2.1 Evidences summary

All interviewed innovation research experts validated the updated innovation orientation framework updated by the researcher after the literature review (please refer to section 2.6. *The Updated Innovation Orientation framework* on chapter 2. *Framework* for further details). Having said that, some interviewees brought some additional elements to be considered to complement that initial framework.

This section includes a compilation of all the comments that were assembled during the different interviews, mainly the attributes that brought new perspectives to the Updated Innovation Orientation Framework. The structure to present those comments follows the very same structure of the Updated Innovation Orientation framework as mentioned in the Introduction of this chapter.

In **no case there was any objection to the initial framework** that could put into question such model. Just in some cases, some experts highlighted the relevance or criticity of some of the framework components, or suggested to include new attributes or elements to such framework.

The relevant new attributes to the initial framework were then incorporated to the Updated Innovation Orientation Framework -included in the conclusion part of this section- that was then used as the frame for the interviews with Large Corporations, Challenger Banks and eventually with European Banks.

Strategic direction

All innovation research experts considered critical having a **strategic direction oriented to or incorporating innovation**, to ensure firms are oriented towards innovation. As a researcher quoted *“companies should focus their strategy to discover today what will matter tomorrow and then to transform the company into a future that is unfolding before them”* [E-S-1]. But innovation for itself does not bring that much value. Companies *“need to have a reason to innovate and set up metrics and KPIs to ensure they are successful”* [E-S-2].

But not only having a strategy is enough, the firm needs to have a **clear mission** – which needs to be realistic-, a **vision** to lead the transformation and anticipate disruption, and a set of values, among which **agility** was the most commonly mentioned, specially in current rapid changing times. A researcher went further stating that *“instead of focusing too much on strategy and planning, companies should rather focus on their vision and agility. Due to rapid changes in the industry, companies need to be flexible and lead change”* [E-S-3].

Innovation experts based in the US were the only ones reinforcing the need to be ambitious on the vision of the company, as to promote innovation within the organization. As such, they recurrently mentioned the **“moon shot thinking”** idea, as an element to force firms to look beyond what could be normally expected.

Finally a new element was brought into the model. A couple of researchers suggested that in order a firm is fully oriented towards innovation, **the top government bodies** (i.e. board of directors and management board) **need to be fully committed**, leading and participating in the process. They are

the ones to ensure innovation orientation model is fully implemented and successful in terms of firm's performance.

Learning philosophy

All experts agreed that **learning is critical** for firms to innovate in the future. As a researcher even remarked, companies need to be *"hyperaware"* [E-L-1] of new trends in the market.

There were however different opinions about what was more important to learn first. Some researchers considered fundamental to **re-read (new) dynamics of competition**, understand who the competition is on a broader perspective, and be aware of vital challenges. Others, however suggested companies should focus learning first on new **technologies**.

A researcher however was more in favor to suggest companies to **learn first from customers**. As mentioned *"companies should focus innovation on what really brings value to end consumers, rather than on what competition is doing"* [E-L-2].

Transfunctional acclimation

All innovation experts agreed on the fact that firms **should facilitate knowledge sharing and transfer** within the whole organization avoiding the creation of silos. As a researcher summarized, *"in order to be successful, companies should combine a go-to-market strategy with the engagement from customers and employees and an organization with a clear structure and culture formed to support innovation through knowledge transfer"* [E-T-1].

Organizational competencies

Regarding the resources companies should devote in order to ensure they are oriented towards innovation, all experts were overall aligned, with however, some minor differences related to the prioritization of some of those resources.

In the investment side, experts consider critical companies devote **economical resources to innovation**. One of the key destination of those investments should be to attract, retain and re-skill the workforce to ensure innovation is viable within a given organization. Apart from investing on the employees, experts also considered that firms need to allocate resources to ensure the innovation team really can do their job.

There was however an expert that thought otherwise. According to her, with limited resources, organizations can also be innovative, as long as they get some pressure to be innovative. Her point was that **resources need to be "allocated wisely"**. The key point is to understand what is the real problem. For that companies need to learn, and from there find the solution with resources at their disposal to do so. In other words, you may not need more resources, but just use your resources differently.

On the technology side, researchers consider also critical firms being curious about integrating **new technologies** or exploring potential usages of new advances in technology. But again, on a wise

manner. As an expert mentioned *“we tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run”* [E-O-1].

On the organizational side, all experts highlighted the importance culture has in the innovation potential of a given firm. **The culture the organization has and the one it should have.** And they consider that firms are not focusing enough on this aspect. As a researcher commented *“companies need to understand their culture and what culture they should have in order to be innovative. And then comes the culture transformation requirement if needed”* [E-O-2]

It was also highlighted the importance of the **reward system** in place to ensure employees get recognition by their participation in the innovation process.

A new element to the model that was mentioned by a couple of experts was the need for firms to have in place a **transformation management tool** to ensure the firm implements the required changes to be oriented towards innovation - which needs to be precise, realistic, inclusive and measurable- and that innovation is carried out. As a researcher summarized *“a systematic approach to innovation, as to generate ideas that turn into projects that solve customer problems”* [E-O-3].

Innovation outcomes

The most common position was that the innovation outcomes a firm has should be **customer centric** rather than just focusing on beating competition, looking for new standards or business models and finally innovate by **questioning current business** (efficiency driven).

There was also consensus on the fact that innovation best works when is centered in **continual disruption**, rather than just radical for the sake of being radical.

On terms of speed, there was no clear statement, considering that depending on market conditions, customer needs trends and other exogenous factors, the **innovation speed should be recalibrated.**

US researchers were though more ambitious on the goals firms should set. As an expert mentioned, *“companies should be setting 10x increasing in whatever the KPIs they follow (i.e. sales, customer base,..) to **force themselves to be more innovative**”* [I-O-1]. This ambitious goals would force firms to tackle different types of innovation at the same time to reach their goals. This different perspective between European and US researches, having the latter higher performance expectations, is well aligned with the different national culture perspective as described by Engelen et al. (2014).

Firm performance

All experts agreed that **innovation need to generate results for the company**, if not, it is not worthy. An expert suggested a short cut to ensure it is successful in any given organization: *“to ensure success, start with quick wins and then you can get further support from the whole organization”* [E-FP-1].

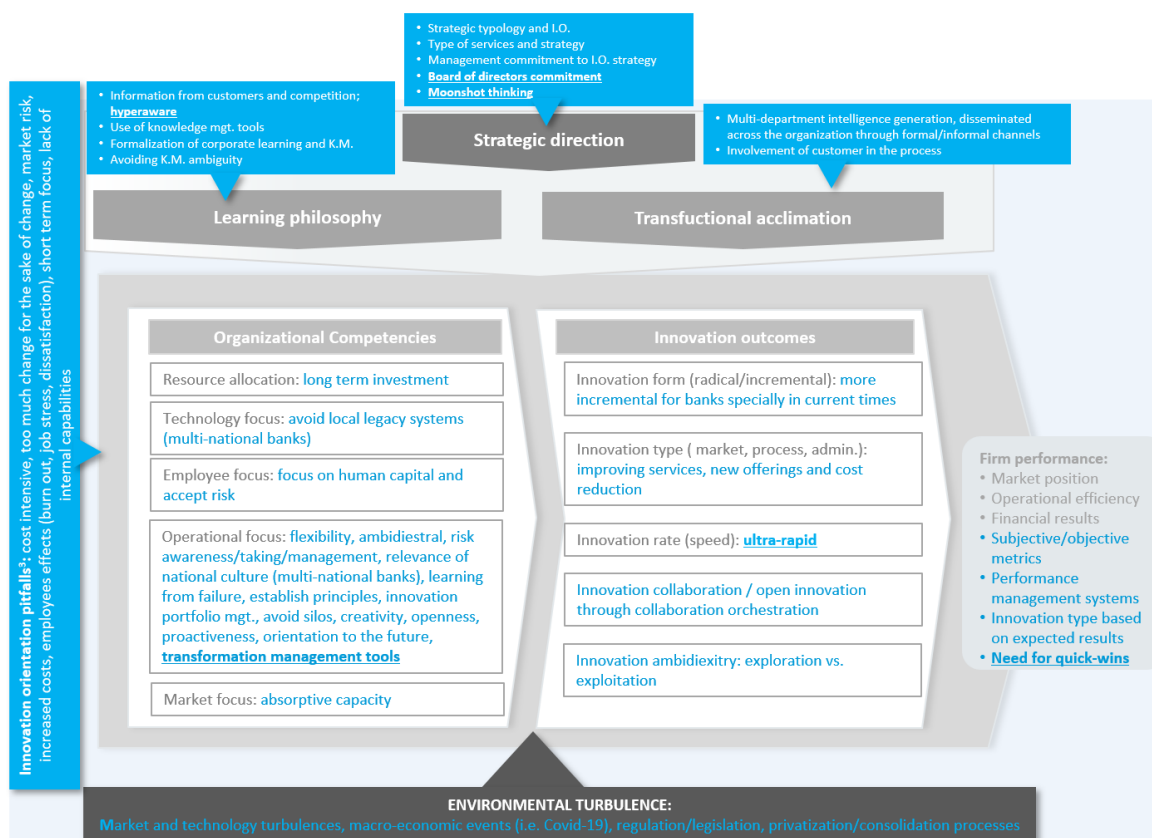
4.2.2 Conclusions

The major conclusion derived from the validation of the Updated Innovation Orientation Framework with the research experts is that overall, **all experts agreed with the suggested framework**, with minor additions to that could be made to such framework:

- The importance of Banks **government bodies** (i.e. Board of Directors) to be involved in the innovation orientation of the company
- The importance to **broaden the learning focus** (hyperaware) and to have in place a **transformation management tool** to implement changes to be oriented towards innovation
- The need to think big in (i.e. **Moonshot thinking**) in order to put certain pressure in the organization to really become innovative in the long run. Related to this topic, some experts suggested to include in the innovation rate or speed the concept of **ultra-rapid innovation**.
- In the performance side, the relevance of firms considering **quick innovation wins** as to demonstrate internally that innovation can generate some performance improvements and therefore is a good way to go.

With all those insights, the reviewed Updated Innovation Orientation framework is the following:

Figure 4.1: Updated Innovation Orientation framework after insights from research experts



Note: Underlined and in bold, the new components added to the Updated Innovation Orientation framework.

4.3 Evidences from interviews with large corporations

4.3.1 Evidences summary

A series of ten interviews were conducted with Large Corporations, from industries that share common attributes to Banks (regulated industries, industries facing market changes, service industries, and highly technology based firms) from Europe and the USA.

The idea of those interviews was to see how Large Corporations are ensuring they are oriented towards innovation in the long run and understand what elements of the Updated Innovation Orientation Framework, re-adjusted with insights from the interviews with the research centers that can be found on section 4.3.2 *Conclusions* of this very chapter, were actually used.

Since there were relevant differences in terms of the level of implementation of the innovation orientation framework components between USA based companies (plus EU Telecom firm) and the rest of the firms, comments are not aggregated at full but differentiating which ones come from each of those two groups. Being Leading Large Corporations the former (4 Corporations) and Large Corporations the latter (6 Corporations).

The structure to present the evidences from those Large Corporations follows the same structure of the innovation orientation framework.

In brief, **all Large Corporations agreed overall on the Updated Innovation Orientation framework as a structured way to ensure companies are innovative in the long run**. The key differences between Large Corporations and the so-called Leading Large Corporations are that the latter are (i) more aggressive in the objectives and expected results from being innovative (moon-shot thinking, pressure on getting higher achievements and radical innovation); (ii) more willing to take risks, fail fast / learn fast, and challenge status quo (including mission and vision of the firm); (iii) more open to integrate external players (build up ecosystems) and ensure workforce diversity; (iv) deploy innovation at Corporate level and not just a simple innovation department in place; (v) make the whole organization accountable for the innovation projects; (vi) and be brave enough to kill those projects that do not perform as expected.

All Large Corporations agreed in the need to have flat organizations, reinforce a culture of experimentation and continuous challenge. Moreover, they all seem to focus on customer centric type of innovation and ensure speed to market when implementing any type of innovation.

Strategic direction

All Corporations stated it is critical to have a clear mission, vision and values which have to be well communicated across the organization. On top of that, innovation should be aligned to that overall strategy.

The major difference between Leading Large Corporations and the rest of Large Corporations was that the former **consider critical to be open to challenge on a regular basis the business model in place, the mission and the vision**. As a GAFA mentioned, it is key to *“challenge mission, vision and values since they may be stoppers for innovation. Challenge product portfolio. Challenge supply chain. This will generate new ideas, but to do so you need to be brave”* [LC-S-1]. Challenging status quo may be a factory of new business models even if doing so implies *“cannibalizing traditional business model”* [LC-S-2].

There were however **some discrepancies to what extent mission, vision and values need to be fixed over time**. As a company stated the *“culture is closed, the mission and strategy might be open for change”* [LC-S-3], whereas another one stated that *“companies need to respect the mission and the vision of the company but need to set up an innovative culture”* [LC-S-4].

Regarding where innovation should be sitting within the organization, Leading Large Corporations remarked that **innovation should be across the organization** ensuring is centralized at **corporate level** (*“innovation cannot be siloed and must sit at corporate level”* [LC-S-5]) with a clear innovation department set up (*“innovation department should be defined and related to corporate strategy department”* [LC-S-6]). Those Corporations also stressed the fact that **companies need to define how they want to innovate**, since general recipes do not exist.

On the more practical aspects, a Leading Large Corporation mentioned that in order to be innovative, **physical location may be critical**. Being located close to where innovation takes place could be a determinant factor (i.e. especially true for technology based companies being close to technology hubs like Silicon Valley).

The rest of Large Corporations did consider that **innovation is part of the corporate strategy**, and that companies in order to be successful need to be **“perpetually innovating”**. Moreover, they overall consider **innovation as a structured process**, that follows what has already been set up (mission and vision) and that should not be challenged.

Learning philosophy

On the corporate learning procedures in place, all Large Corporations were aligned that getting insights from both **competition, market trends and customers is critical** as a first step to be orientated towards innovation. There were minor differences between Leading Large Corporations and the rest. For the former, they seemed to be **dedicating relevant amounts of money to set up learning tools** (i.e. R&D centers as source of knowledge) or setting up international networks for idea hunting and innovative project scouting (scouting ideas and companies).

Transfunctional acclimation

Sharing information, knowledge and “forcing” departments **to work transversally** were common ground characteristics for all Large Corporations. Though Leading Large Corporations seem to be working on **flatter structures**, which apparently are more ideal to ensure more collaborative type of working like co-working spaces, team mixing and intra-preneurial programs. The final idea is “*making possible that different departments not only share but work together*” [LC-T-1].

Another common comment across Large Corporations was the fact companies **need to break organization silos** to ensure knowledge is shared by “*generating content and community across the organization*” [LC-T-2]. Leading Large Corporations go beyond and look to **build up ecosystems** made not only of internal players, but also including vendors, customers, start ups,...

All Large Corporations agreed that **companies need to set up cross departmental innovation projects and teams**. They see innovation as a transfunctional and cross-department function and as a **corporate mindset**.

GAFSA companies go even beyond and consider this cross-departmental organization, in order to be more effective, needs to be **working under certain pressure**. That is seen as a facilitator to ensure organizations are more innovative.

Organizational competencies

All Large Corporations agreed that Innovation needs **processes and tools in place** and looking for space for collaboration among departments as previously mentioned. They also consider critical setting up a **corporate culture** that **empowers and recognizes employees** and at the same time forces the company for continuous “*re-invention*” and accepting new initiatives (***experimental mindset***). This culture must ensure openness to change, feedback and challenge. Moreover they all agree on the need to **think in the future stages** of the company and **allocate resources accordingly**.

On the resources side, all Large Corporations prize the importance of new technologies as facilitators for innovation, but also stress the need to make sure there is the **right balance between people and technology**.

Leading Large Corporations stressed the fact of the **richness that a diverse work force** can bring and the positive impact on the orientation towards innovation. As a consequence, they give a lot of value to hiring processes, ensuring new comers fit into the culture and the innovation corporate approach and have in place scouting processes to identify **employees with a clear innovation mindset**.

On the corporate culture, Leading Large Corporations seem to take more seriously the internal policies to ensure ideas coming from within are not killed even before they have been analyzed and at the same time **not penalizing when failures come along the way** – as long as there is a deep analysis on what went wrong so the learning can be applied in the future (*fail fast, learn fast*).

Leading Large Corporations seem to be more willing to **externalize resources and capabilities** when they do not bring value, as one mentioned “*we look also to externalize those supporting functions*”

that might be time and resource consuming and can be done somewhere else at a cheaper cost” [LC-R-1].

On the organization of innovation itself, there is a clear differentiation among the two groups of Large Corporations. Whereas Large Corporations tend to have a **specific innovation team**, with dedicated resources (employees and resources), Leading Large Corporations see **innovation as an overall corporate department**. Therefore, they set up cross organizations programs to ensure innovation is in place, ensure there is accountability across the organization to see who is responsible for what and make sure every single innovation project has an allocated budget.

On the collaboration with third parties, all Large Corporations are **open to leverage innovative ideas from external players** (i.e. start ups) and integrate them into their own organization. As a Large Corporation stated *“our model is to look out there what is available in the market, offer those ideas or projects that seem interesting to our needs the opportunity of testing their products and sell them to us if they fit our requirements. So we help them scale up their business and we get innovative propositions” [LC-R-2].*

Innovation outcomes

On the innovation outcomes, all Large Corporations seem to be focusing on all types of innovation. From innovation related to **optimize resources and capabilities, to continuously challenge business models**.

Most Large Corporations highlighted the importance of a **customer centric innovation** focus and the **speed to market** as a critical success factor.

What really differentiated Leading Large Corporations was that they really prioritize **disruptive innovation** (or the *moonshot thinking* term used mainly by US based firms), the use of **lean start-up methodology** even though they are Large Corporations, a set of recurrent innovation tools (i.e. design thinking) and being **more open to acquiring companies** when needed to be combined with internal departments.

Firm performance

On the performance impact of innovation and KPIs that Large Corporations are following, there was some remarkable differences. Despite all agreeing that **innovation “is working when generates returns” [LC-FP-1]**, and that a **dashboard system needs to be in place** (*“it is critical to have forecasted your potential gains, costs,... to make sure innovation is well followed up” [LC-FP-2]*); Large Corporations focus mainly on tracking how innovation is impacting on sales increase, cost reduction and user experience improvement and seem to be thinking more on the long run (Financial KPIs are critical, but with a longer time frame than traditional projects).

Leading Large Corporations are on one hand more ambitious on the goals to be achieved (*“Innovation has to ensure **double digit growth**” [LC-FP-3]*), stress the fact that *“KPIs need to shared across departments as to ensure collaboration/cooperation and **accountability**” [LC-FP-4]* and on the other hand they openly expressed that innovation projects *“must be **killed** if they do not generate expected returns” [LC-FP-5]*. Moreover, since they give a high value on the implication of

the employees to the innovation process, they are the only ones including **HR performance assessment KPIs** related to innovation. This different perspective between Leading Large Corporations (mainly based in the US) and the rest of Large Corporations (mainly European), having the former higher performance expectations, is well aligned with the different national culture perspective as described by Engelen et al. (2014).

Pitfalls

But innovation orientation according to some Large Corporations may also **generate some friction** within organization. Specially, as a Large Corporation stated, when *“projects do not have any business impact, or when the people involved in the project do not clearly see the transformation that should have occurred or when we lose time, or are not fast enough. And of course, if we make the company lose money”* [LC-P-1].

Some Large Corporations also mentioned as the key challenges to ensure innovation takes place is bringing the whole organization on-board, since **employees are seen as the key stopper** to innovation. Leading Large Corporations pointed out that to stay ahead, companies **need to think in the future and all changes that could come and affect your own industry, which obviously is kind of a hard task to do.**

4.3.2 Conclusions

Following a summary of the key highlighted components by Large Corporations to the Updated Innovation Orientation framework and what attributes differentiate the so called Leading Large corporations from the rest of Large corporations.

Table 4.2: Common components to large corporataions and specific for leading large corporations

Updated Innovation Orientation framework	... common components for all Large Corporations...	... and specific for Leading Large Corporations
Strategic direction	Innovation as a structured process	More aggressive in the objectives and expected results from being innovative. Willing to challenge the mission and vision of the firm
Learning philosophy	Competitioin, market and customers as source of learning	
Transfunctional acclimation	Flat organizations allow for knowledge transfer	More in need to avoid organization silos
Organizational competencies: - O1: Resource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	O1/O2: right balance between people and technology O4: need to have flat organizations, reinforce a culture of experimentation and continuous challenge.	O1: externalize capabilities when not bringing value O4: more willing to take risks -fail fast; learn fast- and ensure workforce diversity; deploy innovation at corporate level and not just a simple innovation department in place; make the whole organization accountable for the innovation projects; be brave enough to kill those projects that do not perform as expected; and location closer to innovation hubs.
Innovation outcomes: - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs internal - ID: Innovation ambidixitry	IT: focus on customer centric type of innovation IR: speed to market when implementing any type of innovation.	IF: more into radical innovation IC: more open to integrate external players (build up ecosystems)
Firm performance: - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems		P3: More pressure on getting higher achievements and results from innovation orientation
Environmental turbulence		Envision the future to leverage on new opportunities and avoid turbulences
Innovation orientation pitfalls	Employees resistance	

4.4 Evidences from interviews with challenger banks

4.4.1 Evidence summary

A series of sixteen interviews were conducted with Challenger Banks from Europe and US. By Challenger Banks the researcher understands small recently-created retail banks that compete directly with the longer-established Banks, sometimes by specializing in areas underserved by the incumbent Banks.

The main goal of these interviews was to get insight from those Challenger Banks that have become key competitors of traditional Banks (target unit of analysis of this study), which base growth on innovation orientation to differentiate from traditional players. The idea was to understand to what extent these dynamic firms are really oriented towards innovation and what elements they do consider as critical from the Updated Innovation Orientation framework or if there was a new component to be included.

The structure to present the evidences from those Challenger Banks follows the same structure of the innovation orientation framework.

In summary, **all Challenger Banks consider being continuously oriented towards innovation a key success factor for them.** They recognize they need to be agile to cope with market trends and adapt to new conditions through innovation and when launching new products and services.

Challengers' key focus is to deliver the best customer experience, in order to get a larger customer base as soon as possible by eroding to incumbent Banks and also new players. To do so, they (i) concentrate learning on customer's needs and trends and in the competitive landscape; (ii) innovation outcomes focus on customer experience and customer channels; (iii) and they are willing to partner with third parties to incorporate the best solutions in the market.

Despite having relative pressure on available resources, their priority is to dedicate them to have in place the best technologies available and recruit and retain the best employees, with the final goal to offer to their customer base the most up to date solutions.

Strategy

All Challenger Banks have in **common they see innovation as a critical part of their corporate and differentiation strategy.** They have come into the market and gained a piece of the market share by innovating/bringing new value propositions (i.e. more transparency, customized services, convenience, nimble experience, and seamless interactions) compared to existing players. Having said that, they always focus their innovation on **digital innovation**, since their distribution channel is mainly digital. As a well-known Challenger Bank mentioned, *"we were frustrated by the lack of transparency, digital innovation, personalized service and offerings at existing banks, and decided to build one of our own. Our Bank was designed to be a customer-centric and mobile-first retail bank, allowing users to enjoy a simple, elegant and easy-to-use banking app – anywhere, anytime"* [CB-S-2]. Or as another key player said *"Our Bank was founded because we believe the world needs better banks; ones that will use technology to improve customers' financial lives."* [CB-S-4]

Moreover, the innovation strategy is aiming at **improving the customer experience continuously – now and in the future**- to ensure Challenger Banks stay ahead of traditional players. As a Challenger Bank stated *“we are currently seeing huge changes in the banking industry driven by the evolution of the digital landscape. As we look ahead and consider our strategy for the future, we don’t think along the lines of traditional or challenger – but about how people want to bank and the tools they need to manage their finances”* [CB-S-3]. Another well know Challenger Banks insisted on the **need of continuous innovation** by saying *“when we first launched, there were few others in the business that looked like us. We came into the market as an innovator and our goal, every day since, has been to remain at this forefront. In a sense, we have always been a Challenger brand”* [CB-S-5]. Or as another Challenger Bank mentioned *“We are a modern, digital bank and continuing to grow as a leading digital financial services company with innovative digital experiences, 24/7 customer service, great rates and rewarding credit and lending products is our number one goal. We also prioritize creating a seamless customer experience.”* [CB-S-8]

As a Challenger Bank summarized, their final goal is to make sure that *“with us, our customers get the stability of an established bank and the innovation, nimbleness and customer focused experience of a challenger bank”* [CB-S-7].

Learning/Sharing

All Challenger Banks stated they are **willing to learn from the market** (from both traditional banks and Challenger Banks) and from their current and potential **customers**. This seems to be a must for any Challenger Bank to survive and grow. As a Challenger Bank highlighted *“we are obsessed with doing the right thing for our customers. We listen carefully and iterate on solutions to ensure they are not just meeting customer needs, but delighting our users. This will continue to strengthen as we scale and build a larger community of users”* [CB-L-1]

For all Challenger Banks to **remain agile in order to cope with market trends and easily adapt to market/customer changes** is even more important than the learning and sharing. This point is seen as critical for all Challenger Banks. As a key player mentioned *“within our business our focus is remaining agile. Innovation and the drive to solve problems is critical to the success of growing companies, regardless of whether you have 300, 600, or 6000 employees. This is one of the most significant challenge for our long-term vision and a focus that we keep front of mind every day.”* [CB-L-2]. This agility is critical to identify opportunities and execute quickly.

Organizational Competencies

All Challenger Banks base their business model on digital banking, therefore consider critical to **invest in IT to be at the frontier of technology evolution and remaining competitive in the marketplace**. This ensure them to make sure they will survive and will be able to offer the best customer experience. As a Challenger Bank mentioned *“Digitally transformative methods like the application of machine learning, big data analytics, Artificial Intelligence and fancy computer science techniques all come down to one thing: providing a tailored and reimagined consumer financial experience”* [CB-R-14]. Another Challenger Bank stressed the fact that investing in IT will ensure a competitive advantage face to incumbent Banks by saying *“our investment in AI, a massive proprietary data advantage, and digitally transformative technology is the backbone of our*

company: ultimately this is our competitive advantage against incumbent institutions and new entrants in the US market.” [CB-R-8]

But investing in IT is not enough. They have realized they **need to have the best employees** in the market able to deal with such technologies, which may turn not to be easy as all Challenger Banks are actually looking for the same resources. For them it is critical to attract and retain the best available HR resources to be sure they can keep up with innovation. As a leading Challenger Bank mentioned *“we are building a data platform. Solving this large and complex problem requires deep understanding in data, technology, banking and business models... we have been fortunate to be able to attract an incredible team of software and platform engineers, data and machine learning engineers, bank executives and senior advisors to jointly work on solving this massive problem in a tech forward and highly-compliant manner” [CB-R-12]*. Another Challenger Banks stressed the fact hiring the best resources may not be as easy as one could expect *“one of the biggest challenges is hiring – it’s a challenge in any rapidly growing tech company - but it is accentuated due to the relatively nascent technology ecosystem, especially in hiring engineers and specialist FinTech roles” [CB-R-17]*. Or as a Silicon Valley based Challenger Bank stated *“There is a war for talent in Silicon Valley, so that’s always a challenge, but I think we really benefit by offering services that are a positive force in the world” [CB-R-9]*.

With all that, and bearing in mind Challenger Banks have some pressure on their available funds to be used, one of the key challenges for those institutions is to **“prioritize resources to the most pressing needs of our customers and business partners” [CB-R-10]**.

From the organizational point of view, all Challenger Banks recognized that **their key challenge to keep up with innovation and growth is mainly keeping up with scaling up the business** on a safely manner. As a Challenger Bank stated *“the challenges day-to-day are those that come with a rapidly scaling business. We are scaling our team, our processes, our partnerships, our capital base and our relationship with our customers. The biggest hurdle is just finding enough hours in the day” [CB-R-1]*. Another Challenger Banks mentioned on the same line *“as we grow as a bank, both in the UK and overseas, we have to scale our operations to ensure we maintain the same high quality of service for customers. We take that extremely seriously” [CB-R-2]*.

Innovation Outcomes

From what has already been said so far, it is clear that Challenger Banks focus their innovation mainly on **improving the customer experience, offering the same product portfolio as incumbents do but at a lower cost/fee to consumers and focusing all their efforts to improve the digital distribution channel**. As a leading Challenger Banks explained, *“globally, customer needs have changed dramatically in recent years - from offline to online to mobile... We make the entire banking experience flexible and suitable for the smartphone...essentially, we make banking simple with a flexible account tailored to the needs of our digital generation. With our full banking license, state-of-the-art technology and no branch network, we are redesigning banking for the 21st century” [CB-IO-8]*. On the cost side, there was a strong statement by a leading Challenger Bank which said *“we can provide an end to end financial services platform that reduces costs, improves efficiency, allows people to send money overseas at low cost and get access to credit in real time at a fair and transparent price, by using technology and data effectively” [CB-IO-14]*

And all the **innovation needs to be conducted as fast as possible, either internally or, through partnerships**. As one Challenger Bank described *“to identify future growth opportunities, we start by looking at white spaces in our business, pain-points or unmet needs of our customers that we can solve in an innovative way. Then, we assess whether to build, buy or partner and the answer depends on the situation. **We want to bring the best possible experience to the customer in the most expedient manner while delivering adequate returns for our shareholders** and select the go to market strategy that aligns with those criteria”* [CB-IO-11]. **Or even acquiring companies to speed up the innovation process** or time to market: *“our investment arm is a key component of our growth strategy. Through it, we identify early stage companies for both investment and to enhance or diversify our capabilities. Through those growth opportunities and the pipeline, they create, we continue to diversify and evolve as a digital financial services provider – whether organically through products and talent, acquisitions or partnership”* [CB-IO-12].

Firm performance

Challenger Banks are mainly focused on **getting scale as fast as possible** in order to get a relative important market share, not to lose room to other Challengers and get fuel for growth coming from investors, who will mainly invest on those projects showing promising growth metrics.

As a consequence, most Challenger Banks mentioned innovation could help them getting the metrics they need to show to the market. Being the most important the customer base measured in the **number of customers and the income generate by such customer base**. As a Challenger Bank mentioned *“We are at about \$80 million annual revenue run rate and growing very fast. Over 8 million people have already applied for a loan, including more than 2 million in the last quarter. We have issued over \$2 billion in loans”* [CB-FP-2]. Another Challenger Bank used the very same metrics by stating *“Our Bank has grown its customer base to over 500k since launch in Jan 2018 with c. 40% month on month growth. We are ahead of other challenger banks in terms of monetization and generated GBP23 million run rate revenue by Dec 2018 from its 500k+ customers”* [CB-FP-3]

Environmental turbulences

Challengers consider the major external turbulence factor to innovation the **evolution of banking regulation and compliance requirements**, both as a facilitator or stopper to it.

As a facilitator, Challengers consider, for instance implementation of PSD2, the Second Payment Services Directive, **has enabled new FinTech companies** (including Challenger Banks) to develop within the banking ecosystem.

On the other side, some Challengers, especially those that are on the scale up phase and looking to grow through international expansion, consider that regulation has not advanced at the same speed as innovation in banking in recent years. Challengers in the internationalization phase advocate for **increased alignment of global regulation**. As a Challenger mentioned *“we are currently operating on a European Passport (a banking license granted by a local National Central Bank and the European Central Bank), but we see that a pan-European banking alignment is missing. The same applies to compliance topics, such as IBAN discrimination. Although there is a European standard on IBAN, we are seeing customers experience discrimination in some countries”* [CB-T-4]

4.4.2 Conclusions

Following a summary of the key Updated Innovation Orientation Framework's components as highlighted by Challenger Banks.

Table 4.3: Relevant components of the Updated Innovation Orientation Framework for Challenger Banks

Updated Innovation Orientation framework	Most relevant components for Challenger Banks
Strategic direction	Being oriented towards innovation and adapt fast to new market conditions through innovation
Learning philosophy	Concentrate learning on customer's needs and trends and in the competitive landscape
Transfunctional acclimation	
Organizational competencies: <ul style="list-style-type: none"> - O1: Resource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus 	O2: to have best available technology in place O3: recruit and retain best employees O4: agile to cope with market trends O5: be always aware of market trends
Innovation outcomes: <ul style="list-style-type: none"> - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs internal - ID: Innovation ambidexterity 	IT: focus innovation in delivering the best customer experience and innovate/improve customer channels. Digital innovation as the core focus IR: innovation to take place as fast as possible IC: partner with third parties to incorporate the best solutions in the market
Firm performance: <ul style="list-style-type: none"> - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems 	P1: getting scale and increase customer base
Environmental turbulence	Evolution of banking regulation and compliance requirements
Innovation orientation pitfalls	

4.5 Updated Innovation Orientation Framework

4.5.1 Key components according to large corporations and Challenger Banks

After analysing the evidences collected from interviews with Large Corporations (and the Leading Large Corporations sub-group) and Challenger Banks, it was deemed value adding to compare what are the common key components highlighted by both groups, and what the key differences. From this analysis one could conclude that the **stage of the company** (consolidated large corporations vs. corporations scaling up) **could make companies give different relevances to the Updated Innovation Orientation Framework components (please refer to table 4.4 Comparison of key components between large corporations and challenger banks).**

- Both groups consider **innovation orientation as a key component of corporate strategy**. However Leading Large Corporations focusing more on being aggressive on the scope (moonshot thinking approach as defined by research experts), whereas Challenger Banks more focused into adapting to new market conditions.
- All group willing to **learn from the market, customers** and **competition** (for Large Corporations). Challenger banks seems to further stress the importance of **customers** as a key source of knowledge.
- Whereas Challenger Banks do not seem to be worried about **organization structure** affecting transfunctional acclimation -maybe because they are relatively young, small and flexible organizations- Large Corporations highlighted the necessity to have organization structures allowing for knowledge transfer (avoid silos and target flat organizations).
- On the **competencies** sides, Challenger Banks focus on frontier technology implemented, retention of talent and be “hyper”aware of market trends (as per research experts definition). Large Corporations are more worried about having right balance between people and technology, have flat organizations, and for Leading Large Corporations, push for innovation (probably because they feel they are behind when compared to new disruptive entrants into their markets).
- Both groups are **really aligned on the innovation outcomes**. As such, they both look for innovations that enhance customer experience, implemented fast and are willing to partner with external parties in order to innovate.
- The impact of innovation orientation seem to have **different priorities in terms of corporate performance**. Large Corporations are aiming mainly at impacts on results from innovation whereas Challenger Banks are looking for scaling up their business through innovation.

Table 4.4: Comparison of key components between Large Corporations and Challenger Banks

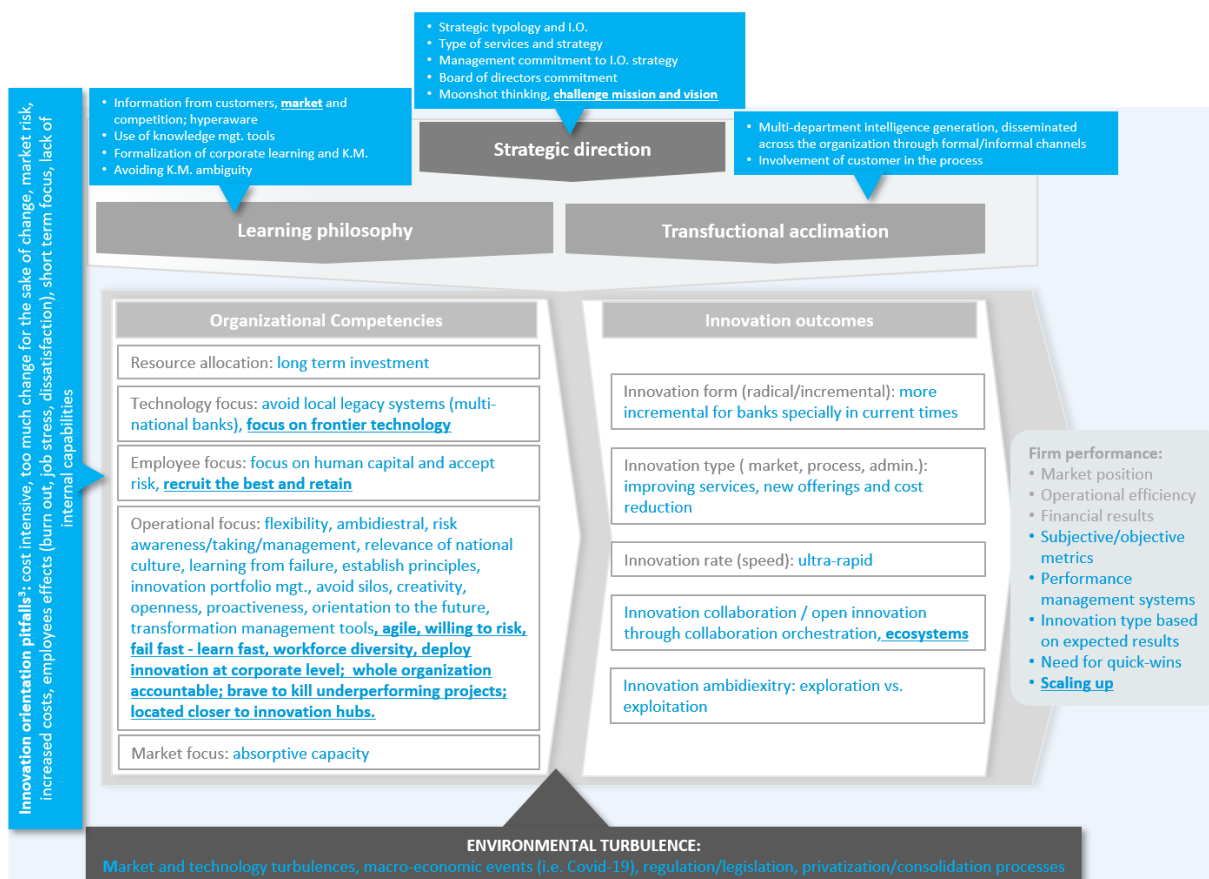
Updated Innovation Orientation framework	Relevant components for Large Corporations and <i>Leading Large Corporations...</i>	... and for Challenger Banks
Strategic direction	Innovation as a structured process <i>Moon-shot thinking</i> <i>Willing to challenge the mission and vision of the firm</i>	Being oriented towards innovation and adapt fast to new market conditions through innovation
Learning philosophy	Competition, market and customers as source of learning	Concentrate learning on customer's needs and trends and in the competitive landscape
Transfunctional acclimation	Flat organizations allow for knowledge transfer <i>More in need to avoid organization silos</i>	
Organizational competencies: - O1: Resource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	O1/O2: Right balance between people and technology <i>Externalize capabilities when not bringing value</i> O4: need to have flat organizations, reinforce a culture of experimentation and continuous challenge. <i>Willing to take risks -fail fast; learn fast- and ensure workforce diversity; deploy innovation at corporate level; make the whole organization accountable for the innovation projects; be brave enough to kill those projects that do not perform as expected; and location closer to innovation hubs.</i>	O2: to have best available technology in place O3: recruit and retain best employees O4: agile to cope with market trends O5: be always aware of market trends
Innovation outcomes: - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs internal - ID: Innovation ambidexterity	IT: focus on customer centric type of innovation IR: speed to market when implementing any type of innovation. <i>IF: more into radical innovation</i> <i>IC: more open to integrate external players (build up ecosystems)</i>	IT: focus innovation in delivering the best customer experience and innovate/improve customer channels. Digital innovation as the core focus IR: innovation to take place as fast as possible IC: partner with third parties to incorporate the best solutions in the market
Firm performance: - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems	 <i>P3: More pressure on getting higher achievements and results from innovation orientation</i>	P1: getting scale and increase customer base
Environmental turbulence	<i>Envision the future to leverage on new opportunities and avoid turbulences</i>	Evolution of banking regulation and compliance requirements
Innovation orientation pitfalls	Employees resistance	

4.5.2 Updated Innovation Orientation framework post large corporations and Challenger Banks interviews

Once all in-depth interviews conducted with Large Corporations and Challenger Banks, the researcher was in a position to update the innovation orientation framework that was constructed after the literature review and with the insights from innovation research experts.

Following the updated version, with references to Large Corporations and Challenger Banks contributions to such framework.

Figure 4.2: Updated Innovation Orientation framework incorporating Large Corporations and Challenger Banks insights



Notes:

- In blue new components to Siguaw et al. (2006) innovation orientation framework after literature review and research experts insights
- In blue, bold and underlined new components as per Large Corporations and Challenger Banks insights

4.6 Evidences from European Banks

4.6.1 Secondary data gathering: Corporate statements on innovation orientation

Multiple sources of information in case research help to validate and triangulate. Triangulation refers to the use of some combination of different observations, say interviews and documentary evidence covering the same event, which **allows obtaining emerging ideas and interpretations** (Golden, 1992) – please refer to section 3.4.3 *Triangulation, of chapter 3. Methodology and research design* for further details.

In order to be able to triangulate the gathered information during the in-depth and on-line interviews, **corporate information related to the 16 European Banks included in the research was analyzed**. Corporate information refers to corporate presentations made public by the different banks on the topic of corporate strategy, strategic plans and innovation strategy when available.

All the material assessed corresponds to corporate presentations or transcripts of investors' presentations that covered partially or totally Banks' corporate strategy and/or the innovation strategy. All documents were **accessed through publicly available sources during fiscal year 2019**.

The **analysis of those presentations** was made following the innovation orientation framework, identifying from the corporate presentations those comments that were related to any component of such framework by every single Bank, and then counting up how many comments were made by all Banks for a given component of the Updated Innovation Orientation framework. *Table 4.3 Summary of referentes to the Updated Innovation Orientation framework components on publicly available information from surveyed Banks* summarizes the concepts included on those presentations that have a relation to the innovation orientation framework with recorded frequency. Please refer to *Appendinx 11- Corporate statements* for the summary of presentations by Bank. To preserve privacy required by interviewees and the institutions they work for, any reference to the name of the Bank or information that could lead to identify such institution has been intentionally deleted.

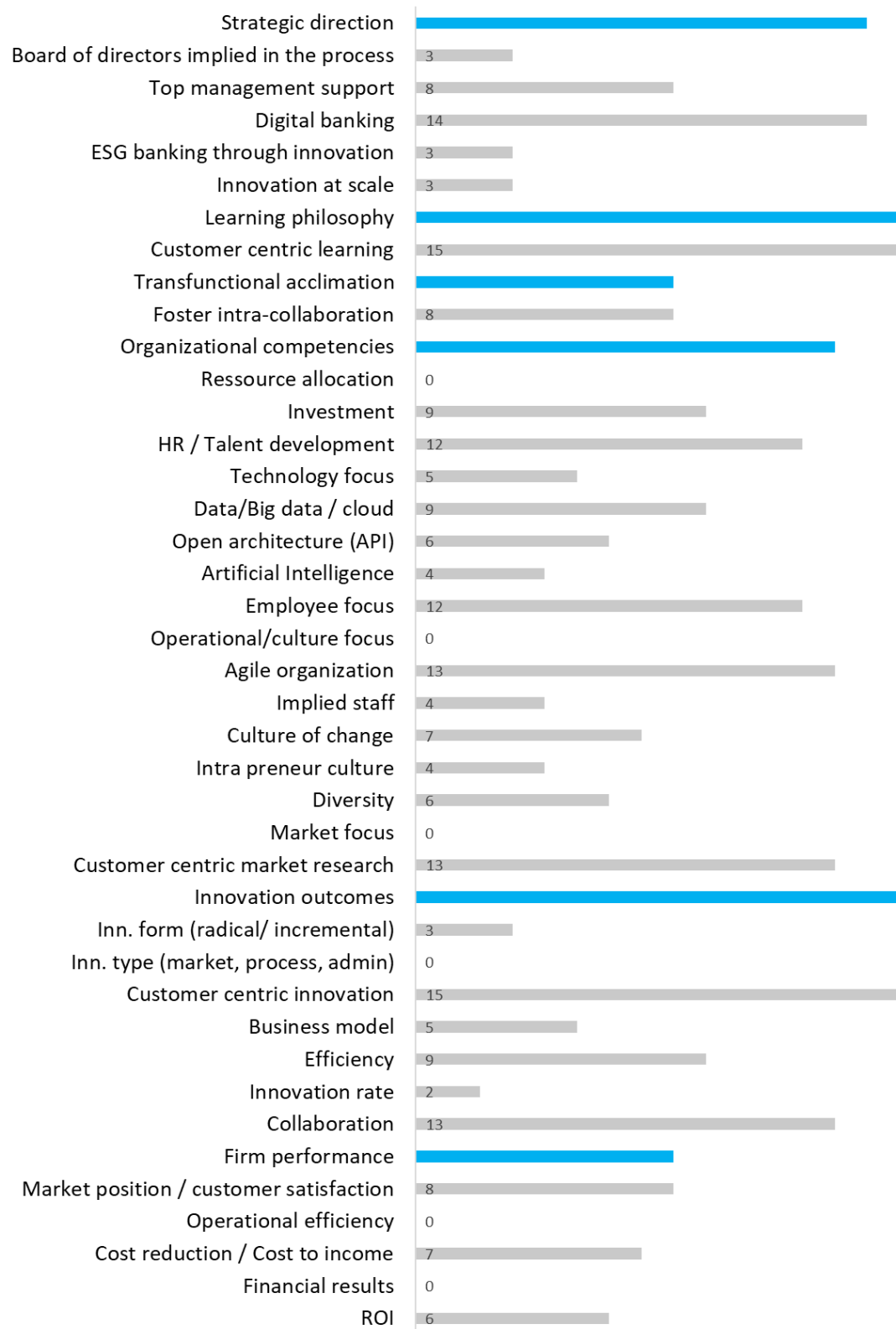
The final goal of this analysis was to be able, after conducting the in-depth interviews, **to compare the corporate statements made by Banks related to innovation orientation to those made by the employees of those very same corporations**. With this, one could confirm if there is an alignment between corporate statements and the vision of the employees of such corporations, or by the contrary, if the vision of employees does not match with corporate statements.

The key conclusions from the analysis of the **corporate information** are the following:

- Most Banks state in their presentations that **innovation or innovation strategy is a key component of their corporate strategy**.
- Banks recognize **the pace of change is only quickening**. While **barriers to transformation remain**, such as legacy systems, and culture. There seems to be an industry-wide understanding of the **imperative to innovate in order to stay competitive**.

- **Banks cover most of the components of the innovation framework but transfunctional acclimation and firm performance related to innovation.** It is interesting to highlight that despite Banks consider key to pursue innovation strategy, at the same time **do not set performance goals** or the impact of innovation on corporate results.
- By component of the framework, on the strategic direction, **all Banks express they are focusing on becoming a digital Bank or have initiatives on that direction.** This digitization of Banks is seen as an innovation key focus. Most innovative Banks go further and insist on an innovation strategy at scale, meaning it covers the whole organization. Limited number of Banks include in their communications the participation of the Board of Directors on the innovation strategy.
- On the learning philosophy, all **Banks explained they are focused in getting to know better their customers**, which also implies that all the innovation efforts have to be oriented towards that goal.
- Becoming **agile, able to deal with regulatory changes, new consumer demands and emerging technologies, customer centricity and developing employees skills to support innovation** are the areas where Banks seem to be focusing to ensure innovation actually takes place.
- Few Banks however share their intentions or plans on changing or reinforcing their corporate culture that should support innovation. This point, as it will be shown from the interviews with Bank's representatives is seen as critical aspect internally to ensure Banks are/become oriented towards innovation.
- The **innovation outcomes, again, are mainly oriented to satisfy customer needs** as it is a strategic priority for Banks. Banks also declare they are willing to **collaborate with third parties on their innovation strategy.** Banks even declare this has changed in the recent years. Before external parties, mainly FinTechs, were seen by Banks as clear competitors to avoid working with. However, lately the approach has changed and Banks are willing to work together with them- under the so called open banking or open finance umbrella-, to leverage on their speed to market and agility to cope with market changes.
- Finally, on the performance implications of innovation orientation, **Banks seem to be targeting mainly customer satisfaction metrics, efficiency and return on investment.** But as stated before, few Banks shared their performance KPIs and goals.

Figure 4.3: Summary of referents to the Updated Innovation Orientation framework components on publicly available information from surveyed Banks



Note: numbers indicate the total number of Banks that mention innovation orientation framework components

4.6.2 Primary data gathering: Evidences from in-depth interviews and on-line questionnaire with European Banks representatives

Evidence related on how European Banks are applying the different components described in the Updated Innovation Orientation Framework are summarized in this section.

The evidences are presented following the structure of the questionnaire used during the in-depth interviews with banking institutions representatives, which follows the different components of the Updated Innovation Orientation framework.

As described in chapter 3. *Methodology and research design*, the researcher followed a two steps approach to gather the evidences. First by conducting in-depth interviews with Banks' representatives followed by checking those evidences to the ones collected by the on-line questionnaire sent to the peers' of the interviewees in the in-depth interviews.

After analyzing the evidences, the researcher identified two sub segments among the European Banks. A group of so called "Pioneers" in the implementation or use of the innovation orientation frameworks and those considered as "mainstream". The former are banking institutions that through the interviews have provided enough evidence they are well in advance in the level of implementation of the innovation orientation framework. Those Banks would correspond to what Stock and Zacharias (2011) described as "pro-active customer oriented innovators". The evidences collected during the interviews with the two non-European Banks (one based in the US and another in Singapore) are also included in the Pioneer section, since both Banks fall into that category. Those evidences are clearly differentiated from the rest of evidences and have not been considered in the discussion section as base to confirm/refute the hypothesis since those two Banks are not based in Europe.

To highlight those two groups, the evidences for every and each category of the Updated Innovation Orientation Framework are presented first for the common evidences across all banking institutions and then those only related to the Pioneers. Every section is then closed with the summary of the key findings from the on-line questionnaire related to that specific section.

Every section includes the research questions and sub questions to be answered, with the supporting evidences. The reference to the question of the in-depth questionnaire is also included in the title of every section.

Please refer to *Appendix 8- Summary of Banks interviews* and *Appendix 10- On-line questionnaire used with Banks results*, for further details.

Strategic direction (question 1 in questionnaire)

SQ1 - Sub Research Question 1: Have banks a clear strategic direction leading to innovation?

According to most of all interviewed banking representatives, now more than ever, corporate strategy must include –if it does not yet do so- a strong **commitment to innovation**, which should include a focus on the **customer experience, the deployment of modern technologies, a multichannel approach to customers, partnering with third parties and ongoing measurement of results.**

In order to be successful on the integration of innovation into the strategy, as pointed out by many banks, **all involved areas must work closely**: *“All too often, institutions confuse technology with innovation, is a collection of things that do not tie together — technologies without a lot of connective tissue between them. That connective tissue is called strategy. And that should come first. But frequently what happens is that banking leaders hand off responsibility to the institution’s technology chief. For there to be true innovation, all functions need to play a role”* [B-S-15].

Banks are also conscious that the process of innovation will become much more about **having the right leadership and culture** than simply having the right technology. Part of this leadership and cultural change is having **the willingness to act**. However, too many organizations have top executives who hesitate to implement innovations, steeped in analysis paralysis and in the comfort of current success. As a banker states: *“Status quo leadership is the biggest impediment to any innovation. Any innovation in an organization needs all elements of the system to operate at an equally high level — rather than more funds, expenditures, activities or tactical interventions”* [B-S-1].

However there is a significant cost to do nothing. Change, in terms of new technology or new entrants, is happening faster than ever before – and will not slow down in the future. Financial institutions need to embrace the change occurring, **take a modest risk**, and test and learn. **Waiting is a losing proposition**. As one bank representative states *“The strategy of any financial institution, in order to be successful must ensure that innovation moves into exploitation”* [B-S-1].

To successfully transform a financial services institution, an **organization must consistently evolve through innovation leveraging on their competitive advantage**. A clear example for most of the banks is trying to imitate the start-ups: *“We have seen over the past several years that start-ups embody the core principles of innovation that drive commercial success. They embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge. We as a bank want to replicate the best of FinTech start-ups while leveraging our customer base scale advantage to respond to a changing marketplace”* [B-S-12].

Pioneer banks

Pioneer banks **clearly state as one of their corporate strategy** pillars to become an innovative bank (not clearly state innovation oriented), as one banks says *“It is very important that innovation becomes really part of the DNA of a financial institution”* [B-S-6]. Singapore Pioneer goes even

further stating among their **corporate values including innovation** (as the very Bank mentioned as corporate values “*resilience, agility and innovation*” [B-S-6]).

Moreover, they have a clearly defined **innovation strategy “at scale”**-meaning it involves the whole organization- that is well communicated and supported organization wise: “*We’re not talking about small changes here. In most cases, what is required is large-scale change that typically takes years to accomplish. It includes new technologies, strategies, processes, skill sets and a complete disruption of legacy organizational structures — moving from a product focus to a consumer focus. In the end, a good strategy or great technology will not overcome a culture that is not in alignment with the transformation taking place. If leaders within an organization do not engage and get the support of employees at all levels, innovation efforts will fail*” [B-S-16].

Furthermore, not only does the leadership and the employees know there is a commitment to innovation, but also do the **organization’s customers** (i.e. in terms of new products/services to be launched).

Pioneers are further ahead of peers in the desire to become a ‘**digital bank**’, and so it is stated in their corporate strategy. Innovation is actually seen as a means to reach the corporate strategy, which has a relevant component related to digital banking.

The Singapore Pioneer moves even further targeting a positioning beyond becoming a digital bank and **focusing on sustainability**, which is valued at the same level as digital transformation.

Pioneers are more accurate determining where individual innovation initiatives fit within the organization’s overall digital transformation plan and/or strategic plan. Each initiative must answer a **business need** and should solve a consumer’s pain point. In order to be successful on its implementation, it requires to define what skills and capabilities are required, partners to consider, how to onboard them (passing the purchasing, compliance, legal and IT teams), and how to scale solutions.

Pioneers are well **aware of potential failures** in implementing innovation outcomes to support their strategies. To avoid those failures, they recognize the need of upper **management support**, the need to avoid **corporate silos**, **adequately planning** innovation related projects and investment and the requirement to be able to successfully leverage data and apply advanced analytics to understand actual customers’ needs.

Furthermore, their **innovation initiatives are in complete alignment with their overall corporate strategy**. The research underscores the importance of reimagining the organization culture and business model as opposed to simply using digital tools and technologies to support innovation. The final goal is to **continuously challenge status quo**: “*Successful innovative banks are those that challenge the status quo rather than be challenged*” [B-S-7].

Last they even **involve the top government bodies** into the innovation process. Pioneers have made sure the board of directors is committed to and comfortable with innovation: “*The challenge is that many executives and boards lack an understanding of digital technologies and innovation. Their history and legacy is in traditional banking. This can limit the ability to determine the appropriate*

risk appetite – both the amount and type of risk that should be taken on in order to grow and achieve solid long-term performance” [B-S-16].

Quantitative research

Aligned with in-depth interviews, the majority of respondents of the on-line interview (62%) stated that their **organizations have a strategic direction leading to innovation.**

However only 47% of the respondents considered Bank’s top management actually leading the organization to be innovative in the long run.

Most respondents (65%) also considered their **Banks are not flexible** enough to adapt to emerging strategies (pivoting existing strategies).

Most respondents almost agree (>50% neutral and agree) on top management inspiring for the future. However, they are mainly **neutral on recognizing Innovation Orientation is part of their mission** and do not agree (42%) on having an aggressive mission (Moon shot thinking).

Almost 60% of the respondents consider their **Board of Directors is not ensuring innovation** in the long run.

Learning philosophy (question 2)

SQ2- Sub question 2: Have banks a pervasive set of organization wide understanding about learning, thinking, acquiring, transferring and using knowledge to innovate?

Most of the banks stated their **willingness to learn from an array of different sources of knowledge**. Those sources of learning include **internal and external sources**, and the mix of them will provide with new ideas: *“as innovators, we often get lost in a sea of our own shiny ideas. But the real value of change will not come from solely within our tribe, but from across our whole company and outside of it”* [B-L-10].

Banks consider as **key to have in-market feedback mechanisms** for continuous learning from their customers. So as a Bank states *“A true innovative organization focuses on the customer experience at every point of contact, throughout the entire customer journey. Learning from every single contact point”* [B-L-5]. Another Bank goes even further saying that *“With the integration of chatbots, voice and live agents, consumers can provide feedback on each communication and interaction, allowing models to improve and become even more personalized over time. The learnings during the process not only makes the engagement more personal, it makes it more powerful because recommendations will be more accurate and innovations will be based on customer learning. And this learning needs to be shared across the whole organization”* [B-L-6].

To ensure banks have the best source of information, when working with data generated by third parties, which create opportunities to engage and serve the customer better, *“financial institutions have to **design a way to securely capture and process data across the value chain**, even where they have no direct control”* [B-L-8]. This is a new way of working for Banks that have traditionally operated with distinctly siloed data sets and this becomes as much a cultural attitude to address as well as a technology issue.

Banks also stressed the need for **“constant learning”** and that learning on a regular basis is key to ensure success: *“to succeed in the future, organizations have to learn from both inside and the outside world, continuously”* [B-L-4].

Having said that, a **significant minority of Banks did not have processes for tracking innovations taking place elsewhere** or for testing new propositions against existing propositions in the market. They seem just to be willing to learn from inside or limited sources of information related to their direct competitors.

Pioneer banks

Pioneer Banks, compared to their peers are more willing to provide **universal accessibility** to insight coming from relationship with customers and other key stakeholders. They want **the whole organization to be involved in the learning process**, and not limited to the innovation/R&D teams: *“We need to accept that new ideas, their development, and their implementation will come from 40,000 employees who take insights from millions of customers; not solely from the brilliant but turbulent minds of 200 innovators”* [B-L-11]

Those organizations have implemented a set of solutions to ensure **market data and consumer insights are not held within product-driven silos** : *“For corporate innovation to be successful, data, insights and digital tools must be accessible across the organization”* [B-L-12].

Those institutions tend to **look further on the outside world** and not only on a random basis, but setting some **procedures** to continuously looking at what is going on, what **went well and what failed**: *“We like to look at the outside world to see what others do and also, failed to do. Is an enormous learning experience”* [B-L-13]

Singapore Pioneer considers this attitude of **being curious**, will help them become more innovative: *“Curiosity forces you to think differently, and from there, you can be innovative”* [B-L-14].

Quantitative research

Likewise for in-depth interviews, most respondents of the on-line questionnaires (65%) state their Banks consider they have **in place a learning philosophy** with 80% of the respondents considering it as a competitive advantage.

The main source of learning seems to be **customers** (61%) followed by competition (54%) and third parties (41%). Past experiences only mentioned by 41% of respondents.

However, **only 34%** of respondents considered in their Banks there was a **established learning management system** and tools to gather, disseminate and apply knowledge, this would weaken the comments gathered from the in-depth interviews.

Transfunctional Acclimation (question 3)

SQ3- Sub question 3: Are the functional areas of the bank guided by a unique embedded knowledge structure that encourages and facilitates knowledge transfer across and within subunits to retain diversity of views and fosters cooperative beliefs and understandings among all functional areas to direct them toward innovation?

All Banks commented on the **need for knowledge sharing to ensure innovation is successful within and overall corporate strategy**. As one Bank stated *“an organization-wide view on knowledge combined with a comprehensive and coherent strategy requires business lines to collaborate more than before”* [B-T-3].

However, the majority of institutions also recognized this **needs some kind of cultural change** and that some progress need still to be done on that area. As one Bank noted *“the power comes to those banks that realize the potential of working cross-functionally and of driving customer centricity into the everyday operations of the business. The narrow, parochial mentality of workers who hesitate to share information or collaborate across functions and departments can be corrosive to organizational culture and innovation”* [B-T-7].

There are different tools used across organizations to ensure knowledge transfer. In most banks **using the agile approach**, with ‘scrums’ comprising staff from multiple disciplines are used to develop, advance and implement change in accordance with agreed lists of priority areas, forcing departments to identify needed information, how to get it and the importance to share it across the team.

Others stressed the importance of **removing internal barriers and reduce bureaucracy** to ensure collaboration: *“Internal accountability helps solve the siloed culture problem of regarding an issue as someone else’s responsibility. To achieve this, we removed the barriers that kept people from collaborating and build ways to eliminate the bureaucracy that legacy cultures and management have built up over time”* [B-T-8].

Some Banks also pointed out that **human interaction** across the organization is a key facilitator for knowledge transfer: *“It is not enough to have a people in a room, no matter how smart and knowledgeable they are. To make sure the work is going to be effective and towards a common goal, leadership must be found that can inspire teamwork and interaction. Human interaction is an art, and in business, you need to be able to design whatever meeting you are planning in a way that maximizes the overall journey for everyone. Meetings without a purpose or measurable progress, while the norm in most organizations are very damaging in an innovative setting”* [B-T-10].

Few Banks are already implementing **mechanisms to reward learning** and make learnings easily available and easy to share across organization. This rewarding, seems to be a first step to cultural change, especially for those organizations with not a long tradition on knowledge sharing.

Pioneer banks

The research found that there is a very strong correlation between being a pioneer Bank and the deployment of knowledge sharing across the organization. Those financial institutions make sure there is an **interdepartmental cooperation**, the **breaking down of legacy product silos**, the **creation**

of ideas and solutions at all levels of the organization, and a willingness to collaborate on innovations outside the organization.

Quantitative research

A majority of Banks (52% of respondents) expressed that in their organizations **there is not a formal mutually sharing knowledge structure in place**, which is aligned with the in-depth interviews. In line with this results, only one third of the respondents noted in their organization there is a **strong coordination** among innovation, marketing and operations (30%) and that the organization is willing to **retain diversity of views** (35%).

According to respondents, the assessment of the **interdepartmental collaboration**, open communication and give-and-take among areas is almost equally split between favorable and **unfavorable** assessment. Again aligned with the in-depth interviews were interviewees remarked there was still room for improvement in this specific area.

Organizational competencies (question 4)

The most relevant **procedures** to foster innovation mentioned by interviewees are the following, listed from the most mentioned to the least:

- 1) Open collaboration through agile methods, collaborative tools, team hybridization, innovation labs, innovation challenges (hackatons) and design workshops.
- 2) On-boarding start-ups / FinTechs into the organization to closely work with different departments
- 3) Trips to financial innovation hubs (i.e. Silicon Valley, Israel, Singapore, New York and London)
- 4) Venture building / Incubators / Accelerators / Intrapreneurship programs
- 5) Creation of separate structures in charge of the innovation process
- 6) Specific spaces for innovation (SandBox) where there is no pre-structured role, no hierarchy, a very loose structure, and a clear mandate for experimentation and co-creation
- 7) Free up time of employees to work on specific projects
- 8) On-board customers through co-creation to challenge-led innovation
- 9) Networks of innovation ambassadors/champions across the organization
- 10) Centers of excellence on innovative projects

The most commented **sources** of innovative projects were top-down strategic bets, bottom-up ideas from Business Units, and proposals from external partners.

On the practices side, Banks consistently recognized that the **pace of internal change is a barrier to innovate**. To overcome the situation, they have realized the **need for a new way of working to accelerate their capabilities**. Some of them have changed processes and work habits to embrace **agility methodologies** through for instance smaller groups, shorter time-lines, multiple test points, and getting whatever it is they develop in front of customers through co-creation as quickly as possible to get feedback and move to the next step. In fact the “agile” innovation process approach was the most common response to the processes in place across all Banks. As one of the Banks summarized, agile consists of *“a holistic approach. It is about everyone coming together to deliver at speed, to pivot quickly with what we have learned, and to adjust rapidly to incorporate customer feedback. Today at our Bank we make decisions in hours, not weeks. There is still work to be done, but this approach enables us to incorporate customer feedback and to iterate quickly to enhance our solutions so we can build for the customer of tomorrow, today”* [B-R-13].

To ensure all implemented tools are successful, they need to be **conducted on the long run as a business as usual practice and not as an exemption**. As a Bank noted, institutions need to avoid *“innovation initiatives are episodic or they happen at the periphery of the main innovation system, or even as explicit exemptions from standard processes”* [B-R-12].

Moreover, to ensure success, key **stakeholders such as employees, customers and vendors must participate in the innovation processes**, as a Bank stated *“the best community that is able to challenge the current status, spot opportunity for innovation, and eventually create new products are your own personnel and your customers. Rather than creating a space just for your employees*

to innovate, it is important that you invite your own clients, and even prospects and suppliers into that space” [B-R-4].

Regarding the figure of the **Chief Innovation Officer**, respondents have different views. Some considered this position as a key to centralize all the initiatives related to innovation, but a significant number of institution, declared the content of this position should be shared across the top management to avoid being a void position. As one Bank commented *“the risk is that someone ends up with ‘and Chief Innovation Officer’ added to their title, along with their regular day job. They get the title and all the expectations that come with it, but usually no real facilities, no training, and no funding. Not much comes of this”* [B-R-8].

The same kind of conter-arguments were found regarding creating **Innovation Labs**, which were mentioned by almost all Banks as a tool to generate new ideas. Some Banks consider them as relevant, while others do not fully agree *“unless the lab truly serves as a working home for R&D teams”* [B-R-9] with action plans to be deployed with innovative ideas and resources allocated.

Pioneers

Pioneers are the only Banks that use the concept of **innovation ecosystems** as a powerful practice to generate innovative projects through open innovation with an extended group of possible partners, not just employees and customers as their peers stated. As a Bank shared *“we have developed an ecosystem to promote innovation, both inside and outside our Bank. It consists of different initiatives enabling internal teams, startups, investors, large companies, mentors, educators and partners, in our home country and worldwide, to work in collaboration and to address business challenges through innovation”* [B-R-11].

US Pioneer mentioned the importance of using **“rebel” employees** as a key source of innovation since they are willing to challenge the status quo. As that Bank mentioned *“we use rebels in our organization since they are the ones to challenge the status quo leading to innovation”* [B-R-6].

Pioneers are more conscious about the fact innovation initiatives coming out of the different innovation processes need to be **prioritized** based on specific criteria (i.a. strategy, resources, risk or time to market) to ensure success. As one Bank stated *“initiatives should be prioritized based on how well they address strategic priorities, their risk profiles, and time to impact”* [B-R-16]. Alongside, pioneers are more willing to **bet on small projects to ensure success** than on big bang ideas. As pointed out by the same Bank, *“institutions that think small will either have something successful to build on, or at the worst have an inexpensive lesson they can learn from. Working small also ensures that all ideas will at least get a fair try out. This helps contain losses and leaves funding for new ideas, new iterations of ideas in process, or course corrections”* [B-R-16].

Quantitative research

As per the in-depth interviews, majority of Banks (61% of respondents) expressed in the on-line interviews they **have some sort of procedures and practices to foster innovation**.

When asked about the key competencies a Bank should have in order to be innovative, respondents considered as most critical **resource allocation** (65%), **technology competencies** (63%), **employee competencies** (56%), **market competencies** (53%) and **operations competencies** (48%).

The key considered competencies to keep up with innovation according to respondents were customer relationship as innovation insight, cross departmental collaboration, having an innovative culture and open mind, support from leadership, risk acceptance, empowerment of employees and decision making speed.

Resource allocation (question 5)

SQ4 – Sub question 4: Are Banks devoting resources to all areas of the Bank in efforts that encourage the creation, development and implementation of innovations?

Capital

All Banks recognize the **need for budget allocation** to innovation, which has been increasing in recent years, as all institutions have realized that to overcome market fierce competition and customer needs changes, they have to dedicate specific annual budgets to innovation. As a Bank stated *“to be innovative, there must be an annual innovation budget allocated to different projects and initiatives”* [B-R-C-4].

Some banks also declared, that besides budget for innovation projects, they have dedicated funds for **vesting in new projects** related to start ups or collaboration with third parties in order to leverage on their innovation capabilities. They look to act as angel investors since they have realized that *“it is possible to make big changes with small bets”* [B-R-C-2] as one Bank stated.

In any case, Banks are realistic and look for **bold investments allocated to innovation**, specially with the pressure on cost reduction, since *“spending a lot of money does not guarantee that your institution will innovate. Investing without any clear idea of what to do just burns up resources — both manpower and money”* [B-R-C-1]

Pioneers

Pioneer Banks compared to their peers, also have a dedicated budget and investments to innovation, but stress the fact to have implemented a **dynamic prioritization of the project portfolio** budget allocation. As one Bank commented *“Based on prioritization, we construct a portfolio of innovation initiatives that can plausibly deliver on their strategic goals, assign initiatives to the right Business Units, and then allocate resources. As the innovation initiatives progress, we look for opportunities to re-allocate resources, doubling down on initiatives that are succeeding and quickly killing those that are struggling by using metered funding, agile governance, and other mechanisms. This effectively brings zero-based budgeting to the innovation effort and is critical for maximizing ROI”* [B-R-C-7]

This prioritization is conducted **ensuring coherence and balance** across the whole organization as summarized by another Pioneer Bank: *“we conduct a review of all innovation initiatives enterprise-wide to understand how much is being invested across the organization and where. This review is overseen by senior leaders or cross-functional/cross-business-unit group of leaders who are empowered and held responsible for managing the entire portfolio. Ensuring this coherence and balance across business lines (for example, so retail and corporate do not lose sight of the small and medium size business opportunity) as well as non-client facing functions like IT and risk management is critical”* [B-R-C-10].

Human resources and talent

According to most of the Banks, as the banking industry continues to change, there are more questions than answers around the future of work in banking. The re-skilling challenge is greater than ever and is approaching faster than any in the past. The major worry for most banks is the need to **assess each organization's current talent pool** and processes and determine **what skills exist and what new skills will be required** in order to keep the innovation pace.

Once the skills gaps have been identified, all Banks recognized **the importance of training the workforce** to make sure they get the necessary skills and competencies to help the organization to become innovative through new ways of working. As a Bank mentioned *"we have made significant progress in organizing our key project teams into agile structures, promoting constant training and spreading innovation programs and culture across the organization"* [B-R-H-3]. Another representative showed her worry about the **need to upskill** their current work force to make sure they can adapt to changing environment and **integrate new workforce which might have a different way of working**: *"We have to look at how to upskill our existing workforce and encourage them to sit easily within this new environment. You have to cater for more creative and non-traditional people (i.e. non-banking) and that will be a big challenge for us. Those people will often look, talk and think differently"* [B-R-H-8].

Banks also expressed the **need to potentially replace current work force and the shortage of talent supply they will face** in the near future as new types of jobs will become more relevant and face short supply. As one Bank summarized *"Competitive disruption is the new reality in the banking ecosystem. And, while the increased adoption of AI and robots will not result in the elimination of every job, it is clear that most current jobs will change, requiring individuals at all levels of our Bank to learn new skills. There are also jobs that could be completely displaced by advanced technology and automation"* [B-R-H-11].

But the key challenge most Banks expresses is **finding innovators**. Banks continuously expressed there just are not that many people who are natural innovators. This profile is defined as someone who has a multidisciplinary view on their job and has a set of experiences which has taught them a portfolio of capabilities, which they are applying almost in a general management-like way to the task of innovation. According to one Bank *"there are not as many people as we would like who understand and have that full set of capabilities—and more importantly, who can operate within a large, complex organization and deploy them in such a way that they can have disproportionate impact"* [B-R-H-5]. Banks also highlighted the need to find **employees that work on an agile mood**, and can easily work on a **continuously change** reality :*"we realized as a Bank the need to have employees with the skills to understand how new technologies can be effectively applied within our institution. We need foremost an agile and adaptive workforces to navigate these changes"* [B-R-H-12].

In any case, most Banks considered their **work force as the critical element to become innovative**. As one Bank declared, *"people are the asset"* [B-R-H-1].

Pioneers

Innovation pioneers **tend to invest more in people and skill sets that are radically different than what has been needed in the past**. Some of this is done through retraining, but also driven through cross-functional teams, external partnerships and new employment models. As a representative of a pioneer bank stated “ *our employees in the future will need to know how to code, develop products, and understand data, but they will also need the personal warmth and insight to manage exceptions and deal with complex customer problems. To attract this kind of talent, we need to expand our geographic footprints and identify talent pools with the required skills and attributes. To achieve this goal, we defined a new hiring approach to assess and hire talent for operations with different skills from those required today and dedicated a significant part of our HR budget*” [B-R-H-7].

Quantitative research

Aligned with the in-depth interviews, the majority of the on-line respondents (58%) stated their organizations are **willing to devote resources to innovation** being both in FTEs and budget to all areas of the bank. However when asked about their organization willing to **support employees** to ensure they support innovation, the percentage drops to 49% of the respondents, indicating that this may **not be the key focus of Banks** resource allocation, unlike the comments obtained for the in-depth interviews.

Together with this, almost 60% of respondents declared their **Banks do not have a rapid approval process for innovative projects**, which may actually reduce the speed to market. The same percentage of respondents (60%) declared they **are not looking for a short term return** on their resource allocation to innovation.

Technology competencies

SQ5 – Sub question 5: Are Banks devoting resources to all areas of the Bank in efforts that encourage the creation, development and implementation of innovations?

The importance of the technology platforms Banks are using was one of the aspects where Banks seem to have relevant differences.

Some Banks mentioned that **legacy systems** are clearly a **challenge** to ensure successful and fast innovation projects. To overcome this situation, some Banks are **replacing or updating their legacy systems** and leveraging new technologies to improve back office banking operations while elevating the overall customer experience. As a Bank mentioned “*Competition is growing with modern core technology architecture, which enables them to innovate faster and operate more efficiently. We are concerned about the limitations of our own core architectures and our relatively slow pace of change. We are reviewing our core banking platforms*” [B-TC-7].

However, for other Banks, their core banking is considered as good enough to support change, and are currently working to develop new tools and generating innovative solutions based on more **promising technology supports like API, AI and the use of the Cloud**. Other technologies such as

robotic process automation, machine learning, and adaptive intelligence were mentioned as also beginning to have a significant impact on back office functions such as compliance, payments, and retail services, among other banking functions. As one Bank commented *“We have pursued this strategy of progressive modernization of IT platforms. It comprises retaining the legacy platform but progressively minimizing it as they build a modern architecture around it. It is often seen as a safe option if the current architecture is viable for the next five to ten years”* [B-TC-9].

Finally, a reduced group of Banks pointed out that **leadership lacks experience** in implementing such massive transformations. This has resulted in a prioritization of technology being purchased that may only scratch the surface of needed transformation. For instance, purchasing a new mobile banking platform is only as good as the underlying processes that also must be changed to improve the overall digital banking customer experience.

All Banks recognized they suffer from **not implementing new technology tools fast enough to catch up with competitors** such as BigTechs, Fintechs or Challenger Banks. The main value of those technology companies is agility and cost reduction through the automation of processes, so to be innovative, Banks recognized they should act as those new players.

Pioneers

Pioneers are more likely to **be using advanced technologies**, including the cloud, voice recognition, machine learning, the Internet of Things (IoT), robotic process automation, blockchain etc. and tend to be **less resilient with legacy systems**, which ensure **they are more agile** to incorporate new technologies. In fact, Pioneers believe they are significantly advanced with any technology.

US Pioneer also consider **Artificial Intelligence** is going to have an impact across many different parts of financial institutions, believing it **is going to have the biggest effect** on the value chain in the area of customer service and retention.

Quantitative research

A high majority of respondents (80%) mentioned that their organizations are **willing to deploy, develop and embrace new technologies to stimulate and sustain innovation**, likewise for the in-depth interviews. However of those, 60% recognize that their institution do so not on a recurrent way.

Employee competencies

SQ6 – Sub question 6: Are Banks implementing formal and informal policies, procedures, practices and incentives specifically devoted to stimulate and sustain innovation-directed individual employee actions?

All Banks verbalized the need for **recruiting talent**, which should be aligned with the changing times banking is facing and therefore, a different pool of talent seems to be required. But a first step has to be carried out in order to ensure the whole process goes well, **top management needs to understand the need for specific skilled employees**, and they need to support recruiting those profiles. Finally, most banks, also mentioned the need to **implement a new rewarding system that recognizes the commitment and delivery of employees on innovation**. As one banker declared *“Talent is crucial. We need to recruit the best people and hold onto them. This is a sure route to competitive advantage. A related point is the necessity of senior level buy-in. Still, senior executives may require education on the relevance and potential of innovation. Once engaged, leaders should adopt a mentality, so that every initiative is gauged. Incentivizing schemes should also reflect this priority”* [B-E-5].

A limited group of Banks mentioned the need to accept and incorporate new ways of thinking within the organization to ensure new ideas come into place. A Bank even mentioned **finding employees that can shake the organization with new ways of thinking** (i.e. lateral thinking). Most importantly, the reward they are looking for it is not related to money but **freedom**: *“we are looking for rebels. Traditionally organizations tend to push them away. However we realized they are the best opportunity to push innovation forward. They are the ones to challenge the status quo. Rebels think laterally, they find both problems and solutions not many people see, and their reward is mostly about freedom and recognition as opposed to money and power. There are ways to not only spot them, but also to cluster their work and use it to the great advantage of the organization”* [B-E-6].

Among most Banks, there is **an acceptance of moderate risk taking** and experimentation, and a focus on the **agile iteration** of ideas as opposed to a lengthy, over structured ‘conversion’ mentality. *“Agile only works when you have liberated thinkers who are able to think differently. And it is always ultimately the people that make one bank different from another. But always bearing in mind we do not like to assume big risks”* [B-E-2].

Pioneers

Pioneers tend to embrace and display the change in the behavior desired, **acknowledging and rewarding** those who exhibit the correct mentality at every chance available but going further than their peers since **top management is committed to help employees to reach their goals** related to innovation. **Clearer goals are set** and the KPIs focus **not on short term but medium term** as to recognize success related to innovation may take some time. As a Bank stated *“Our leaders pay special attention to help employees to meet their performance goals related to innovation. Compensations schemes are not exclusively based on performance but rather a split between short-term performance and mid-term innovation with specific reward systems to recognize successful innovative projects”* [B-E-7].

Employees autonomy was also a key attribute US Pioneer mentioned as a way for Banks to work productively, unhindered by how the rest of the organization operates: *“Bank employees willing to innovate have to be open to change. While many people are willing to challenge the status quo of the bank of the industry, you really need to put very dynamic and autonomous people together”* [B-E-8].

Quantitative research

There is an even position between respondents considering their organization has implemented formally or informally any policies, procedures, practices or incentives devoted to stimulate and sustain innovation from employees and those that have not. Which is remarkable and points out Banks, even though expressing their interest to innovate, and doing so through technology, have not yet come to the next step to support it through employees.

Asked about what their organizations have implemented to ensure the company is innovative, respondents considered as the most relevant **clarity of direction** (65%), to **be encouraged to interact** (44%), knowledge dissemination (42%). However respondents rated relatively low being **encouraged to take risks and autonomy** both with 31% of responses.

Market competency

SQ7 – Sub question 7: Are Banks implementing policies, procedures, practices, and incentives specifically devoted to gathering and disseminating information about customer and competitor markets to stimulate and sustain innovation?

The majority of Banks declared that the success of any financial institutions depends upon a **robust understanding of the major trends affecting the market**—how the expectations of their customers are changing, what their competitors (both new and traditional) are up to and the extent to which new regulation and technologies will cause disruption.

Moreover, **improving customer journeys** for both internal cost / efficiency reasons, and external client experience, maximizing the use of combination of sources and tools such as big data and Artificial Intelligence are the key focus of Banks to ensure no opportunity is lost. As a Bank mentioned *“when a single view of the consumer is not developed, we fail to recognize the consumer journey and integrated touchpoints, and have trouble creating consistent experiences. All of these challenges hinder optimal innovative strategies”* [B-M-5]. As another Bank declared *“we combine many data sources (consumer, business, technology) to quickly address tipping-point trends. This also allows us to understand where the most promising trends are, where we have existing capabilities to play, and where we might need to build new muscle. And we bring all this together to rapidly prioritize where to take action”* [B-M-3].

Pioneers

Pioneers seem to work harder than their peers **to anticipate consumer needs and market trends** and innovate in ways that will prioritize the most effective mix of capabilities, processes and people

to meet/satisfy those needs. It is not just looking at the market trends but trying to anticipate what those trends could be in the future and how to prepare the organization to adapt or take advantage.

Quantitative research

A significant majority of respondents (74%) consider their organization is focusing –as a competency- on **customer orientation** followed by **technology** (67%) and **competition** (63%) orientation. However, only 43% of respondents consider their organization are defining innovation plans based on the **market intelligence** they could construct from all the market research.

Operations competency

SQ8 – Sub question 8: Are Banks organizing and coordinating operational processes and structures and engaging in shaping the organizational culture to stimulate and sustain innovation?

This section of the interview was the one generating more insights and where most Banks were more aligned. More precisely on the topics of need for new types of organizations (**flatter**), culture (**willing to assume risks and with more commitment from top management**) and **flexibility** (ensuring compliance rules but making sure the organization can adapt to new market conditions).

Organization

All Banks expressed that in order to be innovative, it is required to have a **flat organization** in order to develop and apply solutions broadly on a more efficient and effective manner. It is also required to **be ready to let third parties to connect** to their systems, always ensuring the high security standards Banks need to comply with. As a Bank summarized *“The biggest barrier is a change in mindset about how banking is carried out. Such a mental shift is necessary within an organization to enable innovation. This means banks of the future or innovative banks must have a flatter structure, less bureaucracy, and clear established standards for how partners can plug into their network, while staying compliant with legal requirements and ensuring security isn’t compromised”* [B-O-O-4].

Together with aiming at a flat organization, most banks insisted in the urgent need to **break out any internal silo** –which was a result of the old times ways of working- as to make sure innovation process happens fast and frictionless. As a Bank declared *“the inability to share insight about customers across silos makes the process of seamless innovation close to impossible so our priority right now is to overcome those silos”* [B-O-O-11].

Some banks even declared to be adopting a more radical change on their organization structure, aiming at adapting a **Venture Capital Type of organization**, as to speed up decision process and initiatives (*“setting up a VC-style governance committee will help prioritize initiatives in the pipeline, and to create a talent pool that could tap for new priorities and reallocate across initiatives”* [B-O-O-5]).

All Banks also are aligned in the fact that to pursue innovation, there is the **need of strong leadership that will ensure changes actually occur** –but not just because there is a command and control model- and are fully followed through. Banks expressed they need someone that sees the benefits of innovation, rather than the costs. As a Bank expressed *“The fundamental change of approach from the traditional ‘command and control’ model must begin at the top of the organization with the full and continuous support of the bank’s Board and Executive Management”* [B-O-O-2].

Regarding how to organize the innovation process, there seem to be two approaches depending upon the innovation maturity level. For those in early stages, they seem to be mainly starting with a **centralized model and progressively moving to a decentralized approach** as they mature. Centralized models, with a single team developing solutions can create critical mass and act as a focal point for learning. A decentralized version, meanwhile, suits more mature Banks in the innovation stages. It most often comprises agile teams working across the organization. Funding

strategy may echo this approach, with funding initially provided centrally but later shared between teams.

Other less shared organization tools in use across different institution are points of contact between the innovation labs and the “mother ship”; embedded people from sponsor Business Units as a core part of innovation teams; rotation of people from the main business through the innovation labs; assigning leaders from the legacy business to manage innovation projects; creation of a central innovation roadmap that business units agree on; setting up a “speedboat” network and track it on the CEO/COO agenda.

Culture

All Banks did recognize in one way or another that **culture is one of the key elements** to ensure their institutions become / maintain their innovation orientation. As Bank summarized “*we prioritized an innovation culture as the primary driver of innovation*” [B-O-C-3]. Some Banks even consider culture actually as the **key driver for innovation** (“*The primary driver of innovation, beyond budget and personnel, is the presence of an innovation culture and a focus on making innovation an integral part of the way an organization views itself*” [B-O-C-14]).

There is also an overall agreement on what kind of culture a Bank should have in order to support the innovation orientation. The ideal culture first should be supported by a **silos less organization, and is characterized by willingness to accept more risks, agile, and focusing more acutely on consumer experience**. All those three elements were commented by almost all Banks. According to some Banks when asked on how to get those elements, they mentioned the need for **humility, vision, openness, ability to fail** and reinventing oneself, and ultimately building an environment where **everyone feels responsible for a common objective**.

The concept of **fail fast and learn** was surprisingly mentioned by a relatively high amount of Banks. Being traditionally a very conservative and risk averse industry, it is really surprising how Banks realized they **need to be exposed to fail**, in order to try new ideas, **learn from failure** and move forward. As a Bank mentioned, “*we need to be brave and prepared to ditch the obsolete blame culture and migrate into businesses that are prepared to experiment with new ideas. Speaking of our branch transformation program whereby different types of branches (i.e. some self-service, ATM-based, others more fully staffed with tellers, some more sales-staff focused) are put in different areas. We learnt to fail fast. So failure for good reasons is acceptable as it helps the organization to learn and constantly improve. This is a key advantage of an approach based on innovation* [B-O-C-10].

However, most of them did also recognize their **current corporate culture did not match with that ideal culture**, and therefore, their **culture needs to be updated or readjusted** to move from a more conservative or traditional banking style to the new market conditions, which requires a more flexible, agile and risk taker and the **support from top management** to carry such a cultural change, which in some cases may require deep changes. As a Bank explained “*A culture change is required to succeed in the future. Gone are the days of incremental adjustments to business models. Innovation within Banks need to convince management of the benefits of going beyond buying new technology or building new mobile apps. The fundamental change that needs to happen within a business must go much deeper than the consumer interface. It is not an easy journey. It requires*

commitment from top management to re-imagine business models, build new strategic alliances and develop a workforce that may be far different than the team they have today. It requires to quickly respond to change – it requires urgency” [B-O-C-8].

Some Banks also pointed out that the culture change required is deeper than just a few cosmetic adjustments. **Cultural change needs to go deep into the roots of the organization values and working style.** As a Bank mentioned *“when we mention culture, we are not talking about some open google-like office spaces. And we are not even talking about the leadership is open to listen to your ideas type of exercise. It is an organization-wide, profoundly rooted, bullshit-free acceptance that you need everybody’s ideas, fast failure acceptance, and a continuous self-challenging mindset” [B-O-C-11].* Or as another Bank cynically commented *“In our industry, the winners are going to be the Banks with the highest capability to make innovation part of their DNA, not another slide in their PowerPoints” [B-O-C-13].*

Risk

As per in previous section, Banks are well aware that in order to be innovative in the long run, they need to **assume some risks**, which may go against their traditional highly conservative way of working inherent to the financial industry and the pressure from the capital markets that have typically rewarded organizations that were more risk averse. This situation **generates some opposed forces and internal tensions.** Banks understand the need to assume risks to be innovative, but at the same time, need to overcome internal resistance to assume those risks. So on one side, as one Bank commented, *“to build something new, our organization must expand its willingness to take on risk. In many cases, you are trying something new that nobody’s ever tried before. And, since it is hard to predict the future, there is risk involved” [B-O-R-2].* While on the other side, as another Bank declared regarding internal resistance, *“when risk management enters the room, innovation usually runs out” [B-O-R-7]*

Even though most of the Banks are not comfortable assuming risks, **Banks are full aware that they need to do so to ensure they do not miss any business opportunity** by not investing enough on potentially innovative solutions or not providing the right solutions to their customers (*“The cultural issue of risk aversion usually results in an under investment in strategic opportunities and slow responses to consumer needs as well” [B-O-R-8]*)

As in the need for cultural change, where most respondents considered critical the support from top management, here again, most Banks recognized the **importance of top leadership commitment on the perspective of risk-taking.** As a Bank commented, *“top management must also empower frontline employees to make decisions based on new insights that accept small-scale risks” [B-O-R-9].* Some Banks suggested that risk aversion organizations are in fact organizations where **top management may not be trusting their own employees.** So trust becomes a key element to ensure risk is not a stopper for innovation. As a Bank commented *“the critical question for executives concerned with their organization’s risk appetite is whether they are trusting their employees, at all levels, to make big enough bets without subjecting them to red tape” [B-O-R-5].*

Change

Besides the need for organization structure, cultural and risk aversion changes, a few handful of Banks went further adding other kind of required changes that Banks need to assume in order to be innovative on the long run.

The most relevant would be the required change in management culture. Only when top management changes its own culture, the whole organization culture changes. So **old school top management culture could be seen as a stopper to innovation orientation**. As a Bank said *“waiting for a banking company’s culture to change organically is not a fast enough process. It is difficult to teach an old dog new tricks. One primary reason is because the leadership already in place may be part of the foundation of the existing culture”* [B-O-CH-2]. The replacement to that old-school type of management in some cases it is not even coming from the banking industry, but from more innovative type of industries. As a Bank that has seen changes in top management recently declared *“to change the company culture and legacy DNA, banks identify new leaders who understand such challenges and may help the bank to change effectively. These leaders may not be legacy bankers, but senior executives who have a legacy in tech or digital firms from different industries”* [B-O-CH-4].

A second required change is **assuming and anticipating change itself**. Financial industry has been characterized by its slow motion and reactive change. However, as most Banks highlighted during the interviews, change is the new norm and organizations need to assume it. As a Bank said *“change is going to continue ... albeit at a faster pace than we have ever experienced. Rather than reacting to this change, it must be embraced and dealt with both strategically and organizationally. Speed and agility is part of this process.”* As another Bank said *“an innovative organization must be built in anticipation of change. This requires new processes, skills, products and approach to meeting consumer needs. Employees must be prepared to accept change, be aware of the ways change can impact their work, and be willing to disrupt themselves as needed in order to cope with the new market conditions”* [B-O-CH-5].

Another change that may be required is related to how the financial industry is moving itself. Some Banks see the industry moving towards a platform based industry, which will require institutions to **organizationally adapt to this new market place**. As a Bank said *“the most challenging aspect of moving traditional banks to a platform-based approach or ecosystem will be in managing the organizational change involved, which is an integrated effort that covers everything from strategy and governance to customer experience management”* [B-O-CH-1]

Developing talent and skills throughout the organization is considered one of the major challenges to maintain innovation orientation. This relates not just to specific capabilities, but also to the need for leaders who better understand how to integrate new digital methods and processes into existing ways of working. It is expected that this challenge will only get greater in the future due to the lack of experience in the marketplace.

Pioneers

On the organizational side, innovation leaders have made efforts to **avoid rigid silo structures** and excessive hierarchy. The final goal is to become more flexible and look for a middle ground between

hierarchical structure and that of a horizontally-managed start up: *“Build agility and simplify governance and way of working”* [B-O-CH-6].

Pioneers consider as essential to get **top management actively involved**. Moreover, they highlight the need to implement a proper innovation governance structure, which will make sure that roles, responsibilities, and expectations of all involved stakeholders are defined. Senior bank stakeholders must sign off that the collaboration strategy aligns with firm business objectives. Innovation sponsors and stakeholders must ensure alignment by committing to ongoing business engagement and the timely dialogue.

Pioneers have created an innovation and digital transformation culture: More important than the investment in new people or technologies, **organizations aim to support an innovation and digital culture** – using leadership and culture to accelerate all underlying investments. To achieve this desired state, innovation leaders build a culture that promotes innovation, internal entrepreneurship, and quick adoptions of business and regulatory change: *“Ensure that you share and live the same values”* [B-O-CH-7].

Singapore Pioneer made the change by a dedicated, empowered team acting as an intermediary between the different departments of the bank and external partners. Encouraging and protecting the unique culture of the dedicated team was essential to ensure success. The dedicated team normally features diverse experience with members from finance, IT, HR, legal, marketing and more. The objective must be defined and members authorized and rewarded for risk taking. The team is dynamic, open to change, and empowered to challenge banking norms: *“The main challenge of the digital revolution banking is facing is not digital...it is human and cultural”* [B-O-CH-8].

US Pioneer seemed to be braver and more prepared to ditch the obsolete ‘blame culture’ and migrate into an organization style that is prepared to experiment with new ideas and is willing to accept the **“we learn to fail fast”**. Those Banks consider failure for good reasons acceptable as it helps the organization to learn and constantly improve. This is a key advantage of an approach based on innovation: *“Jump and dare to make mistakes, accept failure”* [B-O-CH-9].

Quantitative research

Aligned with in-depth interviews, a **small majority** of respondents (56%) consider their Banks have an **organizational culture that stimulates and sustain innovation**, whereas 42% consider otherwise. The key organizational competencies that seem to be in place in Banks to ensure innovation orientation from an organizational stand point are **facilitating new learnings** (44%), encouraging gathering and disseminating information (41%). However **limited number of banks seem to be using a systematic approach to innovation** (28%) and facilitating new changes (38%).

Respondents overall **scored very low on the corporate values that could help institutions to be innovative**. As such, less than one third of the respondents consider employees within their own organizations are encouraged to challenge and experiment (28%), are rewarded to challenge (26%), stimulated to take risks (25%), and are set free to explore without punishment (24%).

INNOVATION OUTCOMES (question 6)

Innovation form: Incremental innovation vs. radical innovation

SQ9 – Sub question 9: Are Banks organizational competencies more likely to produce radical or incremental innovation?

When asked about the approach to the type of innovation they were pursuing, there was no clear consensus on a single approach, although overall, **the scale of innovation is more incremental against current processes and products than radical**, although with a third intermediate stage in between those extremes, which was actually the most accepted amongst banks.

From the responses of the participants, one could derive the definitions that Banks attribute to those three stages:

- Incremental innovation: This type of innovation is seen as the use of new sources of data and modern technology to iterate the consumer experience within the existing banking business model. These types of innovations include digital variations on current payment, lending, new account opening and customer service processes. While improving the efficiency and ‘feel’ of a product or solution, this type of innovation usually does not go far enough to transform an organization. In many cases, this is deployed as a first step of a grander innovation initiative. As a Bank summarized, this stage would correspond to when *“the Bank makes changes incrementally, breaking the overall project into smaller digestible parts and changing those step by step”* [B-F-3].
- Transformational innovation – This type of innovation goes beyond incremental innovation by significantly changing the internal processes behind a solution. Banks deploying transformational innovations ‘start from scratch’ and build a solution. While not necessarily changing the existing banking business model, a transformational innovation significantly improves both the operations of the financial institution as well as the customer experience. An example of a transformational innovation may be in the complete revamp of new account opening and loan application processes, leveraging mobile biometric capabilities to eliminate data input, finding new ways to authenticate and qualify a consumer in real-time and to provide immediate access to services through digital devices. As a Bank declared, *“as banks turn to focus on innovation, there will still be compromises to make. For example, at what point do you stop the provision of incremental services on existing products and migrate to new offerings? Banks have to manage their customers’ expectations carefully in terms of what services will be available in the future”* [B-F-2].
- Radical – Banks consider this type of innovation by the use of new technologies that have the potential to radically change the way the banking industry operates. From blockchain technology to the Internet of Things (IoT), to voice and even the expanded deployment of artificial intelligence and robotic automation, the potential for disruptive automation and the need for new business models is greater than ever. As a Bank said, *“we must be willing to disrupt the status quo. Slow, incremental adjustments to last year’s strategy are not enough. The consumer expects more from their financial institution because they get more from other business partnerships like Amazon, Google, and Apple”* [B-F-6].

Pioneers

Pioneer Banks seem to have implemented **incremental innovation** but applied on a more spread way through the whole organization, aiming at implementing an agile mindset leading to incremental changes being ongoing and rapid.

Innovation type: Marketing, process, administration, business model innovation

SQ10 – Sub question 10: Are Banks’ organizational competencies more likely to produce innovation in which of the of the innovation types – marketing, processes, business models and/or administration?

Banks seem to be focusing their innovation efforts to overcome the current pressures they get from the competitors, investors, new technologies, regulation and above all, customer’s expectations. This has forced banks to adapt their business models, re-prioritize investments, change products and services offered and ramp up innovation efforts, therefore, to focus on all innovation types.

As such, new entrants, mainly FinTechs and Challenger Banks that focus on specific financial services at a lower cost and/or better seamless service, are requiring traditional Banks to **improve or launch new products/services, improve customer experience and rethink distribution options and channel access –digital and third party channels-** as to be at the same level as the new players and adapt to new market conditions. As a Bank pointed out *“in terms of product innovation, we focus on payments, mobile wallets and lending as the most important areas of banking. These are also the three areas where non-traditional financial institutions pose the biggest competitive threat”* [B-TY-11].

Capital markets are requiring lowering the cost to income ratio so Banks could improve net profits as interest margins are confined due to low interest rates. Therefore, Banks need to make efforts to be **more efficient**. As a Bank highlighted *“we are dedicating big efforts to improve our internal processes in order to improve efficiency and eventually have an impact on our P&L bottom line”* [B-TY-14].

Banks are **suffering in some cases from existing current core banking systems**, though robust, are not agile enough to incorporate new technologies or require time and resources to be easily integrated with new technologies (i.e. blockchain, cloud computing). Therefore, Banks are dedicating big efforts either to by-pass working with existing legacy systems, although this being in some cases very challenging, or creating ad hoc IT ecosystems where to work in a trial error basis with new technologies prior to the final integration (sandboxes). As one Bank mentioned *“IT complexity reduction has been our key focus in the recent years to ensure new technologies can be easily deployed or integrated into our core banking”* [B-TY-10].

Open banking, which is mentioned as a **regulation** imposition mainly in Europe through PSD2, is forcing Banks to expedite the innovation journey, but most Banks declared they have yet to drive open banking initiatives effectively, and have to overcome legacy stumbling blocks, silo infrastructure and traditional mindsets. Those are the areas where most Banks declared they have deep improvement opportunities.

But what all Banks declared as being the most relevant type of innovation focus was **customer experience improvement**. Banking customers seem to be expecting personalized and contextual experiences, real-time transactions across all channels and an excellent last-mile experience. Last mile it is what customers experience and remember. In banking, a positive last-mile experience is the result of personalized product packaging and seamless interactions. This requires Banks to innovate in new business models and improving the overall customer experience to ensure deepening engagement with customers. As a Bank summarized *“customers lie at the heart of our innovation strategy. Customer-centric mind-set is critical, and we pray to have it now across the organization. It influences every decision, from paring down to a simplified product portfolio to building a seamless customer journey across multiple channels and points of contact. Furthermore, we are obsessive about offering best-in-class services and support across both digital and physical channels. To do so, we ensure to work together closely to empower all the functions involved with agility”* [B-TY-2]. As another Bank declared *“customers demand a more comprehensive and personalized banking experience but banks struggle to deliver a delightful last-mile experience”* [B-TY-1].

Pioneers

Even though all Banks are clearly focusing their innovation focus on improving customer experience, Pioneers are acutely focused on **improving the customer experience and are seeing results far superior** to less advanced innovation Banks in terms of customer retention, customer base increase and income/profit generation. Moreover, those institutions are clearly ahead in terms of **open banking initiatives implementation**.

Pioneers also seem to focus on **innovation that really aims at solving customer problems rather than innovation for the sake of it**. The goal is to have real innovation for real customer problems, *“this means shifting the conversation from focusing on great ideas to prioritizing great ideas which solve problems. What is the pain that can be removed?”* [B-TY-5].

Innovation rate: Faster vs slower innovation

SQ11 – Sub question 11: Are Banks’ organizational competencies more likely to take innovation from inception to implementation at a faster or slower rate?

Most Banks declared that their **innovation process from ideation to implementation aims to be as fast as possible**, although not without some internal challenges in order to match that desired speed. A limit number of Banks, expressed though, that they prefer to ensure success by being slower than their competitors might seem to be.

Among the Banks declaring they need to be faster, some explanations that were given are the need to **be as fast as possible as new competition** (FinTechs and Challenger Banks mainly) **not to lose market share** – *“Speed of innovation is a critical factor specially when facing the fintech competition”* [B-RT-5]; the need to rapidly **integrate new technologies** – *“the train of digital transformation is going fast, and it is not slowing down. Banks have no choice but to speed up the innovation process and be prepared to move quickly when new opportunities to innovate arise”* [B-RT-12]; and **meet**

customer expectations that are changing rapidly – *“customer expectations have also been set to a higher bar by Fintechs and large technology companies”* [B-RT-11]. Last, innovation speed is seen by some of those Banks as **a competitive advantage in a very competitive marketplace**. As one Bank declared, *“being able to launch products quickly is a critical competitive differentiator in the current crowded marketplace”* [B-RT-6].

On the other side, there are a handful set of Banks declaring they intentionally prefer to have a **slower innovation cycle**. The main argument is that this **ensures security is put at first** when for instance introducing new technologies – *“a lack of standards for some new applications (like open APIs) needs to be considered, as does security, so we are not willing to put speed of development before security”* [B-RT-14] or as another clearly stated *“we might not always be first but we will always be safe”* [B-RT-15]. Or as another Bank mentioned, *“we do small bets to learn and evolve avoiding big mistakes that could jeopardize our internal reputation”* [B-RT-16].

Pioneers

Pioneer banks seem to have **clear position on faster innovating cycles than their peers**. They insisted in the fact that to do so, they profit from a corporate innovation culture that does not accept no answers to new projects and are prepared to at least try new ideas. But in any case, at a fast pace. As one of those Banks declared, *“we are not constrained by customary ways of doing things – we removed the words ‘no’ and ‘cannot’ from our vocabulary, and focus on finding a way to succeed.”*

Internal, cooperative, external, acquired innovation

SQ12 – Sub question 12: Are Banks’ organizational competencies more likely to innovate internally / cooperatively with third parties / acquire innovation?

Regarding the way to generate innovative ideas, Banks recognize they are in a transition from a time when product and service innovation was done behind closed doors, to a period when Open Banking provides the potential to co-create with non-financial entities for a competitive advantage. This is a major change in an industry where collaboration with third parties on sensitive projects has been the exception. As a Bank stated *“we became aware that there are better ways to connect with customers and that we did not need to provide all of the services ourselves. We had to accept that there are third parties out there that can do a better job of providing certain services”* [B-C-1].

The key advantages of partnering with third parties in the innovation cycle are the opportunity to **accelerate innovation**, especially when partnering with FinTechs with whom are clear synergies for both sides. As one Bank mentioned *“FinTechs are speedboats, banks are ocean liners. The former moves, fast, can get places fast, but cannot carry many passengers. The latter is slow and steady and has many passengers. They need each other and the symbiosis is starting”* [B-C-4].

Moreover by partnering with FinTechs, Banks can significantly enlarge their product offering and create **better services for customers** – *“we can combine our strengths between banks and Fintech companies and simply create better services for our customers. We as a bank do not need to be the one stop shop for everything”* [B-C-6].

However, Banks also mention that there is a major challenge that could arise when partnering with FinTechs/start-ups. This is the **cultural clash** between large organizations as Banks and the more agile and small organizations like FinTechs. As a Bank mentioned *“start-ups are not usually equipped to deal with legacy organizations, and the opposite is also true”* [B-C-9].

A part from working with start-ups/FinTechs, there seems to be a new trend where Banks focus on **creating ecosystems**, which bring together FinTechs, Banks, companies, and other financial services providers to buy and sell products –even beyond traditional banking sector-, share technology, and expand their networks. With ecosystems Banks seem to sharpen their value proposition for customers and capture cross-selling opportunities. As a Bank mentions *“we are partnering with fintechs, and launching new ecosystem strategies to create growth opportunities beyond banking”* [B-C-13].

Pioneers

Pioneer Banks compared to peers **have more tradition of partnering with third parties** having already integrated this kind of innovation and collaboration within the organization and way of working.

Quantitative research

The **majority** of respondents (63%) consider their Banks have organizational competencies that are more likely to produce a greater number of **incremental innovation**. On the type of innovations, **marketing innovation** – including customer experience- is the clear focus of their organizations (55%), followed by process innovation (51%), new business models (42%) and administration innovations (32%).

The majority of Banks representatives (53%) consider **being as fast as competition** on innovation, with only 18% respondents considering being faster than competitors.

A clear majority of respondents (75%) declare that **innovation comes mainly from within** the organization, **followed pretty close by cooperation** with external organizations (69%). Acquiring innovation is still an option quite far from the before mentioned (47%).

Innovation orientation and firm performance (question 7)

SQ13a – Sub question 13a: The more innovations introduced (market, process, business models and administrative) the higher the level of Bank performance?

SQ13b – Sub question 13b - The more both radical and incremental forms of innovation are implemented, the higher the level of Bank performance?

SQ13c- Sub question 13c - The greater the speed of innovation developed, the higher the level of the Bank performance?

On the topic of the correlation between innovation form (radical or incremental), type (marketing, process and business model) and speed (fast and slow) and business performance, most Banks did not see a clear link. In fact, this seems to be a topic where **Banks are more disperse on their views and do not have a clear idea on the metrics they are/should be tracking or if they are following at all and therefore if there is a clear impact on Bank's performance due to Innovation Related Outcomes.**

Some Banks still have **no clear idea on how innovation is impacting on their business performance**, being because they are still on the initial stages of innovation implementation or because they do not have pressure to set and track KPIs to measure the impact of innovation, as per a Bank statement *"it has proven difficult for us to innovate in ways that deliver significant growth in the form of new processes, products, services, experiences, and business models"* [B-FP-9].

Other Banks, focus on **soft performance metrics** to assess if innovation is helping Bank's performance. Their assessment is more on a broad concept with few concrete measures. As a Bank mentioned *"to get a meaningful return on innovation, instead of looking for financial impacts, we connected our initiatives with a clear strategy and distinct goals"* [B-FP-8].

A limited number of Banks, though, are more advanced and **looking on how innovation is helping improving Bank's performance** – *"we were increasingly investing in innovation as a means of generating revenue and controlling costs. There were signs that the investment in innovation was making a difference with innovation performance being perceived to be improving"* [B-FP-13]- but not assessing the innovation-related outcomes and performance.

Finally, a very limited number of Banks, among which we find the Pioneer Banks, are really assessing and tracking the impact of innovation on the overall Banks performance by **using a set of KPIs** (consumer excitement, word of mouth, adoption rates, revenue after risk cost, new client acquisition, Net Promoting Score, or operating expense reduction) although ROI is the most relevant to track.

On the returns time frame, there seems to have been an **increase on the time frame period Banks are considering when assessing the impact** of investments in innovation on corporate performance. Banks have moved from taking a short-term view of innovation outcomes expected returns (1-3 years) to a longer-term view (>3 years). As a Bank said *"this extended view of ROI for innovation projects was definitely welcome, since this indicated a separation between innovation and quarterly financial reports"* [B-FP-6].

Pioneers

One of the key differentiation attributes of pioneers on innovation was the fact that all of them have in place, or at least declared to have an **innovation management system**. With this, Innovation pioneers manage the Bank's innovation efforts and investments as an integrated "**innovation portfolio**". This means they set a clear aspiration for the innovation strategy, prioritized projects, and adjust resources and talent to operate at full speed.

US Pioneer go even further and have **enhanced operating model by setting up a VC-style** governance committee to help prioritize initiatives in the pipeline, and to create a talent pool they could tap for new priorities and reallocate across initiatives.

Moreover, Pioneers seem to have a process in place **to prioritize the Innovation Outcomes** to be implemented. As a Bank explained in detail *"when assessing the impact of innovation we question ourselves first what ROI and total contribution to revenue and profits do we need from innovation and how quickly do we need it; then what portfolio of innovation initiatives can plausibly attain this ROI and fulfill our strategy; and finally how do we organize to bring the bank's full resources to these efforts—so our scale becomes an advantage instead of a hindrance to innovating"* [B-FP-11]. Moreover, all these aspirations must be *"wired into annual plans, which will help the leader measure ROI, understand what initiatives to continue and discontinue, and create accountability"* [B-FP-12].

Furthermore, Pioneers use a broader set of KPIs, not only those related to financial performance, but specifically related to **Innovation Outcomes metrics**. For instance a leading innovative Bank mentioned *"we established a new dashboard with : On one hand we have the dimension of innovation capability with work lines: internal innovation (% people in; % internal challenges/cohorts ; % ideas submitted; idea conversion rate; project failure rate; delivery rate of internal ideas; number of intrapreneurs); external innovation (number of partners active programs -incubator; accelerator; scale-ups; startup conversion to Prove of Concept ; projects with delivery ; % failure). For the dimension of Innovation Impact we have three streams: Business Models Innovations; Customer Experience and Delivery Innovation; and Process / Operational Innovation"* [B-FP-5].

Quantitative research

More than 70% of respondents expected to see a measurable increase on business growth measured in terms of **income or profits**, followed by 41% of respondents expecting innovation outcomes having a positive impact on **Return on Investment** and 38% an organizational performance improvement measured in **terms of cost-to-income ratio**.

Most respondents (57%) consider that more introduced innovations the higher the level of firm performance. Likewise, majority of interviewees (>60%) consider that faster innovation and more both radical and/or incremental forms of innovation are implemented, the higher the level of firm performance.

Environmental turbulence as a moderator factor (question 8)

SQ14 – Sub question 14: Are environmental turbulences moderating the relationship among a Bank's innovation orientation, organizational competencies, innovation outcomes and firm performance?

Facilitate

Surprisingly enough, most Banks considered as facilitators factors for innovation orientation what one could had considered as threats to the industry. Most Banks declared as facilitator factor for innovation the **new regulation** that will enter into force by 2021 (Payment Services Directive 2 - PSD2; GDPR, AML, KYC) which has led to a more open financial sector. Initially seen as a threat for the whole industry, now is seen as an stimulation effect for all Banks. As one Bank declared *"We are being pushed by their regulators to be more innovative. The Payment Services Directive 2 (PSD2) and its concept of open banking forces banks to make their customer data accessible to third parties, including both rival banks and new non-bank competitors able to offer new banking products and payment services to these consumers"* [B-TR-8]. As another Bank said *"APIs are in effect multipurpose tools, enabling compliance with open banking regulation such as access to ecosystems of related businesses, and simplification of legacy IT systems. They represent a significant opportunity to innovate, work more efficiently, and develop new products and services"* [B-TR-4].

With this regulation switch, Banks have been encouraged to take a second look at technological capabilities such as data analytics, artificial intelligence (AI), blockchain, cloud, Internet of Things (IoT) and 5G. These are all to introduce agility, which in turn -according to Banks- **may create a myriad of opportunities, new business models and challenges for banks to respond to, requiring agility both in development and culture**. As a Bank mentioned *"disruptive technologies are helping to accelerate the digitalization of banking and to spur changes in banking business models"* [B-TR-11].

Other facilitator factors mentioned included some that one could naturally see as threats. As so some Banks considered that the **risk of new entrants** – namely FinTechs, Challenger Banks and GAFAs- have actually forced them to be more innovative. As a Bank mentioned *"digital commerce platforms such as Amazon and Alibaba are likely to emerge as clear innovation leaders. Consumer technology companies such as Google and Apple come a close second. The growing realization that the biggest threat for banks comes not from within the industry but from new players with advanced digital capabilities in critical areas of competitive differentiation is making banks notch up their innovation efforts"* [B-TR-12].

Customers behavior and demands evolution is also seen as facilitators of innovation orientation. Customers are demanding for on-the-go solutions, proactive vs. reactive offering, higher transparency and expect omni-channel communication, which in turn forces Banks to innovate in all those areas if they do not want to see their customers fly to other financial suppliers (i.e. Challenger Banks).

Jeopardize

All Banks consistently indicated that the key elements that could jeopardize the innovation orientation were mainly the **legacy systems** that limit adopting new technologies and therefore

launching new business models; **integration issues, corporate culture and organizational silos** that limit the agility required to innovate at market conditions speed; and **digital skills shortage** that might difficult in the near future being able to develop new products and services to fulfill new customer's needs or compete against competitors/new entrants. As one Bank mentioned *“while the big tech companies of today have been unencumbered by legacy infrastructure and able to embrace digital change, the big banks of today are still very much legacy-run, making any radical change that much more challenging”* [B-TRJ-2].

Banks more sensitive to regulation highlighted fulfillment of current and new regulation to come as major innovation orientation jeopardizing elements. On the same line, some Banks also mentioned the **over-regulation limiting the development of sandboxes** as a stopper for innovation, since those spaces are seen as critical to test new concepts before launching on a broader basis. All in all, **regulatory** is seen as an element that forces Banks to focus more on immediate risk, compliance, and cost issues than on long-term growth opportunities. There is also an inherent tension within Banks between a **risk-averse culture** that wants full predictability and accepting the reality that not all innovations will succeed.

Quantitative research

Factors from the environment that facilitate innovation development:

- a. New technologies (AI, machine learning, blockchain, IoT) – 36% respondents
- b. Changing customer behaviors and demands – 33%
- c. Changing competitive landscape – 27%
- d. Open banking – 26%

Factors from the environment that jeopardize innovation development:

- a. Emerging regulation on digital technology (data protection, digital taxation,...) – 31%
- b. Capital / solvency regulation – 28%
- c. Growing political and socio-economic instability – 27%
- d. Change in macroeconomic cycle – 23%
- e. Management of non performing loans – 22%

Moreover, according to respondents, there are some factors from the environment that could eventually force Banks to be more innovative, which are, by importance, competitors' activity, activity of the FinTechs, BigTechs (Google, Apple, Facebook, Amazon) entering into the financial industry; regulation; and other players such as Challenger Banks; and players from other industries.

Innovation orientation as a long term competitive advantage (question 9)

SQ15 – Sub question 15: Is innovation orientation considered being a long competitive advantage for Banks when compared to those institutions that have not implemented such structure to ensure they are oriented towards innovation?

All Banks recognized that over the years, there has been a growing realization in banking towards **innovation as the proven path to differentiation and competitiveness** in a changing market. The very same institutions also recognize that while the transformation has been slow, over the last decade the industry witnessed an increasing willingness to discard the traditional short-term focus, functional siloes and risk-averse culture towards more meaningful advancements, open culture, and willingness to partner with third parties through platforms and ad-hoc ecosystems. All those changes should help Banks to become more oriented towards innovation gaining with that long term competitive advantage.

Some Banks though consider that **innovation within their organization is not fully spread**, and still in need to create a culture that will embrace the change that is occurring in the marketplace, take qualified risks, and be willing to disrupt current business models to succeed in the long run. So they do not fully leverage on innovation as a competitive advantage yet.

To ensure Banks are competitive in the long run through innovation, they realize **they need to move forward at the speed of change, provide a culture of innovation throughout the organization**, combined with a willingness to embrace change, take appropriate risks and disrupt what has been the norm in the past. This requires getting out of our comfort zone and finding a way to serve the consumer in the way they are being served by big tech alternatives.

Some Banks mentioned the difficulties to ensure long term competitive advantage through innovation. For them, the **pressure to innovate for long-term competitiveness is significant**, but **innovation within Banks is not a trivial undertaking**. Indeed, banking industry characteristics can work strongly against innovation. For one, economic payoff is usually slow. The balance-sheet driven, vintage-based economics of the banking business means new growth innovations do not fall to the bottom line in a visible way for three to five years.

As one Bank summarized *“innovation success requires more than simply pouring time and money into an assortment of initiatives. Unless innovation efforts are built from within and create sustainable competitive advantages, they will likely put your organization further behind consumer expectations and the competitive norm”* [B-CA-1]

Pioneers

To be able to compete and grow where margins are thin, competition is fierce, regulations are changing and technology has an increasing impact, innovation pioneers place innovation **as a top priority** to gain competitive advantages.

Quantitative research

A relevant majority (76%) consider that having an orientation towards innovation is a long term competitive advantage.

Pitfalls to innovation (question 10)

SQ16 – Sub question 16: May innovation orientation imply some pitfalls to those Banks having implemented such framework?

Banks mentioned as the major pitfall to innovation the **surplus of ideas not implemented**. Unfortunately, while many Banks say they are increasing their efforts to build a work environment that inspires innovation and creativity, many Banks may have a surplus of ideas that are not being nurtured. This may cause frustration within those Banks.

The second most mentioned pitfall was the **internal processes** that might still stop the innovation process and kill any potential new project, mainly related to IT implementations, compliance and other back office support functions. As a Bank exemplified, *“procurement process was a significant challenge, particularly when trying to work with small or only recently established FinTechs. Such businesses often do not have the balance sheet, documented internal processes or reference cases to enable them to pass the standard due diligence tests of banks”* [B-P-2].

Following is the internal complexity of some organization and the **decision processes**. Within large Banks, sometimes it is hard to identify who needs to make the final decision for any new project. This issue is complicated by the complex structures of the largest Banks featuring decision makers at global, regional and country level.

Status quo leadership is the biggest impediment to any innovation, according to most Banks. Any innovation in an organization needs all elements of the system to operate at an equally high level — rather than more funds, expenditures, activities or tactical interventions.

Qualitative research

Almost 90% of respondents agree that the major pitfall is **being too ambitious on the innovation goals**, which could lead to frustration if not achieved. Following aspects that could lead to frustration while innovating are **employees stress** which may lead to dissatisfaction and turnover. Next are having too high **investments costs**, unprofitable innovation and creating innovation too far from core competencies.

4.6.3 Triangulation: corporate statements vs. in-depth interviews vs. on-line questionnaires

Once all evidences for European Banks were collected and analyzed – publicly available Banks' corporate information; in-depth interviews responses and on-line questionnaire responses-, the researcher was in a position to triangulate all those evidences.

The final goal, as stated in section 4.6.1 *Secondary data gathering: Corporate statements on innovation orientation* of this chapter, was to obtain emerging ideas and interpretations in order to compare those sources of information and identify commonalities and divergencies with the evidences from interviews. First, corporate statements related to innovation orientation were compared to those made by the employees of those same very Banks that were interviewed. With this, one could confirm if there is an alignment between Banks' corporate statements and the vision of the employees of such Banks, or by the contrary, if the vision of employees does not match with corporate statements.

And secondly, a similar comparison was made between interviewees statements during the in-depth interviews and responses obtained through the on-line questionnaires from those very same interviewees' peers/team members.

The table below summarizes, following the Updated Innovation Orientation framework, the analysis of the gathered evidences coming from publicly available sources (secondary research), in-depth interviews (primary qualitative research) and on-line questionnaire (primary quantitative research).

The key differences among the three sources of information are the following:

- From the corporate information it was **not possible to obtain insights related to functional acclimation, neither pitfalls related to innovation orientation nor environmental turbulences** affecting innovation orientation. All those aspects, probably considered as sensitive information, are not normally disclosed by companies. Therefore, it was not possible to compare those components of the Updated Innovation Orientation across the different sources.
- Banks used to include in their corporate statements as a key component of their innovation strategy to become a **digital bank**. However, this element -become a digital bank- was only found among the so called Pioneer Banks during the in-depth interviews.
- Banks state through their corporate information some challenges (**legacy systems, agility and regulation**) to implement their innovation strategy that were also mentioned during the primary research. Unlikely, interviewees mentioned some challenges (**flexibility, accepting moderate risk and leadership capabilities**) not mentioned in Banks' corporate statements. Quantitative research also highlighted the fact Banks do not reinforce in their strategy neither **creativity** nor **moonshot thinking**.
- Primary research highlighted the lack of Banks to have implemented **formal learning processes** (in-depth interviews) and **absorptive capacity** (on-line interviews) whereas corporate information did not mention this weakness.
- On the organizational competencies, Banks disclose their need to change/reinforce their **culture** to be oriented towards innovation, whereas through in-depth interviews it was disclosed the need to **accept risk**. On-line interviews also remark the fact Banks are **not**

always open to embrace new technologies, whilst Banks disclosed they are deploying new technologies to adapt to new customer demands.

- Regarding innovation outcomes, through in-depth interviews, Banks seem to go for a **transformational innovation** form, whereas on-line questionnaires declare **incremental innovation**. Moreover, in-depth interviews would suggest Banks are more focused on **internal innovation** followed by open innovation, whereas in-depth interviews suggest more of a **collaborative** way of innovate.
- On the performance measurement related to innovation orientation, whereas Banks corporate statements is that they focus on improving **customer satisfaction, efficiency and Return-on-investment** through innovation, qualitative insights highlight the need for **fast innovation** and quantitative the interest to generate **growth** through innovation.

In red in *Table 4.5 - Triangulation exercise between Banks Corporate information and insights from European Banks and Challenger* below, those components that differ across the different sources of information.

Table 4.8 - Triangulation exercise between Banks Corporate information and insights from European Banks and Challenger

	EUROPEAN BANKS SECONDARY RESEARCH Public information		EUROPEAN BANKS PRIMARY RESEARCH - QUALITATIVE		EUROPEAN BANKS PRIMARY RESEARCH - QUANTITATIVE
			Mainstream	Pioneer Banks	
Strategic direction leading to innovation	<ul style="list-style-type: none"> - Banks state that innovation or innovation strategy is a key component of their corporate strategy. - Focus on becoming a digital Bank. - Most innovative Banks insist on an innovations strategy at scale covering the whole organization. - Limited number of Banks include in their communications the participation of the Board of Directors on the innovation strategy. - Challenges: Banks recognize the pace of change is quickening. While barriers to transformation remain, such as legacy systems, integration, and culture, there seems to be an industry-wide understanding of the imperative to innovate in order to stay competitive. 		<ul style="list-style-type: none"> - Banks have a strategic direction leading to innovation. - Board of Directors, together with top management, could be further committed to innovation - Challenges: cultural change required to be more agile and flexible to adapt to new market conditions; willingness to accept moderate risks from which derive some experience and learning; and a leadership that can cope with this required changes. 	<ul style="list-style-type: none"> - Pioneers are well more advanced to their peers in the inclusion of innovation in their corporate strategy and corporate values. - Digital Banking, which was the final goal of innovation for most Banks, is overcome by Pioneers, which focus in other areas such ESG. - Pioneers have set a systematic approach to innovation, not present in the rest of Banks. 	<ul style="list-style-type: none"> - Banks mostly having strategic direction towards innovation (62% of respondents) with top management involvement (47%) but Banks are not seen flexible enough (28%) - Board of Directors not seen as ensuring the Bank is innovative in the long run (57%). - Most of respondents neutral or disagree on banks dedicating technology, and emphasizing creativity and innovation and moon shot thinking (more than 68%)
Learning philosophy	<ul style="list-style-type: none"> - Focusing in getting to know better their customers: customer orientation key focus, which implies that all the innovation has to be oriented towards that goal 		<ul style="list-style-type: none"> - Banks have a learning philosophy but currently mainly oriented to gather knowledge, mainly from natural competitors and customers. Missing the potential of identifying business opportunities beyond traditional banking industry. - Banks are still lacking the implementation of formal systems to gather and disseminate all that knowledge within the organization. - Banks in need to move from a top-down innovator to a pro-active customer oriented innovator pattern, which would be more aligned with their customer centric positioning. 	<ul style="list-style-type: none"> - Pioneers have shown to be more curious about what is going on around them than their peers. - Pioneers seem to be more committed to ensure the whole organization may profit from all that learning by implementing a systematic knowledge management system. This will be the base for a higher intensity on the innovation orientation outcomes. 	<ul style="list-style-type: none"> - Most Banks seem to have a learning philosophy in place (65%) with key focus on learning from customers (61%), however with a low absorptive capacity in place (28%)
Functional acclimation		N.A.	<ul style="list-style-type: none"> - Most European Banks consider knowledge transfer across the organization as a vital component. However there is still room for improvement in this specific area, mainly in eliminating siloes which prevent from interdepartmental knowledge sharing/collaboration. - Few Banks have implemented knowledge management system. 	<ul style="list-style-type: none"> - There is a very strong correlation between Pioneers and the deployment of knowledge sharing/knowledge management systems across the organization. 	<ul style="list-style-type: none"> - Limited perception of knowledge sharing in the organization (40%) with majority of respondents (~50%) considering there is no open communication, nor interdepartmental communication/sharing
Organizational Competencies	<ul style="list-style-type: none"> - Key focus: Becoming agile, able to deal with regulatory changes, new consumer demands and emerging technologies, customer centricity and developing employees skills to support innovation - Few Banks with intention on changing/reinforcing corporate culture to support innovation. 		<ul style="list-style-type: none"> - Banks are allocating budget to innovation on a wisely way. Banks seem to start defining talent pools and a map of required skills for the future. - Banks are willing to deploy new technologies. What really strikes Banks is the fact they need to deal with legacy systems; leadership might not have the technical abilities to accompany the technological transformation process; and the organization is not fast enough to implement new IT solutions. - Banks are willing to gather and disseminate information about customer experience, competition and technology trends although they do not seem to be using such information to define precise innovation plans. - Banks in the process to implement actions to stimulate and sustain innovation-directed individual employee actions. Still Banks to accept risk related to letting employees innovate. - Banks in the process to adapt culture to stimulate and sustain innovation. 	<ul style="list-style-type: none"> - Pioneers dedicate far more resources to innovation than their peers (in terms of allocated resources, workforce retraining, investment in new technologies). - Pioneers have made enormous efforts to change the organization culture in order to continuously adapt to a changing market place (being agile, siloless, willing to learn through failure, giving autonomy and rewarding employees innovation contributions). - Pioneers have moved from a traditional banking culture to culture very similar to that of Challenger Banks. 	<ul style="list-style-type: none"> - The key organizational competencies are resource allocation (65%), technology competencies (63%), employee competencies (56%), market competencies (53%) and operational competencies (48%). However Banks do not seem to always be open to embrace new technologies (65%) - Banks willing to devote resources to innovation (58%), seem to have clarity on the innovation direction (65%) and a culture to stimulate and sustain innovation (55%) but still not implemented procedures to stimulate innovation (49%) and few have systematic innovation programs (22%) - Banks focus mainly in customer (74%), new technologies (67%) and competition (63%) understanding as a key market competency - Few employees encouraged to take risks (25%), to explore without fear of punishment (24%) and encouraged to challenge and experiment (28%)
Innovation outcomes	<ul style="list-style-type: none"> - Oriented to satisfy customer needs as it is a strategic priority for Banks. - Willing to collaborate with third parties on their innovation strategy, to leverage on their speed to market and agility to cope with market changes. 		<ul style="list-style-type: none"> - Banks are focusing on transformational innovation - Banks focus on all types of innovation, with stronger focus on customer (product/service and channel) - Banks claim to be willing to deliver fast innovation - Banks shifting to a more collaborative open innovation with third parties. - Banks would fall into the top-down innovation pattern. 	<ul style="list-style-type: none"> - Pioneer Banks are focusing on incremental innovation - Focusing on customer experience innovation type (with better results than their peers) - Pioneers look for fast innovation cycles, which is supported by an agile organization. - Pioneers have more tradition of partnering with third parties. - Pioneers clearly fall into the pro-active customer innovation oriented innovators 	<ul style="list-style-type: none"> - Banks focusing on incremental innovation (71%) - Banks focus evenly in on all types of innovation: customer (55%); process (51%); business models (42%); administración (32%), all together (28%) - Banks declare to innovate as fast as their peers (53%) - Banks clearly mix internal innovation (75%) with open innovation (69%)
Innovation orientation impact on performance	<ul style="list-style-type: none"> - Banks seem to be targeting mainly customer satisfaction metrics, efficiency and return on investment. - Few Banks share their performance KPIs and goal. 		<ul style="list-style-type: none"> - Banks do not have a strong view on the impact of the level of form and type of innovation on the institution's performance but do have on innovation speed. - Banks consider the faster innovation is introduced, the better the performance will be. 	<ul style="list-style-type: none"> - Pioneers have a systematic approach to measure innovation impact on corporate performance, what was not the case for peer Banks. - Pioneers have better performance in terms of financial results, although could not determine if that performance is a consequence of the innovation orientation of those companies. 	<ul style="list-style-type: none"> - Innovations have an impact on firm's performance (57%) and could become a competitive advantage in the long term (76%) - Banks do not seem to have a rapid approval process for innovation projects (58%) and look for long term returns for those projects (62%) - The final goal of innovation being business growth (in terms of revenues and/or profits) (69%) - Highly innovation oriented banks seem to have higher customer satisfaction and loyalty (60%), employee satisfaction and retention (51%) and operational efficiency (49%)
Pitfalls		N.A.	<ul style="list-style-type: none"> - Banks consider as innovation pitfalls the frustration that not getting innovation done could cause on those people actually pushing for innovation. 	N.A.	<ul style="list-style-type: none"> - Innovation may cause employee job stress, dissatisfaction and turnover (57%)
Environmental turbulences		N.A.	<ul style="list-style-type: none"> - Banks have different views on external factors that could moderate / accelerate innovation but not all of them consider the same factors at the same level. This might be a consequence of different attitudes towards external factors/risk aversion and internal corporate culture. 	N.A.	<ul style="list-style-type: none"> - Spread view on what could jeopardize innovation orientation: regulation (31%); capital/solvency requirements (28%); political and socio-economic instability (27%) and change in macro-economic cycle (23%)

5. DISCUSSION, IMPLICATIONS AND LIMITATIONS OF THE RESEARCH

5.1 Introduction

In this chapter, the **discussion of the evidences of this study along with the implications of this research for the different analyzed units of analysis are presented following the different components of the Updated Innovation Orientation framework**. First, it is presented the assessment of the **European Banks**, since this was the core unit of analysis of the research. To do so, the responses to the research questions and sub questions (please refer to *Chapter 4. Case study evidences*) are analyzed and compared to the literature review conclusions (refer to *Chapter 2. Framework*).

Then as some relevant **differences between the so-called Pioneer Banks and the rest of European Banks** have been identified, a specific section has been included, highlighting the key differentiation attributes of Pioneers Banks when compared to the rest of the Banks.

The following section includes the discussions related to the **Challenger Banks**, highlighting the differences and similitudes to the European Banks.

The last section covers the key findings related to **Large Corporations**, differentiating among those the two sub-segments that were identified. Large Corporations that are ahead of the rest in terms of innovation orientation (mainly US based companies and telecom EU based firm), called for the purpose of this research as Leading Large Corporation- and the rest of Large Corporations.

Then follows a **summary of the discussion on the research questions and sub questions related to the different units of analysis**.

The chapter ends with the **managerial recommendations** the researcher is proposing to those Banks willing to be oriented towards innovation based on the analysis of the evidences.

5.2 Discussion and implications of the research: European Banks

Strategic direction

SQ1: Have Banks a clear strategic direction leading to innovation?

According to the research, Banks stated that their **corporate strategy includes a strong commitment to innovation**, which in most cases comprises a focus on customer experience, deployment of modern technologies, a multichannel approach to customers, partnering with third parties and ongoing measurement of results. This data leads the researcher to conclude, that most European Banks have a clear strategic direction leading to innovation, as also stated by Engelen et al. (2014); Gartner (2014) and Dobni and Sand (2018) and deploying different strategies depending on the type of service in line with Storey et al. (2016).

But as important as the strategic direction to innovation, Banks also state that the process of innovation relies heavily on **having the right leadership and culture**, also as pointed out by Accenture (2011), and Dobni and Sand (2018). However, from the on-line questionnaires, it seems as that too many Banks have top executives who hesitate to implement innovations, steeped in the comfort of current success and therefore they do not seem to be able to lead the organization to be innovative in the long run, as pointed out as a requirement by Hauschildt and Kirchmann (2001); Accenture (2011) and Tuzovic et al. (2017). This leads the researcher to conclude that **Banks seem to be willing to be oriented towards innovation, and include this aspect in their corporate strategy, but might be missing in some cases the right leadership** to make sure the innovation orientation is actually fully deployed.

To compensate the lack of top management leadership skills, one could hope the Board of Directors of Banks could lead the innovation orientation, but unfortunately, few of those are seen as able to do so since they do not seem to have members with the required innovation orientation capabilities. This would not be aligned with what Research Experts stated during the interviews, who highlighted the need of Board of Directors to support innovation orientation.

Banks are also aware that their organizations must consistently evolve through innovation leveraging on their competitive advantage to adapt to market and customer's needs changes. Unfortunately, internal employees **considered their Banks as not flexible enough to adapt to new market conditions by applying emerging strategies, pivoting existing strategies** (as indicated as a key requirement by Dobni (2006); Dobni and Sand (2018)) **and adapt product/service offering to cope with market trends** (i.e. having a prospector strategy as stated by Malek Akhlagh et al. (2013); Zuniga and Crespi (2013); and Kafchechi (2016)). This leads to conclude that **Banks need deep cultural changes to become more agile** and ensure they can easily change/pivot their strategies and adapt to changing environment. The researcher would suggest to the financial institutions management the need to embrace the change occurring –or imitate the Challenger Banks culture-, which will imply to assume a modest risk to implement new innovations, which in some cases could fail. But fail, could be a golden opportunity to learn.

Probably due to increasing pressure from new entrants in the market –which are purely digital players- and investors who ask for higher investment returns -tough to get in such low interest rates environment- the majority of Banks express their innovation strategy is focused on becoming a digital Bank (with lower operational costs) or have initiatives on that direction. The researcher does

not consider this approach as an example of Banks being oriented towards innovation but a defensive strategy to market pressure.

The researcher would conclude, that European Banks have a strategic direction leading to innovation but with some key challenges to really implement such strategy: the cultural change required to be more agile and flexible and adapt to new market conditions; the willingness to accept moderate risks from which derive some experience and learning; and a leadership that can cope with this required changes. Board of Directors, together with top management, should by all means be committed to innovation to make sure the whole organization is driving on that direction.

Learning philosophy

SQ2: Have Banks a pervasive set of organization wide understanding about learning, thinking, acquiring, transferring and using knowledge to innovate?

European Banks stated that they are **willing to learn from an array of different sources** –internal and external coming from different stakeholders such as customers and competition- of knowledge on a continuous basis, with the final goal to mix them to get enough knowledge that could lead to innovation (in line with Brooke, 2006; Grinstein, 2008; Dobni, 2010; Ayuso et al., 2011; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Kuan-Liang and Chao-Hung, 2014; Silva et al., 2014; Wu et al., 2015; Tuzovic et al., 2018; and Velayati et al., 2020). Banks have even open up to **work with third parties that can provide relevant data and information** through the Bank's value chain (i.e. IT vendors, suppliers...), as also stated as critical by Accenture (2011) and Tuzovic et al. (2018). This is a major shift on the level of collaboration with external parties, something that was unusual in the past within the banking industry.

From all the available sources of knowledge, Banks consider as key to have in-market feedback mechanisms for continuous **learning from their customers**, since their corporate strategy is mainly focusing on customer needs, as also stated by Grinstein (2008); Dobni (2010); Stock and Zacharias (2011); Baregheh et al. (2012); Ergün and Kuşcu (2013); Silva et al. (2014); and Wu et al. (2015).

This leads the researcher to conclude that Banks have a series of sources of knowledge that have been identified and apparently in use. However, from the gathered data, the researcher has also identified that most Banks have yet to **establish systems and tools to gather such knowledge on a formal basis** through a knowledge management system, as recommended by Pancholi and Pancholi (2014); Tuzovic et al. (2017); and Venkitachalam and Willmott (2017); Dobni and Sand (2018); Velayati et al. (2020), which could **become a competitive advantage** as concluded by Bantaue and Rayburn (2016).

Moreover, a significant amount of Banks did not have processes for tracking innovations taking place elsewhere. The innovation pattern Banks seem to have, as classified by Stock and Zacharias (2011), would correspond to the internally driven preserver/top down innovators, whereas the most useful pattern for Banks in order to generate the expected bottom line results would be a pro-active

customer oriented innovators. This pattern will better match with what Banks claim to be customer-oriented organizations.

From the perspective of the researcher, Banks seem just to be willing to learn from inside or limited sources of information related to their direct competitors (other incumbent Banks and Challenger Banks), but not opening up for a broader perspective, which could be advisable in such a dynamic market with new entrants entering the market. This limitation on the scope of learning sources, could generate potential troubles in the future by missing potential new business opportunities or not identifying soon enough new market entrants that could jeopardize Banks business.

The researcher would conclude that European Banks have a learning philosophy in place but currently mainly oriented to gather knowledge, mainly from natural competitors and customers, though missing the potential of identifying business opportunities beyond traditional banking industry. Moreover, Banks are still lacking the implementation of formal systems to gather and disseminate all that knowledge within the organization. Banks also should consider moving from a top-down innovator to a pro-active customer-oriented innovator pattern, which would be more aligned with their corporate positioning.

Transfunctional Acclimation

SQ3: Are the functional areas of Banks guided by a unique embedded knowledge structure that encourages and facilitates knowledge transfer across and within subunits to retain diversity of views and fosters cooperative beliefs and understandings among all functional areas to direct them toward innovation?

All Banks commented on the **need for knowledge sharing within the organization** to ensure innovation is successful within and overall corporate strategy. However, most institutions also recognized that **some progress needs still to be done on that area since few institutions recognized having in place an efficient knowledge transfer system**. This weakness, is considered very relevant by the literature, which highlights the importance of encouraging multi-department market intelligence generation activities, disseminating this intelligence vertically and horizontally through both formal and informal channels (Opoku and Essien, 2011) enabled by a corporate culture, in which knowledge sharing is encouraged (Tuzovic et al., 2017; Dobni and Sand, 2018; Oyemomi et al., 2018; Yiu et al., 2019; Velayati, 2020) and even incorporating customer integration/input in the learning process, specifically for tacit services (Storey et al., 2016).

Surprisingly enough, during the triangulation exercise, and based on corporate statements, there was no clear testimonial by any Bank on the support to knowledge transfer within their organizations. Either because they do not want to disclose their internal procedures or because they basically do not have any in place. Only Pioneer Banks formally stated they look to ensure knowledge transfer is implemented within their organizations, which is seen as critical to ensure innovation opportunities are undertaken.

According to the researcher, the absence of a mutually sharing knowledge structure in place is mainly due to a lack of interdepartmental collaboration, open communication, give-and-take among areas and high level of bureaucracy. Most Banks still have in place a silo organizational structure that makes difficult the knowledge transfer across the organization. Some Banks are leveraging on

implementing agile methodologies to somehow force that transfer of knowledge by forcing people from different teams to work together. However, these initiatives are still in the early stage of implementation for most Banks. Other Banks are starting to reward learning and make learning more available. But again, there is clearly still room for improvement in this specific area.

The researcher would conclude that most European Banks despite considering knowledge transfer across the organization as a vital component to ensure innovation orientation, there is still room for improvement in this specific area, mainly in eliminating siloes which prevent from interdepartmental collaboration. The advisable practice would be the implementation of a knowledge management system.

Organizational competencies

Resource allocation

SQ4: Are Banks devoting resources to all areas of the Bank in efforts that encourage the creation, development and implementation of innovations?

All Banks recognize the **need for budget allocation to innovation initiatives** being through in-house developments or through vesting in new projects. That budget has been increasing in recent years, as all institutions have realized that to overcome market fierce competition and customer's needs changes, they have to dedicate specific annual budgets to innovation. But at the same time, due to pressure on cost reduction, **Banks are looking for bold investments** allocated to innovation, although no short term return is expected, in line with the conclusions of several researches that pointed out the relevance of a long-term investment commitment into innovation to be successful (Chen, 2009; Aarikka-Stenroos, 2014; Ergun, 2018; Zhou et al., 2019). This leads to the conclusion that Banks are dedicating resources (investments) to innovation, which it is more or less weighted out in order to make sure resources are wisely used.

On the workforce, **Banks considered their work force as a critical element** to be oriented towards innovation, which is aligned with Silva et al. (2014) conclusion that innovation-oriented firms **direct resources to support human resources who champion new ideas**.

In that sense, and in order to keep with innovation through employees, Banks are becoming more **worried about having the required skills** within the organization to face new market conditions. This is requiring an assessment of current talent pool to find natural innovators within the organization as well as to determine the necessary re-skilling of current workforce (related mainly to new technologies – Blockchain, Artificial Intelligence, cloud computing, internet of the things, virtual reality- or new ways or working such agile methodologies) and the new hiring with skills not currently found within Banks.

This data indicates that Banks are committed to dedicate resources (budget and processes to improve workforce skills) to the innovation orientation, a key element according to Tuzovic et al. (2017) and Dobni and Sand (2018).

The researcher conclusion is that Banks are allocating budget to innovation, which due to cost constraints are being wisely assigned. On the workforce, Banks seem to start defining talent pools of natural innovators and more practically, a map of required skills for the future to identify gaps with existing workforce.

Technology competencies

SQ5: Are Banks developing and deploying new technologies to stimulate and sustain innovation?

The status of the technology platforms Banks is using was one of the aspects where Banks seem to have relevant differences. Some Banks mentioned that **legacy systems are clearly a limitation to ensure successful and fast innovation projects** (in line with Velayati et al., 2020). To overcome this

situation, those Banks are replacing or updating their legacy systems and leveraging new technologies to improve back office banking operations while elevating the overall customer experience.

Other Banks consider that their core banking systems are good enough to support change and innovation and are working to develop new tools and generating innovative solutions based on more promising technology supports like API, Artificial Intelligence and the use of the Cloud.

The researcher considers that the former group of Banks may be blaming IT infrastructure to justify a slower innovation pace since the latter group of Banks, even though recognizing legacy systems may difficult innovation, they have been able to turn around the situation to experiment with new technologies that can help Banks to innovate.

In any case, **all Banks stated that developing new technologies and/or replacing legacy systems are key to ensure innovation takes place.** This is aligned with Chen et al. (2009); Wolfe et al. (2011); and Accenture (2011), who concluded that IT has become an enabler to provide abundant opportunities for product and process innovation, achievement of economies of scale and scope, and data-intensive decision making.

There is one aspect where all Banks were aligned. All of them considered as critical that **leadership need to have experience in implementing new technologies, or at least not being afraid of doing so.** Banks also agree on the fact that they suffer from not implementing new technology tools fast enough to catch up with competitors.

With all those evidences, the researcher concludes that Banks are willing to deploy new technologies, mainly as a measure to follow up with market trends rather than on a proactive manner (as stated by Dobni and Sand, 2018). What really strikes Banks is the fact they need to deal with old fashion legacy systems that are not as flexible as one would like; leadership might not have the technical abilities to accompany the technological transformation process and that the organization is not fast enough to implement such IT related required implementations.

Employee competencies

SQ6: Are Banks implementing formal and informal policies, procedures, practices and incentives specifically devoted to stimulate and sustain innovation-directed individual employee actions?

From the collected evidences, the researcher concludes there is an even position between Banks considering their **organizations have implemented formally or informally policies, procedures, practices or incentives devoted to stimulate and sustain innovation from employees and those that have not yet.** For the researcher this point is remarkable and points out Banks, even though expressing their interest to innovate, and doing so through technology, have not yet come to the next step to support innovation through employees, considered a key component by Dobni (2006) and Dobni and Sand (2018).

The most frequently used process to promote innovation through employees are **rewarding systems** that recognize the commitment and delivery of employees on innovation, also identified as

critical to ensure successful innovation orientation by different researchers such as Van den Broeck et al. (2010); Accenture (2011); Yusof and Abidin (2011); Deci and Ryan (2012); Rothmann et al. (2013); Tastan (2015); and Velatenyavi (2020).

A limited group of Banks mentioned also to have deployed processes to **accept and ensure new ways of thinking are incorporated within the organization** (as also concluded by Baregheh et al., 2012; Grundström et al., 2012; Acikgoz and Günsel, 2016; Ergun 2018). A breakthrough approach was stated by a Bank that mentioned their willingness to find “rebels” that can shake the organization with new ways of thinking (i.e. lateral thinking).

Last, since Banks noted they are willing to admit **moderate risk taking and experimentation**, the researcher considers -based on Roach et al. (2016) and Velayati et al.’s (2020) conclusions-, this fact as a limiting factor to un-tap all the potential employees could bring to the innovation process, since employees within their own organizations are not encouraged to challenge and experiment nor stimulated to take risks, nor are set free to explore without punishment (autonomy).

All these data suggest that Banks are in the process to implement procedures devoted to stimulate and sustain innovation-directed individual employee actions, but for some institution there is still a long way to go. Likewise, there is still room for improvement on Banks accepting risk related to letting employees innovate, granting more autonomy to employees and setting up clear reward systems related to innovation.

Market competency

SQ7: Are Banks implementing policies, procedures, practices, and incentives specifically devoted to gathering and disseminating information about customer and competitor markets to stimulate and sustain innovation?

The majority of Banks remarked that the success of any financial institutions depends upon a **robust understanding of the major trends affecting the market**—how the expectations of their **customers** are changing, what their **competitors** (both new and traditional) are up to, and the extent to which new **regulation** and **technologies** will cause disruption.

This broad conceptualization of the market trends – from customers, to technology and regulation- is fully aligned with the research that states the need of firms to manage and capture environmental dynamism (combination of market and technology dynamism) to be successfully oriented towards innovation (Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Silva et al., 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016).

However, a limited number of Banks considered their organizations were defining innovation plans based on that market intelligence. This leads the researcher to conclude that Banks in order to avoid missing business opportunities (or emerging opportunities as defined by Dobni, 2006) or to dedicate efforts to initiatives not supported by market intelligence which may cause unexpected bad results, should work on defining innovation plans with the insight from, among others, **market intelligence**, using the concept of absorptive capacity as introduced by Guimaraes et al. (2019).

These data suggest that Banks are willing to gather and disseminate information about customer experience, competition and technology trends although they do not seem to be using such

information and intelligence to define precise innovation plans. Therefore, this is a clear area where Banks should focus to get as much return from those data collecting efforts.

Operations competency

SQ8: Are Banks organizing and coordinating operational processes and structures and to engage in shaping the organizational culture to stimulate and sustain innovation?

From the analysis of the evidences, it seems to the researcher that Banks, in order to ensure they keep up with innovation are aware they are in need for **new types of organizations (flatter, flexible, silo less and open to collaborate with third parties)** – well in line with previous research that concluded that innovation-oriented firms have a flexible structure with certain formalization of mechanisms and processes (Van Muijen and Koopman, 1994; Maltz et al., 2006; Lazonick, 2010; Accenture, 2011; McDermott and Prajogo, 2012; Uz Kurt et al., 2013; Kraiczy et al., 2015; Zobel et al., 2017; Velayati et al., 2020).

Banks also stated that they need stronger **support from leadership** to steer the required organizational and corporate culture changes (willing to **assume risks** and **accepting failure** as a learning opportunity). All of those, also expressed by previous research that concluded that leading innovation oriented firms cherish an innovative culture that promotes among others, risk-awareness/taking/management (Dobni 2006; Kraiczy et al., 2015; Engelen et al., 2014; Tuzovic et al., 2017) through ambidextral organization / leadership (McDermott and Prajogo, 2012; Mainemelis et al., 2015; Hunter et al., 2017).

Banks seem to have already an organizational culture that to a certain extent, stimulates and sustain innovation. Banks have also implemented some organizational competencies to ensure innovation orientation from an organizational stand point such as **facilitating new learnings, encouraging gathering and disseminating information** and **entrepreneurship** – all those initiatives considered by research as fundamental in order to be oriented towards innovation: (Chen et al., 2011; Ngo and O’Cass, 2011; Zehir et al., 2011; Baregheh et al., 2012; Luo and Wang, 2012; Theodosiou et al., 2012; Engelen et al., 2014; Fidel et al., 2015; and Wang et al., 2015; Guimaraes, 2019). However, data suggests **that a limited number of Banks seem to be using a systematic approach to innovation** (as suggested by Tornjanski, 2015) **and facilitating new changes.**

Regarding how to **organize the innovation process**, there seem to be two approaches depending on the innovation maturity level. For those Banks in early stages, they seem to be mainly starting with a centralized model -or as per Stock and Zacharias (2011)-, the so called Internally driven preserves innovation pattern- and progressively moving to a decentralized approach as they mature -pro-active customer oriented innovators or top down innovators patters as per Stock and Zacharias (2011)-. Centralized models, with a single team developing solutions can create critical mass and act as a focal point for learning. A decentralized version, meanwhile, may suit more mature banks in the innovation stages. It most often comprises agile teams working across the organization. Funding strategy may echo this approach, with funding initially provided centrally but later shared between teams.

All those data will indicate that Banks have implemented a set of competencies and corporate values within the corporate culture that are aiming to ensure innovation in the long run. However, Banks still need to make some adjustments to the organization structure (flatter, silo-less), leadership style, and culture (assuming limited risk) to engage in shaping the organizational culture to stimulate and sustain innovation orientation.

Innovation outcomes

Innovation form: Incremental innovation vs. radical innovation

SQ9: Are Banks organizational competencies more likely to produce radical and/or incremental innovation?

The researcher **could not find a clear consensus among Banks about a dominant innovation form**. Although overall, the scale of innovation used by Banks is more incremental against current processes and products than radical -as also concluded by Storey et al. (2016) for the service industry and by Wolfe et al. (2011) for the banking industry in Canada-, a lot of Banks pointed out a third intermediate stage in between those extremes, which was actually the most accepted amongst banks. The researcher considers this **intermediate level** as a consequence of the situation Banks are facing with innovation. Institutions are aware they need to innovate, they have started the innovation journey very recently, and at the same time need to do it fast to cope with market turmoil. And on top of that, Banks are well known by their risk aversion. So, it would seem to the researcher that this third form of innovation is the one that makes Banks more comfortable and ensuring them to move forward without breaking the existing internal rules.

The researcher therefore suggests that the model of innovation orientation should also consider incorporating a third level of innovation type in between the two initially defined, the **transformational innovation**, which would be the one in use for organizations that are just in the process to become more radical but still have some breaks to free up, as already concluded by Das et al. (2017).

With this, the model would have three levels of innovation form. Incremental innovation, which would refer to the use of new sources of data and modern technology to iterate the consumer experience within the existing business model. This type of innovation does not go far enough to transform an organization. The second level would be the new to be introduced. Transformational innovation, which goes beyond incremental innovation by significantly changing the internal processes behind a solution while not necessarily changing the existing business model of the organization, it significantly improves both the operations of the financial institution as well as the customer experience. The third level would be radical innovation, which implies radically change the way the banking industry operates.

The researcher would conclude Banks are using all forms of innovation, with a more predominant form in between the two initial forms suggested by the innovation orientation model (incremental and radical), the so-called transformational form of innovation.

Innovation type: Marketing, process, administration, business model innovation

SQ10: Are Banks' organizational competencies more likely to produce more innovation in which of the innovation types – marketing, processes, business models and/or administration?

From the evidences collected, Banks seem to be dedicating efforts to focus their innovation efforts to overcome the current pressures they get from traditional competition and new comers; satisfy investors who ask for better margins and increasing profits; new technologies that un-tap new business opportunities; regulation changes forcing for new business models and above all, satisfying customer expectations and improving customer experience (i.e. personalized and contextual experiences, real-time transactions across all channels and an excellent last-mile experience).

All this has forced Banks to **concentrate innovation in all the different types of innovation**. As such, in marketing by launching product and services to cope with new customer demands. New internal processes and administration to improve efficiency (i.e. overcoming inefficiencies related to legacy systems) and adapt to new regulation requirements (i.e. open banking) and reduce costs. And by launching new business models to adapt to new market conditions introduced by new players in the industry. Those conclusions are well aligned with previous research specific for the banking industry, where it was concluded that Banks are focusing in all types of innovation (Anderloni et al., 2009; Wolfe et al., 2011; and Frame and White, 2014)

Therefore, the researcher concludes that due to the changes the financial industry is facing and the increasingly competition in the industry, Banks are focusing innovation on all types of innovation.

Innovation rate: Faster vs slower innovation

SQ11: Are Banks' organizational competencies more likely to take innovations from inception to implementation at a faster or slower rate?

Most Banks declared that their innovation process from ideation to implementation aims to **be as fast as possible** to cope with competition, be up to date on market trends and customers habit changes, although not without having to face some internal challenges in order to match that desired speed (i.e. bureaucracy).

The researcher concludes that Banks are fully aware that internal processes can be painful and a clear limitation factor to become agile organizations and deliver innovation. Therefore, they seem to be willing to force having fast innovation to make the organization more dynamic.

A limited number of Banks, expressed though, that they prefer to ensure success even though it implies to sacrifice on speed. Those Banks ensure security is put at first when for instance introducing new technologies.

The researcher concludes that despite Banks stating they want fast innovations, what they are really worried about is their organizations' internal procedures limiting innovation speed.

Internal, cooperative, external, acquired innovation

SQ12: Are Banks' organizational competencies more likely to innovate internally/cooperatively with third parties/acquire innovation?

Regarding the way to generate innovation, Banks recognized they are in a transition from a time when product and service innovation was done behind closed doors, or what Stock and Zacharias (2011) name as internally driven preservers, to a period when **'Open Banking' provides the potential to co-create** with non-financial entities for a competitive advantage, which would correspond to the pro-active oriented innovators according to Stock and Zacharias (2011). This is a major change in an industry where collaboration with third parties on sensitive projects has been the exception. The open Banking concept could be in line with the Open Innovation concept as described by Chesbourg (2006) as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively" or Innovation collaboration used by other researchers (Santamaria et al., 2010; Chesbrough and Bogers, 2014; Thompson et al., 2020).

The reason for such a change in approach, according to the researcher, is to help accelerating the innovation process and cope with market change speed. Most Banks seem to lack the speed and agility of other players and at the same time competitors such as Challenger Banks or FinTechs could eventually bring to the Banks their way of doing business. Partnering with them, could therefore help Banks shift their internal culture and get up to speed. This corresponds to what some scholars consider as the transition from a closed innovation into an open innovation, which should enable innovation to easily move between the internal R&D and external environment (Laursen and Salter, 2006).

However, partnering with third parties still poses a challenge. There is a potential cultural clash between large organizations as Banks and the more agile and small organizations of FinTechs. To be successful, as pointed out by some researchers (Chesbrough and Bogers, 2014; Tuzovic et al., 2018), requires consciously managed knowledge flows outside the organization, using tangible and intangible mechanisms equivalent to the organization's business model.

Enlarging the scope of potential partners creating the so-called **innovation ecosystems**, is a new trend in the industry. This new approach to innovation, where the boundaries of the players are far beyond the Bank's limits, is considered by the researcher a new pattern of innovation structure not yet considered in current available research. The researcher therefore considers this could be a potential field for further research.

The researcher concludes Banks are shifting their innovation pattern of innovation orientation from an internal driven preserver model (Stock and Zacharias; 2011) to a new pattern not yet contemplated by the current research, the innovation ecosystems. This is due to the need of Banks to become more agile in the innovation process.

Innovation orientation and firm performance

SQ13a: The more innovations introduced (market, process and administrative) the higher the level of Bank performance?

SQ13b: The more both radical and incremental forms of innovation are implemented, the higher the level of Bank performance?

SQ13c: The greater the speed of innovation developed, the higher the level of the Bank performance?

On the topic of the relation between innovation form (radical or incremental) and type (marketing, process and business model) with business performance, most Banks did not see a clear link. The latter is not aligned with some research that concluded that firms should consider following a specific innovation type based on the innovation orientation performance results that are sought (Stock and Zacharias; 2011).

Only in speed (fast and slow), majority of interviewees consider that **faster innovation leads to a higher the level of Bank's performance**. For the latter, the researcher considers the market pressure for Banks to deliver fast results from innovation are pushing for a faster innovation approach.

The researcher contemplates that the lack of strong positioning related to form and type of innovation and their impact on Bank's performance, it is in fact due to Banks not having a clear idea on the metrics they are/should be tracking or if they are following at all and therefore if there is a well-defined impact on Bank's performance due to Innovation Related Outcomes. Banks do not yet have what Dobni and Sand (2018) defined as an **Innovation Performance Management System**. Those authors understand that firms need in place performance management systems to encourage, align, empower, measure and incentive innovation.

The researcher hypothesis is that this may be due to the fact some Banks are still on the initial stages of innovation implementation or because they do not have pressure to set and track KPIs to measure the impact of innovation.

A limited number of Banks, though, are more advanced and setting goals and tracking performance related to how innovation is helping improving Bank's performance by **using a set of KPIs (soft** such as consumer excitement, word of mouth, adoption rates, Net Promoting Score; and **hard** such as revenue increase, operating expense reduction, cost-to-income reduction, and ROE/ROI) are the most relevant to track. This distinction between objective and subjective performance metrics when measuring the impact of innovation orientation in firm's performance has already been set up by extensive research (Hsu et al., 2011; Teichert and Bouncken, 2011; Zehir et al., 2011; Altindag and Zehir, 2012; Cheung et al., 2012; Theodosiou et al., 2012; Prajogo et al., 2013; Dobni et al., 2015; Fidel et al., 2015; Kortmann, 2015; Dhewanto and Sohal 2015; Witwell et al., 2015; Wang et al., 2015; Wu et al., 2015; Lii and Kuo, 2016; Yang et al., 2016; Chuang and Lin, 2017; Gustaffson et al., 2020)

The researcher considers setting up a KPI dashboard related to innovation as a useful way to ensure the company can objectively measure the impact of innovation to ensure wise use of resources and avoid future frustrations within the organization (one of the key pitfalls of the innovation orientation model, as it will be discussed later on).

On the returns time frame, there seems to have been an increase on the time frame period Banks are considering when assessing the impact of investments on innovation on corporate performance. **Banks have moved from taking a short-term view** of innovation returns (1-3 years) **to a long-term view** (>3 years). For the researcher, this indicates innovation is moving away from being a tool for quick wins to a long-term returns.

The researcher concludes that Banks do not have a strong position on the impact of the level of form and type of innovation on the institution's performance but do have on innovation speed. They consider the faster innovation is introduced, the better the performance will be. The latter considered to be a consequence of market pressure and being aware of internal "legacy" culture prevents from being as fast as the market is expecting, therefore is a way to adapt to market conditions.

Environmental turbulence as a moderator factor

SQ14: Are environmental turbulences moderating the relationship among a Bank's innovation orientation, organizational competencies, innovation type, form and speed and firm performance?

From the gathered evidences, the researcher would conclude that most **Banks considered there could be moderator / accelerator innovation factors**. However, it was also found, that the very same factor was seen as both moderator and accelerator, depending on the angle that factor was analyzed. For instance, **regulation** -also considered by Tipu (2011) and Velayati et al. (2020)- and mainly the PSD2, for some Banks was considered as a forcing factor to become more innovative, whereas for other Banks it was seen as an open door for the entrance of new players and therefore intensify competition.

The same happened with **new entrants**. Some Banks considered this element as a threat to innovation since may distract the organization, whereas other Banks considered the pressure from new players a revulsive for internal pressure on being more innovative.

The researcher considers that Banks with a more optimistic view on the potential positive impacts of innovation, tend to consider all external factors, or most of them, as facilitators to innovation. Whereas the rest of the Banks tend to see more threats from the environment to the innovation. This may be related to the differences on the internal corporate culture, mainly related to risk management.

Only **disruptive technologies** - such as artificial intelligence, machine learning, blockchain, the Internet of Things, data analytics- not previously available, were considered as facilitator for innovation for all Banks, in line with Velayati et al. (2020) conclusions.

New entrants and technology factors would fall into the market and technological dynamism related turbulences also considered by the recent literature (Lichtenthaler, 2011; Stock and Zacharias, 2011; Hung and Chou, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Alexiev et al., 2016; Sundström et al., 2016; Hanif and Asgher, 2018).

The researcher also found that some Banks, during the in-depth interviews, had difficulties not to focus on internal factors when describing external moderator elements (i.e. having to deal with

legacy systems that limit adopting new technologies; corporate culture and organizational silos that limit the agility; and digital skills shortage). The researcher considers that some Banks are having real pain points to implement innovation –as it was mentioned during the interviews- and have difficulties to dissociate them from what is really an external factor that could jeopardize innovation internally to internal corporate factors.

The researcher concludes that Banks are aware there are external factors that could moderate / accelerate innovation but not all of them consider the same factors at the same level. This might be a consequence of different attitudes towards external factors/risk aversion and internal corporate culture.

Innovation orientation as a long-term competitive advantage

SQ15: Is Innovation orientation considered being a long-term competitive advantage for Banks when compared to those institutions that have not implemented such structure to ensure they are oriented towards innovation?

Most Banks recognized both during the in-depth interviews and through the quantitative research that **innovation has proven to be the path to differentiation and gain competitive advantage in the long run**. This is aligned with many authors (Berger and Dick, 2006; Abir and Chokri, 2010) who argue that innovation represents an additional means by which Banks may straighten out market performance and achieve competitive advantages at the financial market.

The researcher considers this statement is mainly justified due to the market conditions changes the industry is currently facing. Pressure on margins, new players entering the industry, customer habits changes and development of applicable technology to the industry. Innovation is therefore seen as a capability to keep up on an increasingly competitive environment, has stated by Tuzovic et al. (2017).

The researcher also contemplates a relevant shift in the mentality of Banks. They are no longer centered in “manufacturing” products to be sold to customers, but rather they are moving into becoming a services provider, being those services both developed by the very institutions or by third vendors (i.e. a Bank offering telephone terminals to its customers). This is a relevant change in business model which requires a relevant transformation. The industry is moving from the traditional short-term focus, functional siloes and risk-averse culture towards more meaningful advancements, open culture, and willingness to challenge current business models and partner with third parties through platforms and ad-hoc ecosystems. **All those changes based at different levels of intensity, on innovation orientation, coupled with a culture of innovation throughout the organization** aiming at achieving differentiation attributes to their competitors.

A limited number of Banks, though, mentioned the difficulties to ensure long term competitive advantage through innovation. For them, the pressure to innovate for long-term competitiveness is significant, but innovation within banks is not a trivial undertaking. Indeed, banking industry characteristics can work strongly against innovation. For one, economic payoff is usually slow. The balance-sheet driven, vintage-based economics of the banking business means new growth innovations do not fall to the bottom line in a visible way in the short term. Therefore, Banks need to think in the long run when leveraging on innovation. The researcher considers however; this vision is a consequence of the short-term vision of some institutions. They focus on the results to deliver in the next quarter results presentations, maybe due to viability concerns, rather than on a long-term view, where innovation could bring relevant value through differentiation to competition.

The researcher therefore concludes that most Banks consider innovation orientation as a competitive advantage in the long run since this approach may help Banks to cope with relevant changes in the marketplace. It might not ensure a leading position but at least the continuity of the business.

Pitfalls to innovation

SQ16: May Innovation orientation imply some pitfalls to those Banks having implemented such framework?

Banks mentioned as the major pitfall to innovation the **surplus of ideas not implemented**, which may generate some frustration within the organization. This is one of the pitfalls of innovation orientation identified by Simpson et al. (2006) and Accenture (2011).

The second most mentioned pitfall was the **internal bureaucracy coupled with long decision processes** that might stop the innovation process and kill potential new projects. These have as a consequence the dissatisfaction or even burnt out of employees pushing for innovative projects to take place. Again, this was another of the potential pitfalls stated by Simpson et al. (2006), Jaakkola et al. (2010); Accenture (2011); and Lee et al. (2016).

And from the quantitative research, the most mentioned potential pitfall was being too ambitious on the innovation goals, which could lead again to frustration if not achieved.

All these evidences lead the researcher to conclude that Banks are aware of the innovation orientation pitfalls, which are mainly related to the frustration that not getting innovation done could cause on those people pushing for innovation. And what is underneath the shared comments is the fact that maybe Banks are not always ready to support innovation, either because they are not ready to implement new projects, do not have innovation management tools in place that could help having a vision and/or prioritize innovative projects, or because they expect too much from innovation.

5.3 Discussion and implications of the research: Pioneer Banks vs. Mainstream Banks

The purpose of this section is to highlight the key elements that differentiate what the researcher has called Pioneer Banks (or Pioneers) from the rest of traditional Banks (Mainstream Banks). This sub segment of Banks is made up of those institutions that according to Stock and Zacharias (2011) correspond to the “Pro-active customer-oriented innovators” and that have proved to have further implemented the different elements of the Updated Innovation Orientation framework. This group accounts for 4 out of the 18 Banks that were analyzed.

The following are the key characteristics those Banks have in common and that are differentiating attributes to the rest of the Banks in the sample. They are presented following the Updated Innovation Orientation framework.

Basically, Pioneers have greater top-level support, higher investment in technology and talent, have less challenges with cultural issues, are more skilled at measuring results of efforts, are further along their digital transformation journey and are more committed to investing in the customer experience. Moreover, they have formalized a series of tools aiming at rationalizing the Bank’s innovation orientation: learning management systems, knowledge management systems, business intelligence processes, innovation project portfolio management, and innovation related KPIs dashboards.

Strategy

Pioneer banks clearly express as one of their corporate strategy pillars to become an innovative bank although they do not clearly state they are oriented towards innovation. Furthermore, Pioneers define innovation strategy “at scale”-meaning it involves the whole organization.

Moreover, Pioneers go even further including “being innovative” or “innovation” among their corporate values. Additionally, Pioneers pay special attention to make sure the strategy is shared across the organization. All employees must be informed, since the whole organization has to participate in the innovation journey. This would indicate, according to the researcher, the full commitment of those organizations to innovation as a strategic goal and is fully aligned with the need of management commitment to define innovation strategy as stated by Dobni and Sand (2018).

Pioneers are further ahead of peers in the desire to become a ‘digital bank’, and so it is stated in their corporate strategy. Innovation is actually seen as a means to reach the corporate strategy, which has a relevant component related to digital banking. Top Pioneers are even moving further and targeting beyond becoming a digital bank and focusing on sustainability, which is valued at the same level as digital transformation. This is aligned with the conclusions of Gartner (2014) who stated Banks innovate in line with their business strategy.

Since Pioneers seem to be more agile than their peers, they can easily pivot to meet market demand and are focused on customer needs.

Finally, Pioneers have in place a systematic approach to innovation, which is missing in the rest of Banks as discussed in the previous section. This includes:

- a) Ensuring top management support and the involvement of the top government bodies into the innovation process. Pioneers have made sure the board of directors is committed to and comfortable with innovation. Moreover, Pioneers highlight the need to implement a proper innovation governance structure, which will make sure that roles, responsibilities, and expectations of all involved stakeholders are defined.
- b) Assessing the impact of innovation projects in terms of bringing real solutions to real customer problems or business need. Doing so, they avoid the innovation for the sake of innovation pitfall, that was examined in the previous section.
- c) Adequately planning with roadmaps, resources allocated to the innovation projects, measurement processes and a rewards structure. Pioneers are more conscious about the fact innovation initiatives coming out of the different innovation processes need to be prioritized based on specific criteria (i.e. strategy, resources, risk or time to market) to ensure success.

The researcher would conclude stating that Pioneers are well more advanced to their peers in the sense they have gone further in the inclusion of innovation in their corporate strategy and corporate values. Digital Banking, which was the final goal of innovation for most Banks, is overcome by Pioneers. For those, moreover they have set a systematic approach to innovation, which was also missing in the rest of Banks.

Learning philosophy

Pioneer banks, compared to their peers have a more systematic approach to learn through knowledge managements systems in place, as also stated by the literature (Pancholi and Pancholi, 2014; Velayati et al., 2020). Those institutions, a part from looking inside the organization, tend to look further on the outside world and not only on a random basis, but setting some procedures to continuously looking at what is going on (market, competition, extended competition, global trends) and not just limited to what went well but also what failed. They consider they can learn from both successes and failures. This broad source of knowledge is aligned with literature review (Grinstein, 2008; Dobni, 2010; Stock and Zacharias, 2011; Baregheh et al., 2012; Ergün and Kuşcu, 2013; Silva et al., 2014; Wu et al., 2015).

Additionally, Pioneers are more willing to provide universal accessibility to insights coming from relationships with customers and other key stakeholders. To do so, Pioneers have implemented a set of solutions to ensure market data and consumer insights are not held within product-driven silos but shared across the organization. This approach is considered by Rayburn (2016) as being a competitive advantage.

Pioneers do so because they want genuinely the whole organization to be involved in the learning process, and not limited to the innovation/R&D teams.

This leads the researcher to conclude that Pioneers have shown to be more curious about what is going on around them than their peers. Moreover, Pioneers seem to be more committed to ensure the whole organization may profit from all that learning by implementing a systematic knowledge management system. This will be the base for a higher intensity on the innovation orientation outcomes.

Trans functional Acclimation

From the gathered data, Pioneers seem to make sure there is an interdepartmental cooperation through breaking down legacy department silos, aligned with Opoku and Essien (2011).

Moreover, Pioneers have set up processes to ensure the creation of ideas and solutions at all levels of the organization, and across different departments. This task is facilitated by the fact department silos have been eliminated. These conclusions are also in line with some researchers' findings (Oyemomi et al., 2018; Yiu et al., 2019; Velayati, 2020).

Finally, Pioneers showed a willingness to collaborate on innovations outside the organization. According to the researcher, all those features were not found among their peers with the intensity and clarity that was found among Pioneers.

The researcher would conclude that there is a very strong correlation between pioneers and the deployment of knowledge sharing across the organization.

Organizational competencies

Pioneer Banks like their peers, dedicate a budget to innovation (investment is made in resources, skills, time, space, and organizational learning to support innovation) -also considered as critical by some researchers such as Chen (2009), Aarikka-Stenroos (2014), Ergun (2018), Zhou et al. (2019)- but at the same time stress the fact they have implemented a dynamic prioritization of the project portfolio budget allocation. This prioritization is to ensure coherence and balance across the whole organization.

Related to workforce, Pioneers tend to invest more in people and skill sets that are radically different from what has been needed in the past, aligned with (Roach et al., 2016).

Pioneers are more likely to be using advanced technologies, including the cloud, voice recognition, machine learning, the Internet of Things (IoT), robotic process automation, blockchain etc. and tend to be less resilient with legacy systems, which ensure they are more agile to develop new products, services and business models.

Top Pioneer Banks tend to embrace and display the change in the behavior desired, acknowledging and rewarding those who exhibit the correct mentality at every chance available but going further than their peers since top management is committed to help employees to reach their goals related to innovation in line with Baregheh et al. (2012), Grundström et al. (2012), and Ergun (2018). Clearer goals are set and the KPIs focus not on short term but medium term as to recognize success related to innovation may take some time.

Employees autonomy was also a key attribute Pioneers mentioned as a way for Banks to work productively, unhindered by how the rest of the organization operates.

Pioneers seem to work harder than their peers to anticipate consumer needs and market trends and innovate in ways that will prioritize the most effective mix of capabilities, processes and people

to meet/satisfy those needs. It is not just looking at the market trends but trying to anticipate what those trends could be in the future and how to prepare the organization to adapt or take advantage. This is fully aligned with the researchers that concluded that innovation-oriented firms develop market competencies to manage and capture the environmental dynamism, which includes both market and technological dynamism (Stock and Zacharias, 2011; Ergün and Kuşcu, 2013; Prajogo and McDermott, 2014; Wu et al., 2015; Zhang et al., 2015; Sundström et al., 2016).

Thinking big is another cultural element Pioneers showed during the data gathering process. They seem to be more ambitious than their peers on the attainable goals. Apparently, this is done to put some pressure in the organization, not that much on delivering immediate results, but on making the organization to think about more challenging future scenarios. This could be also related somehow to the country base of those institutions. All the Pioneers identified were based in highly ranked individualist on the cultural dimension according to Engelen et al. (2016), therefore, prising for high performance expectations.

On the organizational side, Pioneers have made efforts to avoid rigid silo structures and excessive hierarchy. The hypothesis of the researcher is that the final goal is to become more flexible and look for a middle ground between hierarchical structure and that of a horizontally-managed start up, as also stated by some researchers (Van Muijen and Koopman, 1994; Maltz et al., 2006; Lazonick, 2010; McDermott and Prajogo, 2012; Kraiczy et al., 2015; Zobel et al., 2017).

Pioneers are braver and more prepared to ditch the obsolete “blame culture” and migrate into businesses that are prepared to experiment with new ideas and are willing to accept the “we learn to fail fast”. Those Banks consider failure for good reasons acceptable as it helps the organization to learn and constantly improve, as also considered by Dobni (2006).

From these evidences, the researcher concludes that the organizational resources Pioneers dedicate to innovation are far beyond to those of their peers (in terms of allocated resources, workforce retraining, investment in new technologies). Likewise, Pioneers have made enormous efforts to change the organization culture in order to adapt it to the new continuously changing marketplace (being agile, silo less, willing to learn through failure, giving autonomy and rewarding employee’s innovation contributions). They have moved from a traditional banking culture to a culture very similar to that of Challenger Banks.

Innovation orientation outcomes

Regarding the form of innovation, Pioneer Banks seem to focus on incremental innovation rather than on radical innovation, aligned with Storey et al. (2016). But at the same time, they seem to apply such form of innovation through the whole organization, aiming at implementing an agile mindset leading to incremental changes being ongoing and rapid.

Even though all Banks are clearly focusing their innovation focus on improving customer experience -as also stated by Wolfe et al. (2011)-, Pioneers are acutely focused on improving the customer experience and are seeing results far superior to their peers in terms of customer retention, customer base increase and income/profit generation.

Pioneer banks seem to have clear position on faster innovating cycles than their peers. They insisted in the fact that to do so, they profit from a corporate innovation culture that does not accept no answers to new projects and are prepared to at least try new ideas. But in any case, at a fast pace.

Pioneer Banks compared to their peers have more tradition of partnering with third parties having integrated this kind of innovation and collaboration within the organization and way of working.

With these evidences, the researcher concludes that Pioneer Banks have significant differences in terms of Innovation Orientation outcomes when compared to their peers. The former are focusing on incremental innovation (rather than transformational innovation), although are also focusing on customer experience innovative solutions, Pioneers seem to have better results than their peers. Pioneers also look for fast innovation cycles, which is supported by an agile organization. They also have more tradition of partnering with third parties. They clearly fall into the pro-active customer innovation-oriented innovators as classified by Stock and Zacharias (2011).

Firm performance

One of the key differentiation attributes of Pioneers on innovation was the fact that all of them have in place, or at least declared to have, an innovation management system. With this, Pioneers manage the organization's innovation efforts and investments as an integrated "innovation portfolio". This means they set a clear aspiration for the innovation strategy, rank projects, and adjust resources and talent to operate at full speed. Likewise, Pioneers use metrics to measure innovation, through performance management systems that encourage, align, empower, measure, and incent innovation, which is in line with Dobni and Sand (2018).

Those innovation management systems that Pioneers have implemented, allow those Banks to explore and exploit innovation at the very same time, or as described by Das et al. (2017), use the ambidexterity pathway.

From secondary data, the researcher has been able to confirm that Pioneers have more positive financial results than their Peers, where innovation orientation is only partially deployed. The researcher however was not able to conclude that the better performance results were only due to those organizations having in place a fully deployed innovation orientation framework.

The researcher would conclude that Pioneers have a systematic approach to measure innovation impact on corporate performance, what was not the case for peer Banks. Moreover, and using secondary data, the researcher was able to confirm Pioneers have better performance in terms of financial results, although could not determine if that performance is a consequence of the innovation orientation of those companies.

5.4 Discussion and implications of the research: Challenger Banks

In this section the researcher highlights the key insights that were found between the so called Challenger Banks and key differentiating attributes to the European Banks.

In brief, **the former embody the core principles of innovation that drive competitive advantage to the traditional Banks. Challenger Banks embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge.**

Strategy

All Challenger Banks have in common they see innovation as a critical part of their corporate and differentiation strategy. They have come into the market and gained a piece of the market share by innovating/bringing new value propositions compared to existing players, mainly in digital banking since their distribution channel is purely digital.

For Challenger Banks the innovation strategy is aiming at improving the customer experience continuously to ensure they stay ahead of traditional players and they get very rapidly as much customers as possible. The researcher hypothesis is that since the number of users is their key metric in face of potential investors and gain credibility in the market, this is the reason why they focus on customers and how to get traditional Banks' customers.

The researcher concludes that Challenger Banks are using innovation, mainly focused on digital banking innovation, as key strategic mean to keep ahead of competition and to gain as much customer base as possible when compared with traditional Banks.

Learning/Sharing

All Challenger Banks stated they are willing to learn from the market and from their current and potential customers. For the researcher, those sources of knowledge seem to be a must for any Challenger Bank to survive and grow, since their success relies heavily on being able to identify market trends around which they should pivot or adapt their value proposition.

To cope with those market changes, for all Challenger Banks is key to remain agile to identify opportunities and execute quickly.

All this data lead to conclude that Challenger Banks are more agile than traditional Banks in learning from the market and using such knowledge to adapt their strategy to un tap business opportunities or readjust value proposition.

Organizational competencies

All Challenger Banks base their business model on digital banking, therefore consider critical to invest in IT to be at the frontier of technology evolution and remaining competitive in the marketplace.

But investing in IT it is not enough. They have realized they need to have the best employees in the market able to deal with such technologies, which may turn not to be easy as all Challenger Banks are actually looking for the same scarce resources. Therefore, Challenger Banks consider critical to attract and retain the best available HR resources to be sure they can keep with innovation.

However, since Challenger Banks have some pressure on their available funds to be invested, one of the key challenges for those institutions is to prioritize resources.

From the organizational point of view, all Challenger Banks recognized that their key challenge to keep up with innovation and growth is mainly keeping up with scaling up the business on a safely manner.

Those evidences lead to conclude that due to limited available resources, Challenger Banks compared to traditional Banks, need to prioritize where does funds go. However, Challengers are willing to dedicate as much resources as required to have on board the best available talent and up to date technologies.

Innovation outcomes

Challenger Banks focus their innovation mainly on improving customer experience both incrementally and radically, offering the same product portfolio as incumbents do but at a lower cost/fee to consumers distributed through digital channel and leveraging the efficiencies of modern, purpose-built tech.

And all the innovation is conducted as fast as possible, either internally, through partnerships or even acquiring companies to speed up the innovation process and time to market.

The researcher would conclude that Challenger Banks to cope with market pressure need to be as fast as possible in the innovation cycle. They are open to do both radical and incremental innovation as long as this improves customer experience. They seem to be more open than traditional Banks to collaborate –in any form- with third parties as long as it brings value rapidly and complements their value proposition.

Firm Performance

Challenger Banks are mainly focused on getting scale as fast as possible in order to get a relative important market share, not lose room to other Challengers and get fuel for growth coming from investors, which will mainly invest on projects with promising metrics.

As a consequence, most Challenger Banks mentioned innovation could help them getting the metrics they need to show to the market, being the most important the customer base measured in the number of customers and the income generated by such customer base.

The researcher would conclude that Challenger Banks expect innovation to help them attaining those metrics that are critical in front of the investors (i.e. customer base growth), which are different from those tracked by traditional Banks (return on investment, ROE and increase in revenues).

Environmental turbulences

Challengers consider the major external turbulence factor to innovation the evolution of banking regulation and compliance, both as a facilitator or limiting factor.

As a facilitator, Challengers consider, for instance implementation of PSD2 (Second Payment Services Directive) has enabled new FinTech companies (including Challenger Banks) to develop within the banking ecosystem.

On the other side, some Challenges, especially those that are on the scale up phase and though looking to grow through international expansion, consider that regulation has not advanced at the same speed as innovation in banking in recent years. Challengers in the internationalization phase advocate for increased alignment of global regulation.

As the traditional Banks, Challengers consider some factors as both facilitators and challengers to innovation. The main one being the impact of regulation, which could both reinforce their business model or be a limiting factor.

5.5 Discussion and implications of the research: Large Corporations

In this section the researcher highlights the key differences found between Large Corporations and European Banks. Among Large Corporations, as for Banks, a sub-segment of top innovation leaders was identified. Those Leading Large Corporations mainly correspond to US based companies plus a European telecom Company and from the collected evidences (please refer to *Chapter 4*, section 3. *Evidences from interviews with large corporations*) were more advanced in the level implementation of the different components of the Updated Innovation Orientation framework.

In brief, Large Corporations are more willing to challenge their mission, vision and values on a regular basis in order to un tap potential innovation outcomes. Most of them have undertaken significant cultural and organizational changes to ensure the whole organization is oriented towards innovation. They seem to price agility, flexibility, diversity, fail fast/learn fast attitude, silo less organizations and cross-departmental collaboration. Large Corporations have also developed ecosystems to promote innovation.

As for Banks, the key priority is innovation around customer experience. On the performance side, they seem to have set up clear deliverables to reach through innovation and braver on killing non-performing projects.

Strategic direction

All Large Corporations stated as critical to have a clear mission, vision and values which have to be well communicated across the organization. Moreover, Large Corporations stressed the fact that innovation should be aligned to the corporate strategy and that innovation should be carried out on a continuous basis following a structured process. The former is a key difference to Banks, where only Pioneers stated having a systematic and structured process of innovation.

The major difference between Leading Large Corporations and their peers was that the former consider critical to be open to challenge on a regular basis the business model in place, the mission and the vision. This is a key difference when compared to Banks. None of the interviewed Banks expressed the intention to have challenged their mission.

Another aspect that Large Corporations mentioned, and Banks did not was the importance of physical location to facilitate innovation. Being located close to where innovation takes place (innovation hubs) could be a determinant factor (i.e. technology-based companies being close to Silicon Valley).

This leads the researcher to conclude that the major differences between Large Corporations and Banks are that the former are more willing to challenge their mission and corporate strategy; have a systematic innovation process in place (as the Pioneers have), and may consider physical location to promote innovation.

Learning philosophy

On the corporate learning procedures in place, all Large Corporations were aligned in the fact that getting insights from competition, market trends and customers is critical in the innovation process. There were, however, minor differences between Leading Large Corporations and their peers. The former, seemed to dedicate a relevant budget to set up learning tools (i.e. R&D centers as source of knowledge) or setting up international networks for innovation scouting (ideas and innovative companies).

The evidence leads the researcher to state that both Large Corporations and Banks consider learning as a key source of innovation. However, Large Corporations seem to be more advanced in terms of setting formal networks to capture that knowledge (i.e. scouting networks).

Trans functional acclimation

Sharing information, knowledge and “forcing” departments to work transversally were common ground characteristics for all Large Corporations. Though Leading Large Corporations seem to be working on flatter structures than their peers, which apparently are more ideal to ensure more collaborative type of working. The latter structure would be more like the one used by Challenger Banks but not identified in any Bank of the analyzed sample.

Large Corporations are also aware of the need to break organization silos to ensure knowledge is shared by generating content and community across the organization. Leading Large Corporations go beyond and look to build up ecosystems made of both internal and external players, like what Pioneers and Challenger Banks are setting up.

Leading Large Corporations go even beyond and consider this cross-departmental organization, in order to be more effective, needs to be working under certain pressure. That is seen as a facilitator to ensure organizations are more innovative.

The data suggest that both Large Corporations and Banks consider learning sharing and breaking up silos as relevant elements to ensure innovation. Leading Large Corporations –like Challenger Banks– seem to have flatter organizations and are open to promote ecosystems, which seem to facilitate innovation. Leading Large Corporations are the only institutions considering pressure as a key element to generate innovation.

Organizational competencies

All Large Corporations agree that innovation needs processes and tools in place. They also consider critical setting up a corporate culture that empowers and recognizes employees and at the same time forces the company for continuous re-invention and an experimental mindset. This culture must ensure openness to change, feedback and challenge. This is clearly a stronger statement than the one found within Mainstream Banks.

On the organizational resource's aspect, all Large Corporations price the importance of new technologies as facilitating innovation, but also stress the need to make sure there is the right balance between people and technology. The latter statement was not found among Banks

Leading Large Corporations stressed the fact of the richness that a diverse work force can bring and the positive impact on the orientation towards innovation. Therefore, they give a lot of value to new hiring processes, ensuring newcomers fit into the culture and the innovation corporate approach and have in place scouting processes to identify employees with a clear innovation mindset. Those processes do not seem to be implemented within Banks.

On the corporate culture, Leading Large Corporations seem to take more seriously the internal policies to ensure ideas coming from within are not killed even before they have been analyzed and at the same time not penalizing when failures come along the way – as long as there is a deep analysis on what went wrong so the learning can be applied in the future (“fail fast, learn fast”).

On the organization of innovation itself, there is a clear differentiation among the two groups of Large Corporations. Whereas Large Corporations tend to have a specific innovation team, with dedicated resources (employees and resources), Leading Large Corporations see innovation as an overall corporate department. The researcher concludes that Corporates would have an internally driven preserver/top down innovators pattern (Stock and Zacharias, 2011) like Banks, whereas Leading Large Corporations – like Pioneers and even Challenger Banks- have a pro-active customer-oriented innovator (Stock and Zacharias, 2011).

The analyzed evidence leads to conclude that Large Corporations have a stronger position than Banks on ensuring having a culture of change, diversity, and “fail fast, learn fast” in place. Moreover, Large Corporations also stress the fact to have a right balance on the resources allocated to people and IT, which was not mentioned by Banks. Large Corporations and Banks seem to have the same innovator pattern (top-down/internally driven) whereas Leading Large Corporations, Pioneers and Challenger Banks share the same innovation pattern (pro-active customer-oriented innovator).

Innovation outcomes

On the innovation outcomes, Large Corporations seem to be focusing on all types of innovation. From innovation related to optimize resources and capabilities, to continuously challenge business models, in all cases with a focus on customer centric innovations. The researcher considers this approach very aligned with that of Banks. What really differentiates Large Corporations to Banks is the clear focus of the former on speed to market as a critical success factor to succeed in innovation, as Challenger Banks do.

Among Large Corporations, the sub-segment of Leading Large Corporations really prioritize disruptive innovation (or the moonshot thinking term used mainly by US based companies), the use of lean start-up methodology, a set of recurrent innovation tools (i.e. design thinking) and being more open to acquiring companies when needed combined with internal development. This positioning again is pretty like the one of Challenger Banks.

The researcher would conclude that Banks and Large Corporations share the same focus on terms of Innovation types (cover the whole spectrum) with focus on customer centric innovation. However, Large Corporations –like Challenger Banks- seem to be targeting faster innovation cycles. Disruptive innovation is the clear focus of Leading Large Corporations together with the use of advance innovation tools.

Firm performance

On the performance impact of innovation and KPIs that Large Corporations are following there was some remarkable differences. Despite all agreeing that innovation needs to generate returns, innovation related KPIs need to be followed up; Large Corporations focus mainly on tracking how innovation is impacting on sales increase, cost reduction and user experience improvement and seem to be thinking more on the long run, whereas Banks seem to be focusing on financial related indicators (ROI and ROE) although on a shorter time frame.

Leading Large Corporations seem to be more ambitious on the goals to be achieved, stress the fact that KPIs need to be shared across departments as to ensure collaboration/cooperation through accountability and they openly expressed that innovation projects must be killed if they do not generate expected returns. Since they give a high price on the implication of the employees to the innovation process, they are the only ones including HR related KPIs to innovation (i.e. employee retention rate due to the level of innovation the company has).

Data leads to the conclusion that Large Corporations measure innovation performance on its impact on the top line of the P&L, whereas Banks are more focused on profitability. Both are expecting results on the long run. Leading Large Corporations are more aggressive in the expected performance impact of innovation and braver to kill underperforming projects. At the same time, they are the only ones following HR KPIs related to innovation.

Pitfalls

Large Corporations consider that innovation orientation may also generate some friction within the organization. Especially when projects do not have any business impact, when the people involved in the project do not clearly see the transformation that should have occurred, when the organization seems to lose time, or when it is not fast enough.

According to the research, Large Corporations see as major pitfalls to innovation orientation the friction that can be generated by not seeing any business impact of innovation, or by losing resources on innovation projects.

5.6 Conclusions of the discussion and implications of the research

The research question to be answered in this study was set up as:

How are European Banks ensuring they are oriented towards innovation?

The final goal was to identify to what extent European Banks are applying the different components of the Updated Innovation Orientation Framework, and therefore oriented towards innovation.

Therefore in order to answer the research question, the researcher has analyzed to what degree European Banks have implemented the five key components of the Updated Innovation Orientation Framework (Knowledge Structure, Organizational Competencies, Innovation Outcomes, Firm's performance – environmental turbulences, and Innovation Pitfalls) as defined in *Chapter 4. Case study evidences, section 4.5.2 - Updated Innovation Orientation framework post large corporations and Challenger Banks interviews.*

Consequently, the researcher has broken the research question into five major research questions –one per every framework component- each one with a series of sub-questions (Please refer to *Chapter 2. Framework, section 2.7. Research questions*).

The summary of the responses to the sub-questions are presented now, highlighting the differentiating attributes between Pioneer Banks and Mainstream Banks. The researcher has also deemed relevant to include the key differentiating attributes between Banks and the other units of analysis assessed (Challenger Banks; and Large Corporations) when there were enough insights to do so:

1. **How is implemented within Banks the Innovation Orientation Knowledge Structure (composed by the strategic direction, learning philosophy, and trans functional acclimation)?**

- **Sub question 1 (Strategic direction): Have Banks a clear strategic direction leading to innovation?**

European Banks have a strategic direction leading to innovation but with some key challenges to really implement such strategy: *the cultural change required to be more agile and flexible and adapt to new market conditions; the willingness to accept moderate risks from which derive some experience and learning; and a leadership that can cope with this required changes. Board of Directors, together with top management, should by all means be committed to innovation to make sure the whole organization is driving on that direction.*

Pioneers *are well more advanced to their peers in the sense they have gone further in the inclusion of innovation in their corporate strategy and corporate values. Digital Banking, which was the final goal of innovation for most Banks, is overcome by Pioneers. For those, moreover they have set a systematic approach to innovation, which was also missing in the rest of Banks.*

Challenger Banks *are using innovation, mainly focused on digital banking innovation, as key strategic mean to keep ahead of competition and to gain as much customer base as possible when compared with traditional Banks.*

The major differences between **Large Corporations** and Banks are that the former are more willing to challenge their mission and corporate strategy; have a systematic innovation process in place (as the Pioneers have) and may consider physical location to promote innovation.

- **Sub question 2 (Learning philosophy):** Have Banks a pervasive set of organization wide understanding about learning, thinking, acquiring, transferring and using knowledge to innovate?

European Banks have a learning philosophy but currently mainly oriented to gather knowledge from natural competitors and customers, though missing the potential of identifying business opportunities beyond traditional banking industry. Moreover, Banks are still lacking the implementation of formal systems to gather and disseminate all that knowledge within the organization. Banks also should consider moving from a top-down innovator to a pro-active customer-oriented innovator pattern, which would be more aligned with their corporate positioning.

Pioneers have shown to be more curious about what is going on around them than their peers. Moreover, Pioneers seem to be more committed to ensure the whole organization may profit from all that learning by implementing a systematic knowledge management system. This

Challenger Banks are more agile than traditional Banks in learning from the market and using such knowledge to adapt their strategy to un tap business opportunities or readjust value proposition.

Both **Large Corporations** and Banks consider learning as a key source of innovation. However, Large Corporations seem to be more advanced in terms of setting formal networks to capture that knowledge (i.e. scouting networks).

- **Sub question 3 (Trans functional Acclimation):** Are the functional areas of the Bank guided by a unique embedded knowledge structure that encourages and facilitates knowledge transfer across and within subunits to retain diversity of views and fosters cooperative beliefs and understandings among all functional areas to direct them toward innovation?

European Banks despite considering knowledge transfer across the organization as a vital component to ensure innovation takes place, there is still room for improvement in this specific area, mainly in eliminating siloes which prevent from interdepartmental collaboration. The advisable practice would be the implementation of a knowledge management system.

There is a very strong correlation between **Pioneers** and the deployment of systematic knowledge sharing/management systems across the organization.

Large Corporations and Banks consider learning sharing and breaking up silos as relevant elements to ensure innovation. Pioneer Corporates –like Challenger Banks- seem to have flatter organizations and are open to promote ecosystems, which seem to facilitate

innovation. Pioneer Corporates are the only institutions considering pressure as a key element to generate innovation.

2. What are the specific innovation-enabling organizational competencies and processes in place? Are Banks ...

- Sub question 4: ... devoting resources to all areas of the Bank in efforts that encourage the creation, development and implementation of innovations?

European Banks are allocating budget to innovation, which due to cost constraints are being wisely assigned. On the workforce, Banks seem to start defining talent pools of natural innovators and more practically, a map of required skills for the future to identify gaps with existing workforce in order to cover those gaps.

- Sub question 5: ... developing and deploying new technologies to stimulate and sustain innovation?

European Banks are willing to deploy new technologies, mainly as a measure to follow up with market trends rather than on a proactive manner. What really strikes Banks is the fact they need to deal with old fashion legacy systems that are not as flexible as one would like; leadership might not have the technical abilities to accompany the technological transformation process and that the organization is not fast enough to implement such IT related required implementations.

- Sub question 6: ... implementing formal and informal policies, procedures, practices and incentives specifically devoted to stimulating and sustain innovation-directed individual employee actions?

European Banks are in the process to implement procedures devoted to stimulating and sustain innovation-directed individual employee actions, but for some institution there is still a long way to go. Likewise, there is still room for improvement on Banks accepting risk related to letting employees innovate.

- Sub question 7: ... implementing policies, procedures, practices, and incentives specifically devoted to gathering and disseminating information about customer and competitor markets to stimulate and sustain innovation?

European Banks are willing to gather and disseminate information about customer experience, competition and technology trends although they do not seem to be using such information to define precise innovation plans. Therefore, this is a clear area where Banks should focus to get as much return from those data collecting efforts.

- Sub question 8... organizing and coordinating operational processes and structures and to engage in shaping the organizational culture to stimulate and sustain innovation?

European Banks have implemented a set of competencies and corporate values within the corporate culture that are aiming to ensure innovation in the long run. However, Banks still need to make some adjustments to the organization structure, leadership style, and culture to engage in shaping the organizational culture to stimulate and sustain innovation.

The organizational resources **Pioneers** dedicate to innovation are far beyond to those of their peers (in terms of allocated resources, workforce retraining, investment in new technologies). Likewise, Pioneers have made enormous efforts to change the organization culture in order to adapt it to the new continuously changing marketplace (being agile, silo less, willing to learn through failure, giving autonomy and rewarding employee's innovation contributions). They have moved from a traditional banking culture to culture very similar to that of Challenger Banks.

Due to limited available resources, **Challenger Banks** compared to traditional Banks, need to prioritize where does funds go. However, Challengers are willing to dedicate as much resources as required to have on board the best available talent and up to date technologies.

Large Corporations have a stronger position than Banks on ensuring having a culture of change, diversity, and "fail fast, learn fast" in place. Moreover, Corporates also stress the fact to have a right balance on the resources allocated to people and IT, which was not mentioned by Banks. Corporates and Banks seem to have the same innovator pattern (top-down/internally driven) whereas Pioneer Corporates, Pioneers and Challenger Banks share the same innovation pattern (pro-active customer-oriented innovator).

3. What are the innovation outcomes Banks are focusing on (in terms of innovation speed, form, type, and collaboration)? Are Banks' organizational competencies more likely to...

- Sub question 9: ... produce radical and/or incremental innovation?

European Banks are using all forms of innovation, with a more predominant form in between the two initial forms suggested by the innovation orientation model (incremental and radical), the so-called transformational form of innovation.

- Sub question 10:... produce innovation which of the innovation types – marketing, processes and administration?

Due to the changes the financial industry is facing and the increasingly competition in the industry, European Banks are focusing innovation on all types of innovation.

- Sub question 11: ... take innovations from inception to implementation at a faster or slower rate?

Despite European Banks stating they want fast innovations, what they are really worried about is their organizations' internal procedures limiting innovation speed.

- Sub question 12: ... innovate internally/cooperatively with third parties/acquire innovation?

European Banks are shifting their innovation pattern of innovation orientation from an internal driven preserver model (Stock and Zacharias; 2011) to a new pattern not yet contemplated by the current research, the innovation ecosystems. This is due to the need of Banks to become more agile in the innovation process.

Pioneer Banks have significant differences in terms of Innovation Orientation outcomes when compared to their peers. They are focusing on incremental innovation (rather than transformational innovation), although are also focusing on customer experience innovative solutions, Pioneers seem to have better results than their peers. Pioneers also look for fast innovation cycles, which is supported by an agile organization. They also have more tradition of partnering with third parties. They clearly fall into the pro-active customer innovation-oriented innovators as classified by Stock and Zacharias (2011).

Challenger Banks to cope with market pressure need to be as fast as possible in the innovation cycle. They are open to do both radical and incremental innovation as long as improves customer experience. They seem to be more open than traditional Banks to collaborate –in any form- with third parties as long as it brings value rapidly and complements their value proposition.

Banks and **Large Corporations** share the same focus on terms of Innovation types (cover the whole spectrum) with focus on customer centric innovation. However, Corporates –like Challenger Banks- seem to be targeting faster innovation cycles. Disruptive innovation is the clear focus of Pioneer Corporates together with the use of advance innovation tools.

4. How the whole innovation orientation model is impacting on **Bank's performance** and long-term competitive advantage and what environmental turbulences could impact
- Sub question 13a: The more innovations introduced (market, process and administrative) the higher the level of Bank performance?
 - Sub question 13b: The more both radical and incremental forms of innovation are implemented, the higher the level of Bank performance?
 - Sub question 13c: The greater the speed of innovation developed, the higher the level of the Bank performance?

European Banks do not have a strong position on the impact of the level of form and type of innovation on the institution's performance but do have on innovation speed. They consider the faster innovation is introduced, the better the performance will be. The latter considered to be a consequence of market pressure and being aware internal "legacy" culture prevents from being as fast as the market is expecting, therefore is a way to adapt to market conditions.

Pioneers have a systematic approach to measure innovation impact on corporate performance, what was not the case for peer Banks. Moreover, and using secondary data, the researcher was able to confirm Pioneers have better performance in terms of financial results, although could not determine if that performance is a consequence of the innovation orientation of those companies.

Challenger Banks expect innovation to help them attaining those metrics that are critical in front of the investors (customer base growth), which are different from those tracked by traditional Banks (return on investment, ROE and increase in revenues).

Large Corporations measure innovation performance on its impact on the top line of the P&L, whereas Banks are more focused on profitability. Both are expecting results on the long run. Leading Large Corporations are more aggressive in the expected performance impact of innovation and braver to kill underperforming projects. At the same time, they are the only ones following HR KPIs related to innovation.

- **Sub question 14: Are environmental turbulences moderating the relationship among a Bank's innovation orientation, organizational competencies, innovation type, form and speed and firm performance?**

European Banks are aware there are external factors that could moderate / accelerate innovation but not all of them consider the same factors at the same level. This might be a consequence of different attitudes towards external factors/risk aversion and internal corporate culture.

As incumbent Banks, *Challengers* consider some factors as both facilitators and challengers to innovation. The main one being the impact of regulation, which could both reinforce their business model or be a limiting factor.

- **Sub question 15: Is innovation orientation considered being a long competitive advantage for Banks when compared to those institutions that have not implemented such structure to ensure they are oriented towards innovation?**

Most *European Banks consider innovation orientation as a competitive advantage in the long run* since this approach may help Banks to cope with relevant changes in the marketplace. It might not ensure a leading position but at least the continuity of the business. It is a must.

5. What are the pitfalls identified by Banks when focusing on innovation orientation?

- **Sub question 16: May innovation orientation imply some pitfalls to those Banks having implemented such framework?**

European Banks are aware of the innovation orientation pitfalls, which are mainly related to the frustration that not getting innovation done could cause on those people pushing for innovation. And what is underneath the shared comments is the fact that maybe Banks are not always ready to support innovation, either because they are not ready to implement new projects, do not have innovation management tools in place that could help having a vision and/or prioritize innovative projects, or because they expect too much from innovation.

Large Corporations see as major pitfalls to innovation orientation the friction that can be generated by not seeing any business impact of innovation, or by losing resources on innovation projects.

5.7 Summary table of evidence discussion per unit of analysis

The following table compares the three main units of analysis key conclusions analysis on how they are implementing the innovation orientation framework.

Table 5.1 Evidence summary across different units of analysis

	EUROPEAN BANKS		Challenger Banks	Large Corporations
	Mainstream	Pioneer Banks		
Strategic direction leading to innovation	<ul style="list-style-type: none"> - Banks have a strategic direction leading to innovation. Still with some challenges: cultural change required to be more agile and flexible to adapt to new market conditions; willingness to accept moderate risks from which derive some experience and learning; and a leadership that can cope with this required changes. - Board of Directors, together with top management, could be further committed to innovation. 	<ul style="list-style-type: none"> - Pioneers are well more advanced to their peers in the inclusion of innovation in their corporate strategy and corporate values. - Digital Banking, which was the final goal of innovation for most Banks, is overcome by Pioneers, which focus in other areas such as ESG. - Pioneers have set a systematic approach to innovation, not present in the rest of Banks. 	<ul style="list-style-type: none"> - Challenger Banks are using innovation, mainly focused on digital banking innovation, as a key strategic mean to keep ahead of competition and to gain as much customer base as possible when compared with traditional Banks. 	<ul style="list-style-type: none"> - Corporates when compared with Banks are more willing to challenge their mission and corporate strategy; have a systematic innovation process in place (as the Pioneers have), and may consider physical location to promote innovation (i.e. presence closer to innovation hubs)
Learning philosophy	<ul style="list-style-type: none"> - Banks have a learning philosophy but currently mainly oriented to gather knowledge, mainly from natural competitors and customers. Missing the potential of identifying business opportunities beyond traditional banking industry. - Banks are still lacking the implementation of formal systems to gather and disseminate all that knowledge within the organization. Banks also should consider moving from a top-down innovator to a pro-active customer oriented innovator pattern, which would be more aligned with their customer centric positioning. 	<ul style="list-style-type: none"> - Pioneers have shown to be more curious about what is going on around them than their peers. - Pioneers seem to be more committed to ensure the whole organization may profit from all that learning by implementing a systematic knowledge management system. This will be the base for a higher intensity on the innovation orientation outcomes. 	<ul style="list-style-type: none"> - Challenger Banks are more agile than traditional Banks in learning from the market, and using such knowledge to adapt their strategy (pivot), to untap business opportunities or readjust value proposition. 	<ul style="list-style-type: none"> - Both Corporates and Banks consider learning as a key source of innovation. However, Corporates seem to be more advanced in terms of setting formal networks to capture that knowledge (i.e. scouting networks).
Functional acclimation	<ul style="list-style-type: none"> - Most European Banks consider knowledge transfer across the organization as a vital component. However there is still room for improvement in this specific area, mainly in eliminating siloes which prevent from interdepartmental knowledge sharing/collaboration. - Few Banks have implemented knowledge management system. 	<ul style="list-style-type: none"> - There is a very strong correlation between Pioneers and the deployment of knowledge sharing/knowledge management systems across the organization. 	<ul style="list-style-type: none"> - Challenger Banks are more agile than traditional Banks in learning from the market, and using such knowledge to adapt their strategy (pivot), to untap business opportunities or readjust value proposition. 	<ul style="list-style-type: none"> - The data suggest that both Corporates and Banks consider learning sharing and breaking up silos as relevant elements to ensure innovation. Pioneer Corporates –like Challenger Banks- seem to have flatter organizations and are open to promote ecosystems, which seem to facilitate innovation. Pioneer Corporates are the only institutions considering pressure as a key element to generate innovation.
Organizational Competencies	<ul style="list-style-type: none"> - Banks are allocating budget to innovation on a wisely way. Banks seem to start defining talent pools and a map of required skills for the future. - Banks are willing to deploy new technologies. What really strikes Banks is the fact they need to deal with legacy systems ; leadership might not have the technical abilities to accompany the technological transformation process; and the organization is not fast enough to implement new IT solutions. - Banks are willing to gather and disseminate information about customer experience, competition and technology trends although they do not seem to be using such information to define precise innovation plans. - Banks in the process to implement actions to stimulate and sustain innovation-directed individual employee actions. Still Banks to accept risk related to letting employees innovate. - Banks in the process to adapt culture to stimulate and sustain innovation. 	<ul style="list-style-type: none"> - Pioneers dedicate far more resources to innovation than their peers (in terms of allocated resources, workforce retraining, investment in new technologies). - Pioneers have made enormous efforts to change the organization culture in order to continuously adapt to a changing market place (being agile, siloless, willing to learn through failure, giving autonomy and rewarding employees innovation contributions). - Pioneers have moved from a traditional banking culture to culture very similar to that of Challenger Banks. 	<ul style="list-style-type: none"> - Due to limited available resources, Challenger Banks compared to traditional Banks, need to prioritize where do funds go. - Despite the limitation, Challengers are willing to dedicate as much resources as required to have on board the best available talent and up to date technologies. 	<ul style="list-style-type: none"> - Corporates have a stronger position than Banks on ensuring having a culture of change, diversity, and "fail fast, learn fast" in place. - Corporates also stress the fact to have a right balance on the resources allocated to people and IT, which was not mentioned by Banks. - Corporates and Banks seem to have the same innovator pattern (top-down/Internally driven) whereas Pioneer Corporates, Pioneers and Challenger Banks share the same innovation pattern (pro-active customer oriented innovator).
Innovation outcomes	<ul style="list-style-type: none"> - Banks are focusing on transformational innovation - Banks focus on all types of innovation, with stronger focus on customer (product/service and channel) - Banks claim to be willing to deliver fast innovation - Banks shifting to a more collaborative open innovation with third parties. - Banks would fall into the top-down innovation pattern. 	<ul style="list-style-type: none"> - Pioneer Banks are focusing on incremental innovation - Focusing on customer experience innovation type (with better results than their peers) - Pioneers look for fast innovation cycles, which is supported by an agile organization. - Pioneers have more tradition of partnering with third parties. - Pioneers clearly fall into the pro-active customer innovation oriented innovators 	<ul style="list-style-type: none"> - Challenger Banks are open to do both radical and incremental innovation as long as improves customer experience. - Challenger Banks to cope with market pressure need to be as fast as possible in the innovation cycle. - They seem to be more open than traditional Banks to collaborate –in any form- with third parties as long as it brings value rapidly and complements their value proposition. 	<ul style="list-style-type: none"> - Radical innovation is the clear focus of Pioneer Corporates together with the use of advance innovation tools. - Banks and Corporates share the same focus on terms of Innovation types (cover the whole spectrum) with focus on customer centric innovation. - However Corporates –like Challenger Banks- seem to be targetting faster innovation cycles.
Innovation orientation impact on performance	<ul style="list-style-type: none"> - Banks do not have a strong view on the impact of the level of form and type of innovation on the Institution's performance but do have on innovation speed. - Banks consider the faster innovation is introduced, the better the performance will be. 	<ul style="list-style-type: none"> - Pioneers have a systematic approach to measure innovation impact on corporate performance, what was not the case for peer Banks. - Pioneers have better performance in terms of financial results, although could not determine if that performance is a consequence of the innovation orientation of those companies. 	<ul style="list-style-type: none"> - Challenger Banks expect innovation to help them attaining their critical metrics (customer base growth), which are different from those tracked by traditional Banks (return on investment, ROE and increase in revenues). 	<ul style="list-style-type: none"> - Corporates measure innovation performance on its impact on the top line of the P&L, whereas Banks are more focused on profitability. - Corporates and Banks are expecting results on the long run. - Pioneer Corporates are more aggressive in the expected performance impact of innovation and braver to kill underperforming projects. At the same time they are the only ones following HR KPIs related to innovation.
Pitfalls	<ul style="list-style-type: none"> - Banks consider as innovation pitfalls the frustration that not getting innovation done could cause on those people actually pushing for innovation. 	N.A.	N.A.	<ul style="list-style-type: none"> - Corporates see as major pitfalls to innovation orientation the friction that can be generated by not seeing any business impact of innovation, or by losing resources on innovation projects.
Environmental turbulences	<ul style="list-style-type: none"> - Banks have different views on external factors that could moderate / accelerate innovation but not all of them consider the same factors at the same level. This might be a consequence of different attitudes towards external factors/risk aversion and internal corporate culture. 	N.A.	<ul style="list-style-type: none"> - Challengers consider some factors as both facilitators and challengers to innovation. The main one being the impact of regulation, which could both reinforce their business model or be a limiting factor. 	N.A.

N.A.: not available information since data were not collected or it was not relevant

5.8 Implications for management practice

The banking industry has been facing a dramatic changes in recent years coming from the pressure of new entrants (FinTechs and Challenger Banks); customer habits changes (demanding Omni channel services, mainly through digital services); tougher regulation; and capital markets tensions (long period of time with historically low interest's rates). All those changes and threats have forced a traditional and risk averse industry to adapt to new conditions. And probably, the industry will need to continue to do so during the coming years.

Innovation orientation is seen by the very same industry as a long-term competitive advantage that could help Banks adapt to new market conditions and at ensure Banks are at the front run position in the innovation side.

The Updated Innovation Orientation Framework, initially conceptualized by Siguaw et al. (2006), and updated by this researcher with new literature; leading experts in innovation, large corporations and Challenger Banks insights and the findings from this research, could be a helpful tool for Bank's managers to (a) assess to what extent their organizations are fully oriented towards innovation, (b) and identify gaps and potential areas for improvement in views to ensure they are truly oriented towards innovation.

From the sample of Banks assessed, the researcher has identified the current gaps of mainstream European Banks when compared to the Updated Innovation Orientation Framework, to the so called Pioneer Banks and to the rest of Units of Analysis (mainly Challenger Banks and Leading Large Corporations). The researcher would assume some other Banks (and at a larger extent, companies in the tacit service industry) may also present some of those gaps too.

The following catalogue could be a starting point of features to check by any given Bank (or tacit service company) in order to ensure they are oriented towards innovation. Those features are:

- Strategy and leadership: (i) Leadership needs to be trained in innovation and new technologies arising and affecting the industry, supporting and leading change, implement a more systematic approach to innovation; (ii) Board of directors need to be committed and involved in the innovation orientation process; and (iii) Banks should not fear to recurrently challenging their mission, vision and values in order to identify potential innovation outcomes; and (i) Banks should consider being more open to embrace change and pivot their current strategy as to take advantage of new opportunities arising from the market;
- Learning/Functional Acclimation: (i) Banks should put in place formal systems and tools to gather and disseminate knowledge (i.e. a Knowledge Management Systems). This knowledge should include that related to current competitors, new players, potential new players, and customers. The source of that knowledge in order to be efficient should come from all the insights the Bank can gather through the value chain, employees and third parties that could be collaborating with the Bank; (ii) Use market intelligence to generate innovation; (iii) Scouting networks could be an option to generate insights for innovation
- Organizational Competencies: (i) dedicating resources to innovation is critical but to avoid frictions and frustrations when innovation outcomes are not successful, those resources need to be allocated wisely; (ii) Banks should put in place all the measures available to avoid siloes and set up a flexible and flatter organizations. By doing to, they will ensure knowledge

transfer and interdepartmental collaboration, and an agile organization; (iii) Banks need to be more open to embrace new technologies and ensure they implement them faster despite their legacy systems; (iv) Banks should further leverage on employees' capabilities to innovate; (v) Banks should consider implementing reward systems to encourage innovation from employees; and (vi) Banks should be more willing to assume controlled risks by a fail a learn attitude and being more flexible

- Innovation Outcomes: (i) Banks need to define the type of innovation they want to implement, although the level of maturity on the innovation process could be hint (starters go for incremental, and as getting more mature, transition to transformational and radical if considered appropriated); (ii) Banks should strongly consider collaboration with third parties in the innovation generation process. The benefits seem to be superior to the potential risks.
- Banks performance: (i) Banks should consider setting up an Innovation Management Plan and Dashboard, which should include the goals to be achieved through innovation (to be derived from the corporate strategic plan), the innovation related projects portfolio, required resources to be allocated (budget and FTEs), deliverables and KPIs to be followed to ensure the plan is on track and type, form and level of collaboration related to innovation.

If those features are not yet implemented, those organizations may consider implementing them in order to ensure they are oriented towards innovation in the long run and consequently gain some competitive advantage.

6. CONCLUSIONS

6.1 Introduction

Innovation management is increasingly more present in the business discourse for all kind of fields of activity. However, academic literature has generally focused in technological and product innovations with limited coverage of innovation in service sectors like banking. With this in mind, **this study has focused on innovation in the retail banking in Europe** in the current times (primary research conducted between 2018 and 2019), when this industry was facing an increasingly competitive landscape with the entrance of new players (such as Challenger Banks) characterized by its agility to implement new services and adapt to new market trends.

To compete effectively **Banks, need to adapt to those new market conditions**. This could be done by **process and/or product/service innovations**, or through defining and filling new opportunity spaces. However, those **innovations alone are insufficient** to create long-term survival or a sustainable competitive advantage (de Brentani et al., 2010; Lisboa et al., 2011; Salunke et al., 2013; Mahr, Lievens and Blazevic, 2014; Jaaron, and Backhouse, 2017; Tajeddini and Trueman, 2014; Wu, 2014), since it may limit innovations to narrow categories.

Instead, there must be a collective set of understandings and beliefs, pervasively accepted throughout the firm and likely to occur at all levels and functions, that facilitates continual innovation to ensure long-term competitive advantage (Dobni, 2006; Siguaw et al., 2006; Accenture, 2011; Hanif and Asgher, 2018; and Tuzovic et al., 2018). This broader construct corresponds to the so-called **innovation orientation framework**. An innovation orientation perspective could **lead to the integration of innovation into all areas of the firm (Banks in the case of this research) to better create a long term sustainable competitive advantage**.

6.2 Literature review and conceptual framework

The innovation orientation theory has emerged within the literature in the last 40 years particularly within the development of other strategic orientations, although **this area of research is still developing and has so far been under researched** (Norris and Ciesielska, 2018).

Moreover, research has not yet settled on one widely accepted definition of innovation orientation and instead much of the empirical investigations either do not define innovation orientation (Pearson, 1993; Dobni, 2006; Saenz et al., 2007; Prajogo and McDermott, 2014; Zobel et al., 2017) or utilize a range of definitions without selecting a firm single definition on which to frame the study (Grinstein, 2008; Chou and Yang, 2011; Kraiczy et al., 2014; Lee et al., 2016). Therefore, for the purpose of this research, it was deemed relevant to come with a **definition of the innovation orientation concept** to be used in this research.

The researcher, after conducting a literature review came with the following definition for innovation orientation, which is aligned with the most relevant literature: **innovation-based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organization's competitive posture and strategic focus** (Berton et al, 2002; Worren 2002; Siguaw et al., 2006; Human and Naude, 2010; Stock and Zacharias, 2011; Talke et al., 2014; Engelen et al., 2014; Das et al. 2017; Tuzovic et al., 2017; Dobni and Sad, 2018). **Innovation orientation is seen, as a multiple construct** (Manu 1992; Siguaw et al. 2006; Human and Naude, 2010; Dobni, 2010; Stock and Zacharias, 2011; Engelen et al., 2014; Tuzovic et al., 2017); **with a focus on driving innovation-based practices and values throughout the organization primarily through four core aspects considered as antecedents: culture, flexibility in structures, capital and knowledge capabilities and understanding environmental dynamics** (Hurley and Hult, 1998; Berton et al, 2002; Worren 2002; Siguaw et al., 2006; Chen and Huang, 2009; Human and Naude, 2010; Dobni, 2010; Stock and Zacharias, 2011; Engelen et al., 2014; Das et al. 2017; Tuzovic et al., 2017) **with the aim of driving positive organizational performance generated by the innovation orientation outcomes** (Siguaw et al., 2006; De Jon et al., 2015; Ionescu, 2015; Cohen et al., 2019; Bar Am et al., 2020).

After the concept of innovation orientation was set up, it was then considered relevant to come with a **framework** for such concept to be used as a base during the primary research. However, a **minority of research** on innovation orientation, to date, has consisted on **developing a framework or model of innovation orientation**, that could be applied to explore innovation orientation in practice and through empirical study (Pearson, 1993; Berthon et al., 1999; Siguaw et al., 2006; Simpson et al., 2006; Jones and Rowley, 2011).

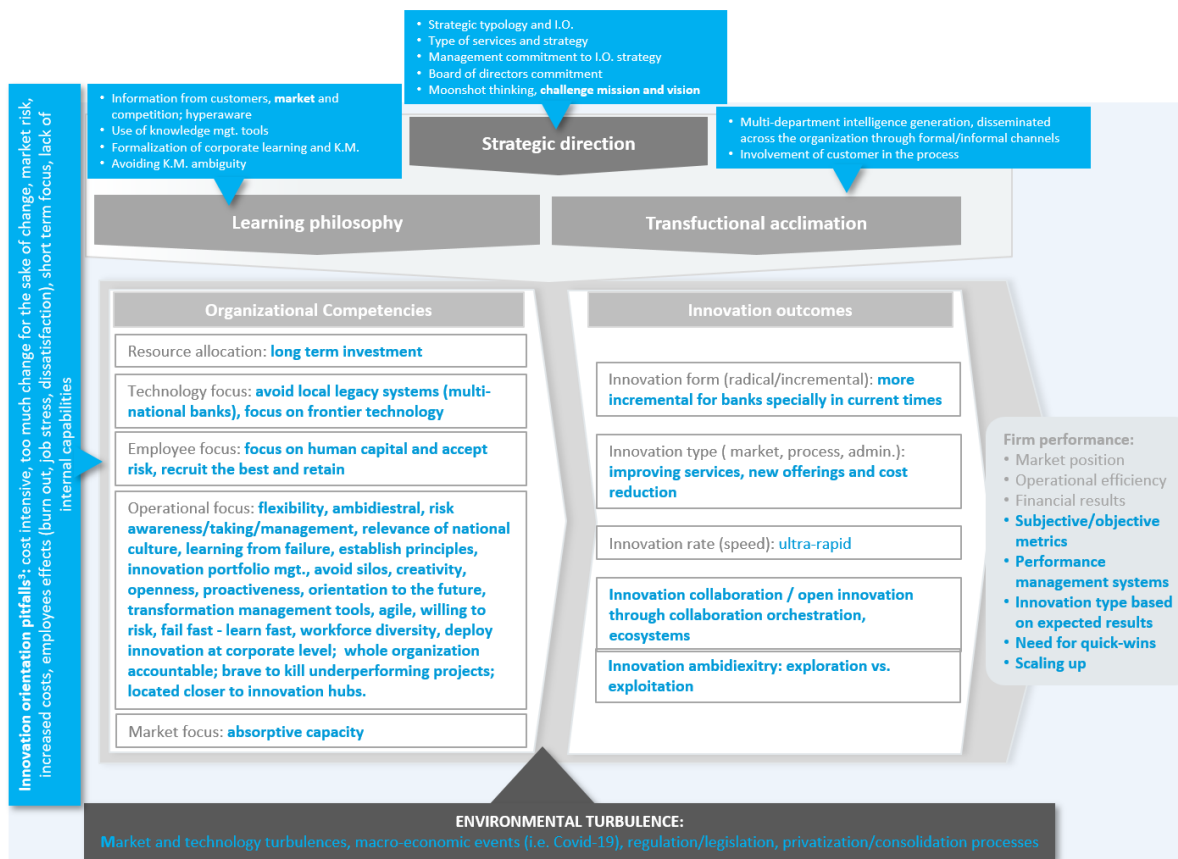
The researcher, based Norris and Ciesielska (2018) conclusions on innovation orientation literature review, considered Siguaw et al.'s (2006) framework as the most appropriate as a starting point to frame innovation orientation. Always based on Norris and Ciesielska (2018) research, (i) **Siguaw et al.'s (2006) innovation orientation framework** is considered **a reference and an good basis in research in order to frame innovation orientation, and that** (ii) Siguaw et al. (2006) **did move the study of innovation orientation forward in the seminal work** that provided a conceptual framework for study and integration of innovation research and gave the rise of interest and publication by researchers into innovation orientation.

Since there has been further research on the topic after Siguaw et al. (2006) article was first published, that framework has been **reviewed and updated** with recent research conclusions on the topic. Moreover, since the focus of the research was the **banking industry**, a literature review on innovation orientation for the service industry as a whole, and for the banking industry in particular was conducted in order to customize the innovation orientation framework to the banking industry.

Moreover, insights were collected through interviews with research experts on innovation and other relevant units of analysis (Challenger Banks and Large Corporations that share common traits with Banks: either by size and market conditions, the latter, or because they are present in the same industry, the former).

With all that, the researcher came with an **Updated Innovation Orientation Framework** customized for the banking industry which was then used as the basis for the primary research:

Figure 6.1: Updated Innovation Orientation Framework*



(*) Notes:

- Base on Siguaw et al's. (2006) innovation orientation framework. In blue the new components added to innovation orientation framework after literature review and insights from Innovation research experts, Large Corporations and Challenger Banks.
- I.O. refers to Innovation Orientation
- K.M. refers to Knowledge Management

6.3 Purpose and research question

The main goal of this study was to **understand how European Banks are ensuring they are oriented towards innovation in the long run gaining a competitive advantage by doing so.**

The analysis of the innovation orientation framework applied to/or used by the banking industry, and to a lesser extent in Europe, has never been conducted previously. In fact, there is limited research conducted on innovation as a whole in the banking industry, and even at a lesser extent, regarding innovation orientation framework applied to such industry (Bofondi and Lotti, 2006; Dobni, 2006; Anderloni et al., 2009; Accenture, 2011; Wolfe et al., 2011; Uz Kurt et al., 2013; Frame and White, 2014; Gartner, 2014).

There has only been **limited research in the service industry** -in which Banking could be included- on some of the Innovation Orientation Framework components, mainly on the antecedents of innovation performance as per the meta-analysis conducted by Storey et al. (2016), and assessment for specific service industry -the most recent identified, focusing in the airline industry as per Tuzovic et al. (2018)-.

On the banking industry there has only been one previous **attempt to formulate a conceptual innovation orientation framework** (Dobni, 2006) but the researcher did not conduct any primary research to confirm Banks were using such framework, it was more of a proposition based on the literature on how such innovation orientation framework for the banking industry could look like.

There are other recent articles related to innovation to the banking industry, but not specifically related to an innovation orientation framework as a whole but parts of such framework: **innovation management** (Tornjanski et al., 2015); banking industry trends and organizational attributes that affect **organizations' capability in designing innovative services** (Velayati et al., 2020); analysis of **cultural traits to banks' ability to innovate** (Guimaraes et al., 2019); the internal **barriers to radical innovation** projects in large financial services firms (Das et al., 2017); the **effects of existing service productivity** on the success of new service introductions in a financial services market (Aspara et al., 2017); and the relationship between **banking service innovation and service innovation performance** (Hanif and Asgher, 2018).

Therefore, this research is the very first conducted to assess on how European Banks are applying the Updated Innovation Orientation Framework in order to gain long term competitive advantages.

To reach that goal, the research question was set up as:

How are European Banks ensuring they are oriented towards innovation?

The researcher split the research question into five main questions -corresponding to the five main components of the Updated Innovation Orientation framework component-, which in turn where

covered by a series of sub questions: (i) knowledge structure; (ii) organizational competencies; (iii) innovation outcomes; (iv) bank's performance impact of innovation orientation; and (v) environmental turbulences and pitfalls that could affect the innovation orientation approach.

By answering those questions, the researcher has been able to find the required knowledge structure that make Banks to adopt an innovation orientation; identified organizational competencies Banks have developed or implemented to ensure a successful innovation orientation; as well as to determine what type of innovation outcomes Banks are focusing on; how Banks measure the impact of innovation orientation on corporate performance; and what environmental turbulences and pitfalls Banks consider as affecting the whole innovation orientation process.

Moreover, **those answers are a novelty since they have never been formulated and answered before neither for the service industry as a whole nor for the banking industry.**

Additionally, providing such answers will help practitioners in that industry to benchmark and see what components are applied by other European Banking institution to be oriented towards innovation and how they do so.

6.4 Methodology and research design

A **multi-case exploratory study** approach -based on Yin (2018) classification- was used to gain an understanding of how European Banks ensure they are oriented towards innovation. Case study is the preferred methodology when the research aims to contribute to knowledge of individual, group, organizational, social, political, and related phenomena.

In order to enrich the analysis, other comparable units of analysis were also included in the multi case study: Large Corporations in industries that share common attributes to Banks (regulated industries, industries facing market changes, and service-related industries) and Challenger Banks. The latter are small, recently created retail banks that compete directly with the incumbent banks, offering modern financial technology practices, such as online-only operations, that avoid the costs and complexities of traditional banking.

The conducted research (multy-case exploratory study) required for richness of data and attention to context in order to study organizations (i.e. Banks). Based on this need of a broad source of data, it was assessed as the most appropriate research design to be used a **mixed sequential model design** -based on Rocco et al. (2003) classification-, which allows integrating, in the same study, quantitative and qualitative methodologies, with the purpose of having a better understanding about the object of study.

Following the above-mentioned research design, the study started with **in-depth interviews (qualitative research)**- with **academic experts** (7 interviews) in innovation, **large Corporations** (10), **and Challenger Banks** (16). The insights from those interviews were used to validate/complement the Updated Innovation Orientation Framework.

From there, in-depth interviews were performed with senior and middle management representatives from **16 European Banks** (46) **and one leading innovative banks from US** (2) **and another from Asia** (1). The two latter were included to have a reference point to identify innovative European Banks (the so-called Pioneer Banks).

Those in-depth interviews were followed with on-line interviews with peers of the Banks representatives interviewees (**quantitative research**) to validate the qualitative research evidences (total of 72 on-line valid questionnaires).

6.5 Research evidences and discussion

From the evidencies gathered during the primary research phase, the researcher was able to conclude the following relating to how European Banks are ensuring they are oriented towards innovation.

Following the Updated Innovation Orientation framework structure, and starting by the knowledge structure, European Banks overall have a **strategic direction** leading to innovation but they seem to be facing some challenges to really implement or develop some features and mechanisms to ensure strategy related to innovation components are deployed: the cultural change required to be more agile and flexible to adapt to new market conditions; the willingness to accept moderate risks; and a leadership that can cope with those required changes. Moreover, Banks still need to get full commitment to innovation orientation from the top management and the Board of Directors.

Following with the knowledge structure, European Banks have in place a **learning philosophy** but currently mainly oriented to gather knowledge – with specific focus on customer experiences, competition and technology trends-, though missing the potential to transform such knowledge into new business opportunities. Furthermore, European Banks are still lacking the implementation of formal systems and processes to gather and disseminate all that knowledge across the organization.

Regarding the last component of the knowledge structure, European Banks despite considering **trans functional acclimation** as a vital component to ensure innovation takes place, there is still room for improvement in this specific area, mainly in eliminating siloes which prevent from interdepartmental collaboration. The advisable practice would be the implementation of a knowledge management system.

Getting into the organizational competencies required to be oriented towards innovation, European Banks were clearly **allocating budget** to innovation, which due to cost constraints are being wisely assigned. On the workforce, European Banks seemed to be considering the importance of the dedicated **human resources** to the innovation process. As such they are starting to define talent pools of natural innovators and mapping required skills for the future to identify gaps with existing workforce in order to cover those gaps.

A key component within the organizational competencies highlighted by European Banks was the willingness to deploy **new technologies**, although as a means to follow up with market trends and be able to cope with competition rather than on a proactive manner. What really strikes European Banks is the fact they need to deal with legacy systems that are not as flexible as one would like; leadership might not have the technical abilities to accompany the technological transformation process and that the organization is not fast enough to implement such IT related required implementations and updates.

Still related to the organizational competencies, European Banks have implemented a set of procedures devoted to stimulating and sustaining innovation-directed **individual employee** actions, and corporate values within the corporate culture that are aiming to ensure innovation in the long run. However, for some institutions there is still a long way to go. Likewise, there is still room for improvement for most of European Banks accepting risk related to letting employees innovate and being more autonomous. Moreover, Banks still need to make some adjustments to the **organization**

structure, leadership style, and culture to engage the organization to stimulate and sustain innovation.

On the innovation outcomes, European Banks are using all **forms of innovation** (incremental and radical), with a more predominant form one in between the those two initial forms suggested by the innovation orientation framework. This in-between form has been called transformational form of innovation.

Due to the changes the financial industry is facing and the increasingly competition in the industry, European Banks recognize they need to focus on all **types of innovation** to quickly adapt to new market conditions and cope with new entrants in the industry (i.e. Challenger Banks).

Despite European Banks state they want fast innovations, they face some major internal challenges to get up to speed, namely their organizations' internal procedures limiting **innovation speed**.

One major relevant change European Banks are experiencing is the shift in their **innovation collaboration style**. They are moving from an internal driven preserver model to a new pattern, the innovation ecosystems or **open innovation**. This is due to the need of Banks to become more agile in the innovation process that they may not reach due to some internal limiting factors as previously mentioned.

European Banks do not have a strong position on the impact of the level of form and type of innovation on the institution's performance but do have on innovation speed. They consider the faster innovation is introduced, the better the performance will be. The latter considered to be a consequence of market pressure and being aware internal "legacy" culture prevents from being as fast as the market is expecting.

Regarding environmental factors that could limit innovation orientation, European Banks are well aware there are **factors** that could moderate / accelerate innovation but Banks do not seem to have a common view on what factors are moderating and what accelerating (i.e. regulation is seen by some as a moderating factor whereas others consider it as an accelerating one). This might be a consequence of different attitudes towards external factors/risk aversion and internal corporate culture.

All in all, European Banks consider innovation orientation could be a competitive advantage in the long run since this approach may help Banks to cope with relevant changes in the marketplace.

Banks are also aware of the innovation orientation pitfalls, which are mainly related to the frustration that not getting innovation done could cause on those teams pushing for innovation.

In conclusion, after the analysis of all evidences, most European Banks had implemented/were in the process to implement almost all the components of the Updated Innovation Orientation framework and they consider an innovation orientation perspective could lead to the integration of innovation into all areas of the Bank and create a long term sustainable competitive advantage.

However there are three components of the framework that still need further development: (i) trans functional acclimation; (ii) further innovation culture development (risk acceptance, flexibility, agility, silo less structure, more employee autonomy, and implementing innovation related reward systems); and (iii) assessing/tracking innovation orientation on Bank's performance. Coupled with those developments, Banks should consider implementing systematic tools related to some of those components: learning/knowledge management systems; innovation portfolio management; and innovation KPIs dashboards.

In order to capture potential differentiation attributes between the so-called Pioneer Banks (more advanced in terms of the degree of implementation of the innovation orientation framework) and the rest of the Banks, the researcher sub segmented the European Banks into two groups. Once evidences analyzed, **Pioneer Banks, when compared to the rest of the Banks**, seem to have greater top-level support, higher investment in technology and talent, have less challenges with cultural issues, and are more skilled at measuring results related to innovation. Moreover, they have formalized a series of tools aiming at rationalizing the Bank's innovation orientation: learning management systems, knowledge management systems, business intelligence processes, innovation projects portfolio management, and innovation related KPIs dashboards.

For further details on the comparison between European Banks and European Pioneer Banks, please refer to the following table.

Table 6.1: Evidences on how European Banks ensure they are oriented towards innovation, based on Updated Innovation Orientation framework

	Mainstream	Pioner Banks
Strategic direction leading to innovation	<ul style="list-style-type: none"> - Banks have a strategic direction leading to innovation. Still with some challenges: cultural change required to be more agile and flexible to adapt to new market conditions; willingness to accept moderate risks from which derive some experience and learning; and a leadership that can cope with this required changes. - Board of Directors, together with top management, could be further committed to innovation. 	<ul style="list-style-type: none"> - Pioners are well more advanced to their peers in the inclusion of innovation in their corporate strategy and corporate values. - Digital Banking, which was the final goal of innovation for most Banks, is overcome by Pioners, which focus in other areas such ESG. - Pioners have set a systematic approach to innovation, not present in the rest of Banks.
Learning philosophy	<ul style="list-style-type: none"> - Banks have a learning philosophy but currently mainly oriented to gather knowledge, mainly from natural competitors and customers. Missing the potential of identifying business opportunities beyond traditional banking industry. - Banks are still lacking the implementation of formal systems to gather and disseminate all that knowledge within the organization. Banks also should consider moving from a top-down innovator to a pro-active customer oriented innovator pattern, which would be more aligned with their customer centric positioning. 	<ul style="list-style-type: none"> - Pioners have shown to be more curious about what is going on around them than their peers. - Pioners seem to be more committed to ensure the whole organization may profit from all that learning by implementing a systematic knowledge management system. This will be the base for a higher intensity on the innovation orientation outcomes.
Functional acclimation	<ul style="list-style-type: none"> - Most European Banks consider knowledge transfer across the organization as a vital component. However there is still room for improvement in this specific area, mainly in eliminating siloes which prevent from interdepartmental knowledge sharing/collaboration. - Few Banks have implemented knowledge management system. 	<ul style="list-style-type: none"> - There is a very strong correlation between Pioneers and the deployment of knowledge sharing/knowledge management systems across the organization.
Organizational Competencies	<ul style="list-style-type: none"> - Banks are allocating budget to innovation on a wisely way. Banks seem to start defining talent pools and a map of required skills for the future. - Banks are willing to deploy new technologies. What really strikes Banks is the fact they need to deal with legacy systems ; leadership might not have the technical abilities to accompaing the technological transformation process; and the organization is not fast enough to implement new IT solutions. - Banks are willing to gather and disseminate information about customer experience, competition and technology trends although they do not seem to be using such information to define precise innovation plans. - Banks in the process to implement actions to stimulate and sustain innovation-directed individual employee actions. Still Banks to accept risk related to letting employees innovate. - Banks in the process to adapt culture to stimulate and sustain innovation. 	<ul style="list-style-type: none"> - Pioners dedicate far more resources to innovation than their peers (in terms of allocated resources, workforce retraining, investment in new technologies). - Pioners have made enormous efforts to change the organization culture in order to continuously adapt to a changing market place (being agile, siloless, willing to learn through failure, giving autonomy and rewarding employees innovation contributions). - Pioners have moved from a traditional banking culture to culture very similar to that of Challenger Banks.
Innovation outcomes	<ul style="list-style-type: none"> - Banks are focusing on transformational innovation - Banks focus on all types of innovation, with stronger focus on customer (product/service and channel) - Banks claim to be willing to deliver fast innovation - Banks shifting to a more collaborative open innovation with third parties. - Banks would fall into the top-down innovation pattern. 	<ul style="list-style-type: none"> - Pioner Banks are focusing on incremental innovation - Focusing on customer experience innovation type (with better results than their peers) - Pioners look for fast innovation cycles, which is supported by an agile organization. - Pioners have more tradition of partnering with third parties. - Pioners clearly fall into the pro-active customer innovation oriented innovators
Innovation orientation impact on performance	<ul style="list-style-type: none"> - Banks do not have a strong view on the impact of the level of form and type of innovation on the institution's performance but do have on innovation speed. - Banks consider the faster innovation is introduced, the better the performance will be. 	<ul style="list-style-type: none"> - Pioners have a systematic approach to measure innovation impact on corporate performance, what was not the case for peer Banks. - Pioners have better performance in terms of financial results, although could not determine if that performance is a consequence of the innovation orientation of those companies.
Pitfalls	<ul style="list-style-type: none"> - Banks consider as innovation pitfalls the frustration that not getting innovation done could cause on those people actually pushing for innovation. 	N.A.
Environmental turbulences	<ul style="list-style-type: none"> - Banks have different views on external factors that could moderate / accelerate innovation but not all of them consider the same factors at the same level. This might be a consequence of different attitudes towards external factors/risk aversion and internal corporate culture. 	N.A.

From the analysis of evidences from interviewing **Challenger Banks and when compared those with European Banks**, the former seem to embody the core principles of innovation that drive competitive advantage to the traditional Banks. Challenger embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge.

Last, from the evidences gathered after interviewing a sample of **Large Corporations** when confronted to Banks, the former are more willing to challenge their mission, vision and values on a regular basis in order to untap potential innovation outcomes. Most of them have undertaken significant cultural and organizational changes to ensure the whole organization is oriented towards innovation. They seem to prize agility, flexibility, diversity, fail fast/learn fast attitude, silo-less organizations and cross-departmental collaboration, and they have also developed ecosystems to promote innovation.

6.6 Managerial recommendations and study limitations

The Updated Innovation Orientation Framework, initially conceptualized by Siguaw et al. (2006), and updated by this researcher, could be a helpful tool for Bank's managers to (a) assess to what extent their organizations are fully oriented towards innovation, (b) and identify gaps and potential areas for improvement in views to ensure they are truly oriented towards innovation.

From the sample of Banks assessed, the researcher has identified the current gaps of mainstream European Banks when compared to the Updated Innovation Orientation Framework, to the so called Pioneer Banks and to the rest of Units of Analysis (mainly Challenger Banks and Leading Large Corporations). The researcher would assume some other Banks (and at a larger extent, companies in the tacit service industry) may also present some of those gaps too.

The following catalogue could be a starting point of features to check by any given Bank (or tacit service company) in order to ensure they are oriented towards innovation. Those features are:

- Strategy and leadership: (i) Leadership needs to be trained in innovation and new technologies, be supportive to innovation and lead change; (ii) Board of directors need to be committed and supportive to the innovation orientation process; (iii) Banks should not fear to challenge their mission, vision and values in order to identify potential innovation outcomes
- Learning/Functional Acclimation: (i) Banks should put in place formal systems and tools to gather and disseminate knowledge; (ii) Banks should use market intelligence to generate innovation; (iii) setting up scouting networks could be an option to generate insights for innovation
- Organizational Competencies: (i) dedicating resources to innovation is critical but need to be allocated wisely; (ii) Banks should put in place all the measures available to avoid siloes and set up a flexible and flatter organizations; (iii) Banks need to be more open to embrace new technologies and ensure they are implemented fast despite their legacy systems; (iv) Banks should further leverage on employees capabilities to innovate; (v) Banks should consider implementing reward systems to encourage innovation from employees; (vi) Banks should be more willing to assume controlled risks by a fail an learn attitude and being more flexible
- Innovation Outcomes: (i) Banks need to define the type of innovation they want to implement; (ii) Banks should strongly consider collaboration with third parties in the innovation generation process; and (iii) make sure orchestrate internally the innovation initiatives
- Banks performance: (i) Banks should consider setting up an Innovation Management Plan and Dashboard, which should include the goals to be achieved through innovation, the innovation related projects portfolio, required resources to be allocated, deliverables and KPIs to be followed (both objective and subjective)

If those features are not yet implemented, those organizations may consider implementing them in order to ensure they are oriented towards innovation in the long run and consequently gain some competitive advantage.

Furthermore, managers should be fully aware that innovation orientation has also some pitfalls that should be considered while implementing such framework. The main one is that this process is a cost intensive one that could be seen as generating too much change for the sake of change. It may also have an impact on the workforce due to its potential intensity such as burn out, job stress, and dissatisfaction.

And last, managers should also implement effective mechanism to anticipate the potential effects of environmental turbulences in the innovation orientation of the Bank, such as market and technology turbulences, macro-economic events (i.e. Covid-19), regulation changes, and industry consolidation processes.

6.7 Limitations and avenues for further research

This study has several limitations that offer avenues for further research.

First, qualitative data were collected from large Banking institutions in Europe. To generalize the findings and validate the proposed framework, a necessary next step is to conduct in-depth case analyses of other Banks in the medium small range and/or large Banks in other geographies.

Second, in the literature review, meta-analytic tools could not be used to integrate findings for innovation orientation in the banking industry due to the limited number of studies available for this topic. In this case the researcher had to rely on a narrative review of findings which always bears the risk of subjective biases. More studies on the innovation orientation in the banking industry are needed to more objectively summarize the findings.

Third, the quantitative study was used to support and validate the quantitative evidences. To make the innovation orientation framework for the banking industry sounder, it could be advisable to conduct a deeper statistical analysis with a larger sample by including quantitative information from other size Banks. Likewise, conducting a quantitative analysis on the Challenger Banks segment, could bring a deeper understanding on the differences and similarities between those two types of Banks (traditional Banks vs. Challenger Banks).

Fourth, the results highlighted some new attributes to the updated innovation orientation framework that unfortunately could not be tested across all the sample of Banks. More research is needed to investigate how those attributes affect the innovation orientation:

- Strategy and leadership: (i) most successful leadership styles to be implemented in industries in process of relevant transformation/digitalization; (ii) best practices on Board of Directors implications in innovation
- Learning: (i) what is the benefit of looking at all competitors and the market compared to the outcomes and resources allocated; (ii) use of knowledge management plans and their impact on innovation orientation
- Organizational Resources: (i) types and levels of innovation plans; (ii) best practices on reward systems on innovation generation
- Outcomes of innovation: (i) Importance of entering an innovation ecosystem where internal and external players jointly collaborate in innovation; (ii) transformational innovation as a third way of innovation form
- Performance: (i) impact of pressure on organization to be more innovative in the long run
- Pitfalls to innovation: status quo of leadership as barrier to innovation orientation

Fifth, it was identified as one of the key pitfalls to innovation from the in-depth interview the status quo leadership. Banks point of view was that any innovation in an organization needs all elements of the system to operate at an equally high level — rather than more funds, expenditures, activities or tactical interventions. Further exploratory research on this field could be relevant, not only for the banking industry but for other industries.

6.8 Originality and value of this study

According to the existing literature related to innovation orientation framework (Cheung et al., 2010; Talke et al., 2011; Engelen et al. 2014; Verma and Jayasimha, 2014), there were some areas that had not yet been uncovered and therefore needed some further research. Some of those areas of research included comparisons of strongly innovation-oriented firms to weakly innovation-oriented firms (this research has included this topic by **comparing traditional approach Banks vs. Challenger Banks**); longitudinal examinations of innovation-oriented firms, especially in relation to their intra-industry and their weaker innovation counterparts (this study includes a **cross banking sector comparison by confronting Pioneer Banks to the rest of industry players**); and a comparison of innovation-oriented firms by industry (i.e. **comparing the banking industry with other industries** with similar features like highly regulated or service industries as included in this research). **Therefore, this study has covered some research areas that previous studies identified in need of further research.**

Industry wide, this study is **the first one ever to specifically concentrate in the banking industry innovation orientation in Europe by investigating how European Banks are ensuring they are oriented towards innovation** and how they compare to other comparable units of analysis such as Challenger Banks and Large Corporations.

On the theoretical side, the **Updated Innovation Orientation framework the researcher came to, provides a fuller and more integrated view than what was available in the existing previous literature** on what it takes to for a financial institution to be innovative in the long run. The researcher hopes that the emergent framework will encourage future research on this important topic.

As such, the **Updated Innovation Orientation Framework** specific for the banking industry assembled during this research project, **could help innovation-striving Banks identify potential gaps between their current status and the five components of the framework that could ensure they are oriented towards innovation and gain a competitive advantage**: (i) knowledge structure; (ii) organizational competencies; (iii) innovation outcomes; (iv) bank's performance impact of innovation orientation; and (v) environmental turbulences and pitfalls that could affect the innovation orientation approach. To help shortening the distance between European Banks current situation and the ideal situation -if all components of the Updated Innovation Orientation were to be implemented- the researcher has come with a **series of recommendations that could help Banks reach that stage and gain a sustainable competitive advantage.**

Therefore, given **there was no research on how the innovation orientation framework could be applied in the financial industry, nor there was a specific innovation orientation framework for that industry** – which this research has brought- this research project **brings value to the banking industry and also opens some further research pathways.**

Key words:

Innovation orientation; European Banks; multi-case study

7. APPENDIXES

Appendix 1 - Questionnaire used with Research Experts

TITLE OF STUDY: Innovation Orientation in the Banking industry

[Questionnaire for Research Experts on Innovation]

Date:	Place:
Interviewee:	Email contact:
Consent to record: Yes/No	Phone contact:
Institution:	

INTRODUCTION:

Good morning / afternoon Mr/Mrs _____

Once again many thanks for your time and cooperation in answering the following questions that aim to capture information as to validate what tools and approaches are currently used by companies to ensure they are oriented towards innovation in the long run based in your experience and research.

The response will be recorded, if you are not against, and treated confidentially. Your responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total. No one other than myself will know your individual answers to this questionnaire.

Conclusions, which will be part of my PhD thesis, will be presented on an aggregated format, thus no specific data from your responses/organization will be made public to third parties.

There is no right or wrong answer. Therefore, I would really appreciate if you answer the questions as honestly and complete as possible.

The interview shouldn't last more than one hour and is presented as an open discussion from two main questions.

A last remark, during the interview I will be referring to some concepts. I would like to clarify the definition we have given to those concepts before starting with the interview:

- *Innovation: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. [Oslo Manual; 2005]*
- *Innovative entities: organizations that have implemented a multidimensional knowledge structure composed of a learning philosophy, strategic direction, and transfunctional beliefs that, in turn, guide and direct all organizational strategies and actions, including those embedded in the formal and informal systems, behaviors, competencies, and processes of the firm to promote innovative thinking and facilitate successful development, evolution, and execution of innovations. [Judy A. Siguaw, Penny M. Simpson, and Cathy A. Enz; 2006]*

Please do not hesitate to ask for any further clarification during the interview.

[B] Scholars have come to an innovation orientation model which synthesizes the key elements a company should have/develop in order to be oriented towards innovation.

From the elements in this model [the list of categories and codes should be presented to the interviewee and any doubt clarified]

[B.1] What elements do you consider as more relevant to your company? Which one(s)?

[B.2.] Do you think the model is missing any relevant element that is currently in place in your organization and is helping to be oriented towards innovation?

Element	Relevance	Missing...
Strategic direction	- [S]	
Learning philosophy	- [L]	
Transfunctional acclimation	- [T]	
Organizational competencies: - O1: Ressource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	- [R] - [TC] - [E] - [O] - [M]	
Innovation outcomes: - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs. internal - ID: Innovation ambidexterity	- [F] - [TY] - [RT] - [C] - [X]	
Firme performance: - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems	- [MK] - [EF] - [FR] - [JM] - [MS]	
Environmentl turbulences	- [TR]	
Innovation orientation pitfalls	- [P]	

Appendix 2 - Summary of Research Experts interviews

Strategic direction [E-S]:

1. STRATEGIC DIRECTION: Companies should focus their strategy to discover today what will matter tomorrow and then to transform the company into a future that is unfolding before them
2. VALUE OF INNOVATION: Companies need to have a reason to innovate and set up metrics and KPIs to ensure they are successful
3. VISION/AGILITY: Instead of focusing too much on strategy and planning, companies should rather focus on their vision and agility. Due to rapid changes in the industry, companies need to be flexible and lead change
4. FOCUS ON THE FUTURE: To discover today what will matter tomorrow and then to transform the company into that future that is unfolding

Learning philosophy [E-L]:

1. LEARNING: Learning is critical for firms to innovate in the future. Companies need to be “hyperaware” of new trends in the market.
2. LEARNING FROM CONSUMERS: Companies should focus innovation on what really brings value to end consumers, rather than on what competition is doing
3. UNDERSTANDING COMPETITION: Need to understand who your competitors are in a broader perspective by re-reading new dynamics of competition
4. PREDICTION CAPACITY: Organizations need to develop a prediction capacity, since it is the essence of all intelligence. This prediction capacity will be more accurate as companies get more inputs and from them infer patterns and predict likely outputs

Transfunctional acclimation [E-T]:

1. KNOWLEDGE TRANSFER: In order to be successful, companies should combine a go-to-market strategy with the engagement from customers and employees and an organization with a clear structure and culture formed to support innovation through knowledge transfer

Organizational Competencies [E-R]:

1. WISE ALLOCATION: Resources need to be allocated wisely. The key point is to understand what is the real problem, for that companies need to learn, and from there find the solution with resources at disposal to do so. In other words, you may not need more resources, but just use your resources differently. We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run
2. IMPACT OF TECHNOLOGY: We tend to overestimate the effect of a technology in the short run –hyper cycle for emerging technologies - and underestimate the effect in the long run.
3. REQUIRED CULTURE: Companies need to understand their culture and what culture they should have in order to be innovative. And then comes the culture transformation requirement if needed. Companies need to be ready to overcome resistance to innovation, which probably will come from the experts.

4. TRANSFORMATION MANAGEMENT TOOL: A systematic approach to innovation, as to generate ideas that turn into projects that solve customer problems
5. DISTRIBUTION OF RESOURCES: With limited resources, organizations can also be innovative, as long as they get some pressure to be innovative. The key point is to understand what is the real problem, for that companies need to learn, and from there find the solution with resources at disposal to do so. In other words, you may not need more resources, but just use your resources differently.
6. ORGANIZATIONAL REQUIREMENTS: Training and skills need to be deployed through the whole organization. Management needs to facilitate the whole process. There has to be a mechanism or business process to ensure innovation is carried out. A systematic approach to innovation, as to generate ideas that turn into projects that solve customer problems. Employees need to be rewarded by their participation
7. SOUND WAY OF WORKING: Companies need to allocate resources to ensure the innovation team really can do their job. At the same time, need to make sure projects are scalable and to make sure the project will be on track, need to set up metrics
8. RE-SKILLING HUMAN RESOURCES: it is key to attract, retain, re-skill the workforce to ensure innovation is viable within a given organization

Outcomes – Innovation [E-IO]:

1. PUSHING FOR INNOVATION: Companies should be setting 10x increasing in whatever the KPIs they follow (i.e. sales, customer base,..) to force themselves to be more innovative
2. TYPES OF INNOVATION: Product, Promotion, Price, Place Innovation types should be aimed as to differentiate from competition: high volume – low margin vs low volume – high margin.
3. INNOVATION IN THE FRONTIERS: customer centric, looking for 10x solutions, don't compete, look for new standards, innovate by questioning current business

Firm performance [E-FP]:

1. PERFORMANCE STRATEGY: To ensure success, start with quick wins and then you can get further support from the whole organization
2. FOCUS ON EXCELLENCE: Companies should target innovation as a way to become the best or an ace in a given industry.
3. NEED FOR RESULTS FROM INNOVATION: Innovation need to generate results for the company

Appendix 3 - Questionnaire used with Large Corporations

TITLE OF STUDY: Innovation Orientation in the Banking industry

[Questionnaire for Large Corporations]

Date:	Place:
Interviewee:	Email contact:
Consent to record: Yes/No	Phone contact:
Institution:	HQ:

INTRODUCTION:

Good morning / afternoon Mr/Mrs _____

Once again many thanks for your time and cooperation in answering the following questions that aim to capture information as to validate what tools and approaches are currently used by large corporations to ensure they are oriented towards innovation in the long run based in your experience within your institution.

The response will be recorded, if you are not against, and treated confidentially. Your responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total. No one other than myself will know your individual answers to this questionnaire.

Conclusions, which will be part of my PhD thesis, will be presented on an aggregated format, thus no specific data from your responses/organization will be made public to third parties.

There is no right or wrong answer. Therefore, I would really appreciate if you answer the questions as honestly and complete as possible.

The interview shouldn't last more than one hour and is presented as an open discussion from two main questions.

A last remark, during the interview I will be referring to some concepts. I would like to clarify the definition we have given to those concepts before starting with the interview:

- *Innovation: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. [Oslo Manual; 2005]*
- *Innovative entities: organizations that have implemented a multidimensional knowledge structure composed of a learning philosophy, strategic direction, and transfunctional beliefs that, in turn, guide and direct all organizational strategies and actions, including those embedded in the formal and informal systems, behaviors, competencies, and processes of the firm to promote innovative thinking and facilitate successful development, evolution, and execution of innovations. [Judy A. Sigauw, Penny M. Simpson, and Cathy A. Enz; 2006]*

Please do not hesitate to ask for any further clarification during the interview.

[B] Scholars have come to an innovation orientation model which synthesizes the key elements a company should have/develop in order to be oriented towards innovation.

From the elements in this model [the list of categories and codes should be presented to the interviewee and any doubt clarified]

[B.1] What elements do you consider as more relevant to your company? Which one(s)?

[B.2.] Do you think the model is missing any relevant element that is currently in place in your organization and is helping to be oriented towards innovation?

Element	Relevance	Missing...
Strategic direction	- [S]	
Learning philosophy	- [L]	
Transfunctional acclimation	- [T]	
Organizational competencies: - O1: Ressource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	- [R] - [TC] - [E] - [O] - [M]	
Innovation outcomes: - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs. internal - ID: Innovation ambidexterity	- [F] - [TY] - [RT] - [C] - [X]	
Firme performance: - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems	- [MK] - [EF] - [FR] - [JM] - [MS]	
Environmentl turbulences	- [TR]	
Innovation orientation pitfalls	- [P]	

Appendix 4 - Summary of Large Corporations interviews

Strategic direction [LC-S]:

1. CHALLENGE THE MISSION: It is key to challenge mission, vision and values since they may be stoppers for innovation. Challenge product portfolio. Challenge supply chain. This will generate new ideas, but to do so you need to be brave
2. CHALLENGING STATUS QUO: Challenging status quo may be a factory of new business models even if doing so implies cannibalizing traditional business model
3. CHALLENGING STRATEGY: Culture is closed, the mission and strategy might be open for change
4. INNOVATION CULTURE: Companies need to respect the mission and the vision of the company but need to set up an innovative culture
5. INNOVATION ACROSS THE ORGANIZATION: Innovation should be across the organization ensuring is centralized at corporate level. Innovation cannot be siloed and must sit at corporate level
6. INNOVATION DEPARTMENT REQUIRED: Innovation department should be defined and related to corporate strategy department
7. INNOVATION HUBS: In order to be innovative, physical location may be critical. Being located close to where innovation takes place could be a determinant factor (i.e. especially true for technology based companies being close to Silicon Valley)
8. INNOVATION AS A CONTINUOUS PROCESS: Innovation is not just a fade, you need to be perpetually innovating. You have to keep on doing it continuously since the industry has changed and will continue to change dramatically. Innovation is and has to be part of your corporate strategy in order to ensure sustainable growth and the continuity of the company
9. CHALLENGING BUSINESS MODEL: I would say that in order to be innovative or at least oriented to innovation, you have to be open to challenge your business model. To do so, you need to have the capacity to generate new ideas, and more importantly, the capacity to implement them. You also need to connect with your customers. Again, you need the capacity to generate empathy and connection with customer needs. This might be trickier than expected, since those needs might not be current needs.

Learning philosophy [LC-L]:

1. LEARNING FOCUS: We pay a lot of attention to identify new market spaces that neither we nor our competitors have yet occupied. To do so we follow up trends and conduct market disruptions analysis and search for emerging opportunities out of core business.

Transfunctional acclimation [LC-T]:

1. COLLABORATION: Making possible that different departments not only share but work together
2. SILO BREAKING: Companies need to break organization silos to ensure knowledge is shared by generating content and community across the organization

3. SHARING ACROSS THE ORGANIZATION: We have established a series of initiatives to support collaboration across the organization like co-working spaces, mixing teams of different business areas or supporting areas, and launching entrepreneurship programs.
4. SHARING KNOWLEDGE: The main idea of some of our initiatives is to ensure knowledge is shared across the organization and with third parties. We need to learn from the external world and also make sure knowledge is shared among the different business areas.

Organizational Competencies [LC-R]:

1. EXTERNALIZATION OF RESOURCES AND CAPABILITIES: We look also to externalize those supporting functions that might be time and resource consuming and can be done somewhere else at a cheaper cost
2. INNOVATION FROM OUTSIDE: Our model is to look out there what is available in the market, offer those ideas or projects that seem interesting to our needs the opportunity of testing their products and sell them to us if they fit our requirements. So we help them scale up their business and we get innovative propositions
3. INNOVATION AND CULTURE: The innovation has to be in the core of our company and needs to be done following a designed process. And this does not come with no harm. The culture of the company has to embrace too innovation as a continuous process. And of course you need to dedicate people and resources to the innovation approach.
4. CULTURE CHANGE: The whole process requires an internal cultural change, supported by the top management that somehow forces the company to change the way we are working. Not an easy task. But the pressure from the market and other competitors that are smaller and therefore faster, pushes us to act as a start up.

Outcomes – Innovation [LC-IO]:

1. PUSHING FOR INNOVATION: Companies should be setting 10x increasing in whatever the KPIs they follow (i.e. sales, customer base,..) to force themselves to be more innovative
2. TYPES OF INNOVATION: Product, Promotion, Price, Place Innovation types should be aimed as to differentiate from competition: high volume – low margin vs low volume – high margin.
3. INNOVATION IN THE FRONTIERS: customer centric, looking for 10x solutions, don't compete, look for new standards, innovate by questioning current business
4. AMBITIOUS GOALS: Our approach is to innovate to generate those ideas, projects and products that will allow us to multiply by 10 our sales or our results like AI or IoT. We tend to challenge ourselves to come with those ideas that will change the world in 10 or 20 years.
5. OPEN INNOVATION: We work with an open innovation ecosystem style. By ourselves we will not be able to make the big innovative changes. Like most of large corporations, we need to put aside the innovative projects, so they can easily grow.
6. OPEN INNOVATION: In order to be fast and successful, we have come to the idea that we need to buy ideas externally and accelerate those ideas internally or in collaboration with the party we are buying or accelerators that can feed us with new ideas or projects.
7. COLLABORATION: We decided to leverage innovative ideas from start ups and integrate them into our organization, business models, processes,...
8. COMMERCIAL AGREEMENTS WITH INNOVATIVE THIRD PARTIES: Our model is to look out there what is available in the market, offer those ideas or projects that seem interesting to

our needs the opportunity of testing their products and sell them to us if they fit our requirements. So we help them scale up their business.

Firm performance [LC-FP]:

1. NEED TO GENERATE RETURNS: Innovation is working when generates returns
2. DASH BOARD SYSTEMS: it is critical to have forecasted your potential gains, costs,... to make sure innovation is well followed up
3. AMBITIOUS GOALS: Innovation has to ensure double digit growth
4. RESULTS ACCOUNTABILITY: KPIs need to shared across departments as to ensure collaboration/cooperation and accountability
5. KILLING NON PERFORMING PROJECTS: Innovation projects must be killed if they do not generate expected returns

Pitfalls [LC-P]

1. UNPRODUCTIVE INNOVATION: When projects do not have any business impact, or when the people involved in the project do not clearly see the transformation that should have occurred or when we lose time, or are not fast enough. And of course, if we make the company lose money

Appendix 5 - Questionnaire used with Challenger Banks

TITLE OF STUDY: Innovation Orientation in the Banking industry

[Questionnaire for Challenger Banks]

Date:	Place:
Interviewee:	Email contact:
Consent to record: Yes/No	Phone contact:
Institution:	HQ:

INTRODUCTION:

Good morning / afternoon Mr/Mrs_____

Once again many thanks for your time and cooperation in answering the following questions that aim to capture information as to validate what tools and approaches are currently used by large corporations to ensure they are oriented towards innovation in the long run based in your experience within your institution.

The response will be recorded, if you are not against, and treated confidentially. Your responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total. No one other than myself will know your individual answers to this questionnaire.

Conclusions, which will be part of my PhD thesis, will be presented on an aggregated format, thus no specific data from your responses/organization will be made public to third parties.

There is no right or wrong answer. Therefore, I would really appreciate if you answer the questions as honestly and complete as possible.

The interview shouldn't last more than one hour and is presented as an open discussion from two main questions.

A last remark, during the interview I will be referring to some concepts. I would like to clarify the definition we have given to those concepts before starting with the interview:

- *Innovation: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. [Oslo Manual; 2005]*
- *Innovative entities: organizations that have implemented a multidimensional knowledge structure composed of a learning philosophy, strategic direction, and transfunctional beliefs that, in turn, guide and direct all organizational strategies and actions, including those embedded in the formal and informal systems, behaviors, competencies, and processes of the firm to promote innovative thinking and facilitate successful development, evolution, and execution of innovations. [Judy A. Sigauw, Penny M. Simpson, and Cathy A. Enz; 2006]*

Please do not hesitate to ask for any further clarification during the interview.

[B] Scholars have come to an innovation orientation model which synthesizes the key elements a company should have/develop in order to be oriented towards innovation.

From the elements in this model [the list of categories and codes should be presented to the interviewee and any doubt clarified]

[B.1] What elements do you consider as more relevant to your company? Which one(s)?

[B.2.] Do you think the model is missing any relevant element that is currently in place in your organization and is helping to be oriented towards innovation?

Element	Relevance	Missing...
Strategic direction	- [S]	
Learning philosophy	- [L]	
Transfunctional acclimation	- [T]	
Organizational competencies: - O1: Ressource allocation - O2: Technology focus - O3: Employee focus - O4: Operational/culture focus - O5: Market focus	- [R] - [TC] - [E] - [O] - [M]	
Innovation outcomes: - IF: Inn. form (radical/ incremental) - IT: Inn. type (market, process, admin) - IR: Innovation rate - IC: Collaboration vs. internal - ID: Innovation ambidexterity	- [F] - [TY] - [RT] - [C] - [X]	
Firme performance: - P1: Market position - P2: Operational efficiency - P3: Financial results - P4: Objective/subjective metrics - P5: Performance management systems	- [MK] - [EF] - [FR] - [JM] - [MS]	
Environmentl turbulences	- [TR]	
Innovation orientation pitfalls	- [P]	

Appendix 6 - Summary of Challenger Banks interviews

Strategy [CB-S]:

1. INNOVATION / IT / SOCIAL: “A complete full-stack mobile-native chartered bank, built from the ground up on the latest technology-with a social access to help people accessible” / Invest in 100% Fossil Free companies”
 - a. “Pay what you think is fair”
 - b. 10% of Aspiration’s earnings go to charity
 - c. Integrated access for donating to causes
 - d. A good bank that puts purpose over profit
 - e. We make more money for customers it does for itself every year
 - f. Bank donates its late fees to charity
 - g. Bank shares commission on any third party products sold
 - h. “A financial firm you can fall in love with – Banking and investing that puts you, your conscience and the planet first”
2. INNOVATION: We were frustrated by the lack of transparency, digital innovation, personalized service and offerings at existing access, and decided to build one of our own. Nour bank was designed to be a customer-centric and mobile-first retail bank, allowing users to enjoy a simple, elegant and easy-to-use banking app – anywhere, anytime. Our next challenge is to quickly acquire scale and to that end. Our inspiration came from brands such as Spotify and Netflix, which offer a great user experience. We had a access of creating a global bank that the world loves to use and that our customers feel a part of. Today, we are the leading mobile bank in Europe, with over X million customers in X markets, and we’ve recently launched our mobile banking app in the U.S
3. STRATEGY AND INNOVATION: We are currently seeing huge changes in the banking industry driven by the evolution of the digital landscape. As we look ahead and consider our strategy for the future, we don’t think along the lines of traditional or challenger – but about how people want to bank and the access they need to manage their finances.
4. STRATEGY AND INNOVATION: Our bank was founded because we believe the world needs better access; ones that will use technology to improve customers’ financial lives.
5. STRATEGY AND INNOVATION: When our bank first launched, there were few others in the business that looked like us. We came into the market as an innovator and our goal, every day since, has been to remain at this accessible. In a sense, we’ve always been a Challenger access – this is just our second act.
6. DIGITAL INNOVATION: We realized the world didn’t need another bank – it needed a better one. A modern, digital bank that could stand on the commitment to customers and put a promise in our name.
7. INNOVATION AS KEY STRATEGY: With us, our customers get the stability of an established bank and the innovation, nimbleness and customer focused experience of a ‘challenger bank.
8. DIGITAL INNOVATION: We are a modern, digital bank and continuing to grow as a leading digital financial services accessible with innovative digital experiences, 24/7 customer service, great rates and rewarding credit and lending products access number one goal. We

also prioritize creating a seamless customer experience. Our immediate and long-term strategy is keenly focused on being an end-to-end financial partner that is seamlessly integrated into the lives of our customers.

9. STRATEGY – FAIRNESS: By offering a fair and transparent alternative to access, we have experienced exponential growth and has become the largest regional challenger bank
10. INNOVATION PROCESS: Bond powers 'Fintech 2.0', an approach to more systematically launch, administer, iterate and innovate on highly compliant banking products by brands and Fees.
11. DIGITAL BANKING: We don't love the 'Challenger Bank,' we like thinking of ourselves as a complete digital financial institution for the hard working American

Learning/Sharing [CB-L]:

1. NEED TO BE AGILE: Within our business our focus is remaining agile. Innovation and the drive to solve problems is critical to the success of growing companies, regardless of whether you have 300, 600, or 6000 employees. This is one of the most significant challenges for our long-term access and a focus that we keep front of mind every day.
2. CUSTOMER RETENTION: As a Bank we are obsessed with doing the right thing for our customers. We listen carefully and iterate on solutions to ensure they are not just meeting customer needs, but delighting our users. We already have an NPS score in the top 1% of all grow and quickly headed toward the top 1% of technology companies. This will continue to strengthen as we grow and build a larger community of users.

Organizational Competencies [CB-R]:

1. KEY ELEMENTS TO SURVIVE: We're in a thrilling time. The challenges day-to-day are those that come with a rapidly scaling business. If you have read Reid Hoffman's latest book, Blitzscaling, you will know what I am talking about. We are scaling our team, our processes, our partnerships, our capital base and our relationship with our customers. The biggest hurdle is just finding enough hours in the day.
2. OPERATIONS AS KEY CHALLENGE: As we grow as a bank, both in the UK and overseas, we have to scale our operations to ensure we maintain the same high quality of service for customers. We take that extremely seriously.
3. CUSTOMER RETENTION AS A CHALLENGE: One key learning was shaping the user experience in a way that creates more engagement and builds equity through a deeper, on-going relationship with our users
4. IT AND DIGITALIZATION AS EASINING INNOVATION: Their services, whether in-branch or in-app, feel impersonal, costly, inefficient and focused on selling products as opposed to helping customers solve financial problems. With the technological disruption in other of financial services, customers expect more from their us, be that daily insight on their spending or products that make their lives with money bit easier.
5. IT AND DATA AS A CA: Tandem Bank of other digital challenger banks in terms of the ability to leverage data and underwrite credit products.

6. CONVERGENCE OF IT / INNOVATION / BANKING: The principles of open banking – promoting real time sharing of data, faster payments and the comparison of products via apps – will help people make more informed financial decisions, Banks new service providers and push innovation and competition between Banks. In an open banking era, we believe the real challenge will be one of philosophy. Five years ago, some of the major Banks didn't share our bank of the future of banking and yet today we're Europe's leading mobile bank. This is a hugely exciting time for the mobile operating in the UK, and for the industry as a whole, where the worlds of banking, technology and innovation are converging to increase customers' rights and control over their finances.
7. FLEXIBLE IT AS KEY FACTOR: We have built a highly scalable, state of the art CaaS (Credit Card as a Service) platform that provides modular functionality around origination, underwriting, management and servicing using an entirely modern API microservices-based platform that leverages cloud (and not mainframe). Our first strategic partner currently leverages this end-to-end. We are in active discussion with other, FinTechs and retail players who want to utilize the platform for their own branded or co-branded affinity credit card programs.
8. IT AS A KEY INNOVATION AND CA FACTOR: Our investment in AI, a massive proprietary data advantage, and digitally transformative technology is the backbone of our: ultimately this competitive advantage against incumbent institutions and new entrants in the US market. What Goldman Sachs and Chase say they will do in the future with digital innovation we are already doing today. We are using the power of technology to deliver the private bank to everybody, the Goldman Sachs and the Chase Private Bank experience to everybody. Bank will pose the largest threat to the traditional bank with a customer centric membership model that always expands features and value in a way the are not built to accommodate or innovate. We have a lot of respect for the traditional banking system and we'll continue to partner on infrastructure and balance sheet ; but we categorically believe we at Bank have an edge in designing the customer acquisition and customer retention platform of the future.
9. LACK OF HUMAN RESOURCES / CHALLENGE TO HIRE BEST EMPLOYEES: There's a war for talent in in Silicon Valley, so that's always a challenge, but I think we really benefit by offering services that are a positive in the world. The biggest challenge is the fragmented licensing regime to build a regional challenger bank, but it is also the biggest opportunity. The other biggest challenge is hiring – it's a challenge in any rapidly growing tech– but it is accentuated due to the relatively nascent technology ecosystem in Southeast Asia, especially in hiring engineers and specialist FinTech roles.
10. PROCESSES: and prioritizing resources to the most pressing needs of our consumer customers and business partners are the biggest challenges.
11. INTERNAL IT DEVELOPMENT TO BECOME INDEPENDENT: We built our Bank as a mobile-first bank, all from the ground-up. Unlike other FinTech companies, we chose to build our own banking core ourselves.
12. IT: We're building a data platform. Solving this large and complex requires understanding in data, technology, banking and business models. Our founding team has a rich set of experiences in banking, early-stage startups, leading FinTechs and developer-focused platform companies. More importantly, we've been fortunate to be able to attract an

incredible team of software and platform engineers, data and machine learning engineers, bank executives and senior advisors to jointly work on solving this massive in a tech forward and highly-compliant manner.

13. INVESTMENT IN IT: We are a leader in the industry in the use of AI and Machine Learning for all aspects of the business (Fast Company just recognized us as One of the Most Innovative Companies of 2019 for the way we utilized AI).
14. IT AS A KEY INNOVATION SOURCE/SUPPORT: Digitally transformative methods like the application of machine learning, big data analytics and fancy computer science techniques all come down to one thing: providing a tailored and reimagined consumer financial experience
15. AGILE: Our digital-forward model allows us to be agile. We have the ability to identify opportunities and execute quickly – bringing in talent and partners where it will make us stronger.
16. AGILITY/ADAPTABILITY TO MARKET CHANGES: We are a pure play focus on Southeast Asia market. The market demographics are highly favorable, but require adaptability and agility in a fragmented and competitive market.

Outcomes – Innovation [CB-IO]:

1. CUSTOMER EXPERIENCE: As I highlighted above, in addition to providing access to deserving but underserved and leading with advocacy, we are differentiating with a superior user experience while matching and rewards from bigger competitors. We have a large diverse set of traditional and non-traditional channels where we acquire new cardholders including a very robust Refer A Friend program. We also plan to achieve better efficient scale through strategic partnerships that utilize our platform. Private label and co-branded products will contribute substantially to our rapid growth
2. CUSTOMER EXPERIENCE: Continuing to earn customers' trust without a physical presence, which we do by building best-in-class UX and investing heavily in our customer success team
3. CUSTOMER ORIENTATION: Traditional banking was made for a lifestyle that doesn't exist anymore. Current is designed to address the needs of modern life.
4. CUSTOMER ORIENTATION: Our service enables consumer choice and lets the customer decide who they want to bank with. Our job is to make it easy on the customer.
5. CUSTOMER ORIENTATION: We are focused on creating an entire onboarding platform for our clients and prospects.
6. CUSTOMER CENTRIC: .We are changing the way individuals think about and interact with finance on a daily habitual basis – the narrative is not only about the inherent accesible vs bank, but also creating an improved lifestyle for our customers.
7. COMMUNICATION: Bank marries performance marketing with a mass market Bank marketing engine. We created a “Here We Roar” campaign strategy which established us as a trustworthy iconic American lifestyle, famous for its membership.
8. CUSTOMER EXPERIENCE: Globally, customer needs have changed dramatically in recent years – from offline to online to mobile. Consumers are used to mobile services like Netflix, Spotify and Airbnb, so why shouldn't they expect their bank to be just as flexible and simple when it comes to the mobile customer experience? Opening an account at our Bank is

completely paperless and is done in a matter of minutes. Customers can track their spending in real-time and organize their finances with just a few taps. We believe that our bank is closer to its customers traditional players because we give people more control over their financial world by making the entire banking experience flexible and suitable. Customers open our app several times a day to share or move money seamlessly, enabling them to make quicker decisions that reflect their daily financial needs. Customers also can conveniently contact us through digital channels such as our chat where we are able to bank average within 30 seconds. Essentially, our bank makes banking simple with a flexible account tailored to the needs of our digital generation. With our full banking license, state-of-the-art technology and no branch network, our bank is redesigning banking for the 21st century.

9. CUSTOMER CENTRIC: easy-to-understand, hyper-personalized and data-powered products that cover all of our customers' financial needs. Simply put, we plan to become their financial home.
10. CUSTOMER EXPERIENCE: We have approached product development and innovation in general by simply identifying what helps makes someone's life better. How can we improve the lives of our customers whether it's in streamlining processes, providing unique products or fostering a human connection in a digital era? And is there a part of the financial products and services aspect that we're missing that our customers want?
11. CUSTOMER EXPERIENCE / PAIN POINTS: To identify future growth opportunities, we start by looking at banking spaces in our business, pain-points or unmet needs of our customers that we can solve in an innovative way. Then, we assess whether to build, bank partner and the answer depends on the situation. We want to bring the best bank experience to the customer in the most expedient manner while delivering adequate returns for our shareholders and select the go to market strategy that aligns with those criteria.
12. PARTNERING: our investment arm is a key component of our growth strategy. Through it, we identify early stage companies for both investment and to enhance or diversify our capabilities. Through those growth opportunities and the pipeline they bank, we continue to diversify and evolve as a digital financial services provider – whether organically through products and talent, acquisitions or partnership.
13. HYPER LOCALIZATION: Southeast Asia is a market of 700 million people, where half the population is under 30 years of age, and a rapidly growing consumer and digital economy. However, it is a highly fragmented market with no passporting of licenses across the bank. Hence, hyper localization and market product fit are key advantages our bank has to scale across Southeast Asia.
14. COST EFFICIENCY TO CUSTOMERS: our bank can provide an end to end financial services platform that reduces costs, improves efficiency, allows people to send money overseas at low cost and get bank to credit in real time at a fair and transparent bank, by using technology and data effectively.
15. ANYTIME ANYWHERE: By enabling digital brands to offer financial products at the right place, at the right time, to the right customer, we see Bond reshaping financial services experiences and making them more bank.

Firm performance [CB-FP]:

1. REDUCING COSTS: We have managed to successfully launch award winning card products and acquire customers at an attractive cost, which is a remarkable feat.
2. NUMBER OF CUSTOMERS: We're at about X million annual revenue run rate and growing very fast. Over X million people have already applied for an Upgrade loan, including more than X million in the last quarter. We've issued over X billion in loans.
3. NUMBER OF CUSTOMERS: our bank has grown its customer base to over X since launch in Jan 2018 with c. 5% month on month growth. Our bank is ahead of other challenger banks in terms of monetization and generated £X+ run rate revenue in Dec 2018 from its X+ customers.

Environmental turbulences [CB-T]:

1. Regulation hasn't advanced at the same speed as innovation in banking in recent years. As a global business, we would advocate for increased alignment of global regulation. We are currently operating on a European Passport (a banking license granted by the German regulator Bafin and the European Central Bank), but we see that a pan-European banking alignment is missing. The same applies to compliance topics, such as IBAN discrimination. Although there is a European standard on IBAN, we are seeing customers experience discrimination in some countries.
2. The EU regulatory landscape, which includes the implementation of PSD2, The Second Payment Services Directive, has enabled new FinTech companies (including Challenger Banks) to develop within the banking ecosystem
3. On January 13, 2018, an overhaul of the Payments Services Directive (PSD2) required banks to open their payments infrastructure and customer data assets allowing third parties to use them to develop payments and information services for consumers – essentially PSD2 dissolved banks' monopoly on consumer financial data

Appendix 7 - Questionnaire used with Banks

TITLE OF STUDY: Innovation Orientation in the Banking industry

[Questionnaire for Banking institutions]

Date:	Place:
Interviewee:	Email contact:
Consent to record: Yes/No	Phone contact:
Institution:	HQ:

INTRODUCTION:

Good morning / afternoon Mr/Mrs_____

Once again many thanks for your time and cooperation in answering the following questions that aim to capture information as to validate what tools and approaches are currently used by European Banking institutions to ensure they are oriented towards innovation in the long run based in your experience within your institution. You are part of a representative sample of European Banks, which insights will be very helpful for our research.

The response will be recorded, if you are not against, and treated confidentially. Your responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total. No one other than myself will know your individual answers to this questionnaire.

Conclusions, which will be part of my PhD thesis, will be presented on an aggregated format, thus no specific data from your responses/organization will be made public to third parties.

There is no right or wrong answer. Therefore, I would really appreciate if you answer the questions as honestly and complete as possible.

The interview shouldn't last more than one hour. I will be sending after this interview a link with an on-line interview and I kindly request you to answer it. It covers some other aspects that will be critical to cover my research objectives. I would also kindly request you to share it with 5 colleagues from your department, so as to enrich the conclusions. Again, all responses are anonymous.

A last remark, during the interview I will be referring to some concepts. I would like to clarify the definition we have given to those concepts before starting with the interview:

- *Innovation: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. [Oslo Manual; 2005]*
- *Innovative entities: organizations that have implemented a multidimensional knowledge structure composed of a learning philosophy, strategic direction, and transfunctional beliefs that, in turn, guide and direct all organizational strategies and actions, including those embedded in the formal and informal systems, behaviors, competencies, and processes of the firm to promote innovative thinking and facilitate successful development, evolution, and execution of innovations. [Judy A. Sigauw, Penny M. Simpson, and Cathy A. Enz; 2006]*

Note if interviewee has difficulties understanding the concept: Learning philosophy is understood as a pervasive set of organizationwide understandings about learning, thinking, acquiring, transferring and using knowledge on the firm to innovate.

Knowledge structure: willingness to share/transfer knowledge:

Q3) Does your Bank has and share knowledge across multiple functional areas? If so, how is it shared?

Note if interviewee has difficulties understanding the concept: Transfunctional acclimation refers to a unique and embedded knowledge structure that encourages and facilitates knowledge transfer across and within subunits to retain diversity of views and fosters cooperative beliefs and understandings among all functional areas to direct them toward innovation.

ORGANIZATIONAL RESOURCES: Competencies to foster/to become innovative

Q4) Are there in your Bank specific procedures and practices to foster innovation?. If so, could you please describe such procedures

Q5) Which of the following competencies you consider critical for innovation in your Bank. Tick that/those that apply. Why are they critical and how they impact the innovation orientation.

Resource allocation: capital, tools, human resources, talent

Technology competencies

Employee competencies

Market competency

Operations competency

Note: Organizational competencies refer to activities an organization is good at doing. IO organizations are able to build and deploy distinctive resources faster than others and encourage the acquisition of competencies that facilitate innovation.

INNOVATION OUTCOMES:

Q6) What kind of innovation do you consider more appropriate from tactical/statistical stand point? Why?

- Incremental innovation vs. radical innovation

- Marketing, process, administration, business model innovation

- Faster vs slower innovation

- Internal, cooperative, external, acquired innovation

- Ambidexterity innovation

INNOVATION ORIENTATION AND PERFORMANCE:

Q7) Does your Bank consider, and therefore target, that the more introduced innovations the higher the level of firm performance?. Why? How do you measure the impact of innovation orientation in terms of your Bank’s performance improvement?

ENVIRONMENTAL TURBULENCE AS MODERATOR FACTOR: limitation/acceleraton factors from outside

Q8) Which factors from the environment do you consider as key to facilitate/jeopardize innovation development? Why?

Factors from the environment that facilitate innovation development:

Factors from the environment that jeopardize innovation development:

INNOVATION ORIENTATION AS A LONG TERM COMPETITIVE ADVANTAGE:

Q9) Do you consider having an orientation towards innovation in a Bank is a ley long competitive advantage?

INNOVATION ORIENTATION PITFALLS:

Q10) Do you consider having an orientation towards innovation may come with some pitfalls?

Appendix 8 - Summary of Banks interviews

Strategic direction: strategy oriented to be innovative [B-S]:

[1] Is your Bank's corporate strategy direction creating new ideas and facilitating proactive and competitively aggressive positioning? If so, how?

1. ACTION / STATUS QUO AS A STOPPER: The strategy of any financial institution, in order to be successful must ensure that innovation moves into exploitation. Status quo leadership is the biggest impediment to any innovation. Any innovation in an organization needs all elements of the system to operate at an equally high level — rather than more funds, expenditures, activities or tactical interventions.
2. NEED FOR INNOVATION: Legacy financial institutions looking to become innovative face two main challenges. First, the business models and personal skills that have served the industry well for decades have been disrupted by digital innovation and no longer work in the new banking ecosystem that is emerging. Second, attempts to create new, viable models for the digital age will flounder unless people and organizations are willing to disrupt themselves.
3. NEED FOR INNOVATION: Mobilized and integrated previously dispersed resources into a new innovation unit. It had an ambitious goal of tripling its revenue over the next seven years, which meant the bank needed to expand beyond its core business. By assessing the momentum of the core business and the competitive and disruptive threats that existed and could accelerate, the bank determined how much growth needed to come from innovation.
4. IT+CUSTOMER CENTRIC: Organizations that are leveraging digital technologies to reinvent their business models and processes to establish closer customer connection and drive innovation will be the winners. Digital technologies enable businesses to engage more deeply with customers in the context of who they are, what they prefer and what they need. Companies can use these insights to implement enterprise-wide changes that enable them to quickly and cost effectively deliver more useful, meaningful experiences.”
5. AT SCALE: Leaders need to act now to ensure innovation becomes a core element of their bank's strategy in a way that continuously delivers “at-scale” returns.
6. DNA: It is very important that innovation becomes really part of the DNA of a financial institution. We do have as corporate values resilience, agility and innovation.
7. CHALLENGE: Successful innovative banks are those that challenge the status quo rather than be challenged.
8. IMPLEMENTATION: Innovation starts by redefining the strategy, but then we face the big/difficult task of implementation strategy and becoming innovative/innovation oriented.
9. DEFINITION: A ‘innovation strategy’ means different things to different people – more innovation, better user experience or operational cost-cutting. The lack of definition stems from the bifurcated view of technology itself within the banking world.
10. MORE BUSINESS AND LESS IT: The transformation of business models and culture is more important than the technology. We have got a lot of interest in the cloud, agile and devops. We are gravitating to those models and services but we have to take the business with us on this journey.
11. CONSUMER CENTRIC STRATEGY: Other ingredients include: a near-maniacal focus on the consumer—by which we mean putting the consumer at the center of every decision.

12. **START UP MODEL:** We have seen over the past several years that start-ups embody the core principles of innovation that drive commercial success. They embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge. We as a bank want to replicate the best of fintech start-ups while leveraging our customer base scale advantage to respond to a changing marketplace.
13. **PRESSURE FROM CRISIS:** The fallout from the financial crisis of 2008, coupled with rapid technological developments, forced financial institutions to rethink and adjust their business models. Legacy systems and long-standing banking cultures have come under attack. The need for innovation has continued to increase.
14. **INNOVATION AS A SOURCE OF GROWTH:** While there was a danger that banks would allow other priorities to slow down their pace of innovation, many organizations realized that this was precisely the time when innovation could lay the platform for future growth and efficiency.
15. **ALL BUSINESS LINE TOGETHER:** All too often, institutions confuse technology with innovation, is a collection of things that don't tie together — technologies without a lot of connective tissue between them. That connective tissue is called strategy. And that should come first. But frequently what happens is that banking leaders hand off responsibility to the institution's technology chief. For there to be true innovation, all functions need to play a role.
16. **BIG CHANGES TO IMPLEMENT / BOARD OF DIRECTORS:** The challenge is that many executives and boards lack an understanding of digital technologies and innovation. Their history and legacy is in traditional banking. This can limit the ability to determine the appropriate risk appetite – both the amount and type of risk that should be taken on in order to grow and achieve solid long-term performance. We're not talking about small changes here. In most cases, what's required is large-scale change that typically takes years to accomplish. It includes new technologies, strategies, processes, skill sets and a complete disruption of legacy organizational structures — moving from a product focus to a consumer focus.

Learning philosophy / learning orientation: willingness to learn [B-L]:

[2] Do you consider having a learning philosophy within your Bank? Describe it.

1. **WILLIGNESS TO LEARN:** Financial institutions should be more ambitious than just willing to learn. The key challenge is setting up an acculturation of the whole organization, that fosters a common culture of innovation through design thinking and experimentation and bringing learning and collaboration opportunities to all, or most, employees.
2. **CONSTANT LEARNING:** Focus on constant learning and de-risking throughout development. Rather than a standard checklist of activities and stages, teams should constantly identify and prioritize the greatest uncertainties in a concept and conduct quick tests to resolve them.
3. **MULTIPLE SOURCES OF LEARNING:** A steady stream of opportunities and ideas from multiple sources
4. **LEARN FROM INSIDE/OUTSIDE:** In banking, many financial organizations have a difficult time thinking outside of what has been done for decades within the legacy banking industry.

Therefore, to succeed in the future, organizations have to learn from both inside and the outside world, continuously.

5. **LEARNING FROM THE CUSTOMER JOURNEY:** A 'true' innovative organization focuses on the customer experience at every point of contact, throughout the entire customer journey. Learning from every single contact point.
6. **LEARNING FROM THE CUSTOMER JOURNEY:** Each interaction is based on the individual profile, preferences and behavior of the consumer. With the integration of chatbots, voice and live agents, consumers can provide feedback on each communication and interaction, allowing models to improve and become even more personalized over time. The learnings during the process not only makes the engagement more personal, it makes it more powerful because recommendations will be more accurate and innovations will be based on customer learning. And this learning needs to be shared across the whole organization.
7. **MARKET:** Go-to-market channels for innovations, and in-market feedback mechanisms for continuous learning
8. **VALUE CHAIN DATA + INTEGRATION:** While the new data generated from partnerships creates opportunities to engage and serve the customer better, it also forces financial institutions to design a way to securely capture and process data across the value chain, even where they have no direct control. This is a new way of working for banks that have traditionally operated with distinctly siloed data sets and this becomes as much a cultural attitude to address as well as a technology issue.
9. **LACK OF TRACKING:** A significant minority of banks did not have processes for tracking innovations taking place elsewhere or for testing new propositions against existing propositions in the market.
10. **DIFFERENT SOURCES OF LEARNING:** We often get lost in a sea of our own shiny ideas. But the real value of change will not come from solely within our tribe, but from across our whole company and outside.
11. **WHOLE ORGANIZATION INVOLVED:** We need to accept that new ideas, their development, and their implementation will come from 40,000 employees who take insights from millions of customers; not solely from the brilliant but turbulent minds of 200 innovators".
12. **KNOWLEDGE SILOS:** For corporate innovation to be successful, data, insights and digital tools must be accessible across the organization.
13. **LOOKING AT THE OUTSIDE WORLD:** We like to look at the outside world to see what others do and also, failed to do. Is an enormous learning experience.
14. **BEING CURIOUS:** Curiosity forces you to think differently, and from there, you can be innovative.

Transfunctional Acclimation: willingness to share/transfer knowledge [B-T]:

[3] Does your Bank has and share mutual goals across multiple functional areas? If so, how are they shared?

1. **SHARING INFORMATION:** While what's learned will potentially increase the amount of dialogue over time, personalization and contextualization will improve, as well as revenues. More importantly, the learnings will be shared across the organization, making every contact

- point (human or machine) more intelligent and consistent. This democratizing of customer insights across the organization will also make business projections more accurate.
2. **REWARD SHARING:** Reward learning and make learnings easily available and easy to share.
 3. **COLLABORATION ON SHARING:** A mindset of test, deploy and learn-fast is required but this does not sit comfortably with the conservative heritage, combined with lack of in-house competences. An organisation-wide view on data combined with a comprehensive and coherent strategy requires business lines to collaborate more than before. The digital payments ecosystem is providing the ideal environment for startups to thrive, but it remains to be seen how it will play out when traditional banks enter this space and to what extent they will have to change to meet the challenges, or opportunities, that disruptive technology offers.
 4. **TOOLS TO ENSURE SHARING:** In most banks using the agile approach, ‘scrums’ comprising staff from multiple disciplines are used to develop, advance and implement change in accordance with agreed lists of priority areas. Scrums are also being used to deliver the individual elements of strategic, large-scale transformation and sharing programmes.
 5. **TOOLS TO ENSURE SHARING:** There are different tools that we use in terms of agility. And we believe that a lot of what brings agility is collaboration within the different groups and understanding what our customers need.
 6. **TOOLS TO ENSURE SHARING:** Sharing data and insights and encouraging transparency across the institution helps to create a consistent direction with innovation culture.
 7. **TOOLS TO ENSURE SHARING:** In a digital world, the power comes to those banks that realize the potential of working cross-functionally and of driving customer centricity into the everyday operations of the business. The narrow, parochial mentality of workers who hesitate to share information or collaborate across functions and departments can be corrosive to organizational culture.
 8. **REMOVE BARRIERS:** Internal accountability helps solve the siloed culture problem of regarding an issue as ‘someone else’s responsibility.’ To achieve this, we removed the barriers that kept people from collaborating and build ways to eliminate the bureaucracy that legacy cultures (and management) have built up over time.
 9. **TOOLS TO ENSURE SHARING:** Trabajar en metodología agile, una forma de organizar que pone en centro en la colaboración, la adaptación constante de los proyectos y en la rapidez.
 10. **HUMAN INTERACTION:** It is not enough to have a people in a room, no matter how smart and knowledgeable they are. To make sure the work is going to be effective and towards a common goal, leadership must be found that can inspire teamwork and interaction. Human interaction is an art, and in business, you need to be able to design whatever meeting you are planning in a way that maximizes the overall journey for everyone. Meetings without a purpose or measurable progress, while the norm in most organizations are very damaging in an innovative setting.
 11. **INVOLVE ALL AREAS:** Successful innovators in the financial industry solve this by pulling everyone into one room. Their mission being to stay there until they’ve come up with a way to meet the challenge posed by management. That gets all viewpoints out on the table at the same time. The challenge is that most financial institutions are genetically programmed to fight innovation like a virus. The typical traditional financial institution is rife with ‘corporate antibodies’ like the compliance department — “the Land of No” — that drum up countless reasons to halt innovation. Much work goes into something and then the ‘antibodies’ converge to kill it. This happens when ideas are developed in a vacuum by one

department or team working in isolation. The idea is subsequently regarded as a 'foreign entity' — a threat to the survival of traditional banking organisms.

12. ALL INVOLVED: "Innovation is simply everyone's job. . . .everyone is expected to look for insights, to bring ideas, to be ready to help drive an initiative."

Organizational competencies:

Competencies to foster/to become innovative [B-R]:

[4] Are there in you Bank specific procedures and practices to foster innovation?. If so, could you please describe such procedures.

1. SOURCES: We gathered potential innovation initiatives from a wide array of sources: top-down strategic bets, bottom-up ideas from BUs, proposals from external partners, and so on. And they should prioritize these initiatives based on how well they address strategic priorities, their risk profiles, and time to impact.
2. INVOLVING CUSTOMERS: We set up a lab environment and accelerator in Singapore and Mumbai. Corporate customers were invited to put forward their demands for trade finance and cash management services and a new operating model was designed accordingly.
3. TOOLS NEED TO BE AT THE CENTER: How new upstarts “do” innovation—speed, agility, consumer-first—is not exactly a secret. We made concerted efforts to embrace those attributes by setting up incubators, garages, and labs, tried to become agile, test and learn programs. But while there have been notable successes, they tend to be episodic or fail to scale because they happen at the periphery of the main innovation system, or even as explicit “exemptions” from standard processes.
4. INNOVATION WITH CLIENTS: Experience says that the best community that is able to challenge the current status, spot opportunity for innovation, and eventually create new products are your own personnel and your customers. Rather than creating a space just for your employees to innovate, it is important that you invite your own clients, and even prospects and suppliers into that space. The way to foster client-driven innovation comes in many forms, from co-creation to challenge-led innovation to venture building. And each one of these practices requires way more than 1000 words to describe.
5. CREATE SPACE FOR INNOVATION: I don’t want to use the word Sandbox, because it has been a buzzword for a while now. The truth is, you need to build a physical space where you can be ‘switched on’ in a different way. A space where there is no pre-structured role, no hierarchy, a very loose structure, and a clear mandate for experimentation and co-creation.
6. FIND THE REBELS: One of my favorite topics, is that organizations tend to push rebels away, not realizing that they are the best opportunity to push innovation forward. We used them in our organization since they are the ones to challenge the status quo which leads to innovation.
7. DIVERSIFYING PROJECTS: Success with innovation takes more than plunking down a huge chunk of money and declaring that your financial institution is going to win big. This approach may be the best way to ensure that your organization actually loses. This is particularly true when an innovation effort focuses too heavily on one big make-or-break project. It puts the reputations, careers and egos of top leaders on the line. Creativity and a willingness to fail frequently surrender to the fear of getting fired. Institutions that think small will either have something successful to build on, or (at the worst) have an inexpensive lesson they can learn from. Working small also ensures that all ideas will at least get a fair try out. This helps contain losses and leaves funding for new ideas, new iterations of ideas in process, or course corrections.

8. CHIEF INNOVATION OFFICER: Make Innovation Somebody's (Only) Job The wrong moves that thwart innovation at financial institutions can arise when board members hear about competitors' innovative advances. They look around at top management and ask, "What have we got going on?" Management opts for the dramatic gestures that appease directors and tickle analysts, instead of focusing on what's really needed or what might really work. This results in someone ends up with 'and Chief Innovation Officer' added to their title, along with their regular day job. They get the title and all the expectations that come with it, but usually no real facilities, no training, and no funding. Not much comes of this.
9. INNOVATION LABS: Give Up 'Innovation Theater' and Spend for Results Plowing money into an innovation lab or similar physical representation to demonstrate how the institution loves leading edge technologies can be foolish. Many of these facilities look gorgeous, but they soak up money that could instead be used for real innovating. I often find out that these labs are funded by the marketing department. Unless the lab truly serves as a working home for R&D teams, it's meaningless. It's no more effective than management declaring, 'We're going to be innovative!' Bold statements — whether made verbally or architecturally — are little more than rhetoric without the actions, investments and outcomes required to back-up such pronouncements.
10. OPEN COLLABORATION: I would say the implementation at scale of open innovation. It has led to managerial innovation (agile methods, collaborative tools, team hybridization through labs and contests etc.) and has accelerated innovation pace provided that banks got organized to manage partnerships and associated projects with third parties.
11. ECOSYSTEM: We have also developed an ecosystem to promote innovation, both inside and outside our Bank. It consists of eight different initiatives enabling internal teams, startups, investors, large companies, mentors, educators and partners, in our home country and worldwide, to work in collaboration and to address business challenges through innovation.
12. PROCESS: The pace of change has been a barrier to innovation for us, but we've recognized that we need a new way of working if we're serious about accelerating our capabilities. We have changed our processes and work habits to embrace smaller groups, shorter time-lines, multiple test points, and getting whatever it is we are developing in front of customers through co-creation as quickly as possible. And we redefined what success means so now we can celebrate those times that we fail quickly (and inexpensively) and apply those learnings to our next challenge. In any case we avoided that innovation initiatives became episodic or that happened at the periphery of the main innovation system, or even as explicit exemptions from standard processes.
13. AGILE: We know that agile is a holistic approach. It's about everyone coming together to deliver at speed, to pivot quickly with what we've learned, and to adjust rapidly to incorporate customer feedback. Today at our Bank we make decisions in hours, not weeks. There is still work to be done, but this approach enables us to incorporate customer feedback and to iterate quickly to enhance our solutions so we can build for the customer of tomorrow, today.
14. AGILE: The most significant challenges to innovation at our organization is the time to execute. We are deploying transformation projects within our entities to become more agile at scale notably to accelerate the pace to deliver projects. The other challenge comes from regulatory constraints. To assist with this, we involve compliance officers much earlier in our innovation processes.
15. TOOLS: We have set up a new structure and vehicle with which to lead the change. Bank Digital Assets and Global Platform. We have develop career and training plans for top

executives and bottom up programmes so that innovation knowledge is in the DNA of the company. Main executives got to know other innovative hotspots like Silicon Valley and Unicorn Companies so they grasped the real thing about what it looks like to be inside those companies. We also implemented a new distributed Innovation Model with federated cells and champions/coordinators as well as innovation Labs, Innovation Centres of Excellence and New Venture Experiment based Factory. We re-engineered the internal innovation platform/model for ideation and idea maturation based in intrapreneurship guided end-to-end for real innovation delivery and entrepreneurship. We have established in 2019 different levers for cultural change: new set of values based on innovative companies and compatibles with Bank and the intrapreneurship mindset; new distributed innovation model with its own structure (federated structure with leaders and champions spread all over the organisation); a formal training plan (top down bottom up training) and a set of 2019 Innovations by Bank labs like the venture experimentation lab; the piecewise iLabs (Samrtlab Spain); and the centres of excellence. Trying to be as shared services for innovation and a centre of top notch technology and knowledge.

16. PRIORIZATION: Innovation initiatives should be prioritized based on how well they address strategic priorities, their risk profiles, and time to impact. No need to focus on great large projects. Institutions that think small will either have something successful to build on, or at the worst have an inexpensive lesson they can learn from. Working small also ensures that all ideas will at least get a fair try out. This helps contain losses and leaves funding for new ideas, new iterations of ideas in process, or course corrections.

[5] Which of the following competencies you consider critical for innovation in your Bank. Tick that/those that apply. Why are they critical and how they impact the innovation orientation.

Capital [B-R-C]:

1. BOLD INVESTMENTS: Saying your organization is innovative doesn't necessarily make it a reality. Nor does spending a lot of money guarantee that your institution will innovate, either. Investing without any clear idea of what to do just burns up resources — both manpower and money.
2. INVESTMENTS IN VENTURES: I am not suggesting that every company should build a fund for massive innovations. Start-ups are not usually equipped to deal with legacy organizations, and the opposite is also true. What is lacking in most organizations is a fast way to engage with start-ups or innovation opportunities in a way that doesn't stymie the innovation culture of the smaller firm. Sometimes the investment capabilities could be 'spare cash for experimenting' or 'seed money for venture building'. The common denominator is that organizations should act more like angel investors than the way they do now. And they should realize that it is possible to make big changes with small bets.
3. INVESTMENT ALLOCATION: The conclusion we came to was that the gene (and budget) for R&D had been lost, if ever it existed at many organizations. Even if the budget existed, it was either minimal, or used as a way to satisfy the investor public ... or both.
4. CONTINUITY OF INVESTMENTS: A committed, sustained allocation of resources to innovation initiatives
5. INCREASING INVESTMENT: Leading banks increased investment in various forms of innovation

6. **NEED FOR CLEAR INVESTMENT STRATEGY:** Banks sometimes tend to invest in innovation in a series of projects, but without a clear overall strategy
7. **BOLD INVESTMENTS:** Based on prioritization, we construct a portfolio of innovation initiatives that can plausibly deliver on their strategic goals, assign initiatives to the right BUs, and then allocate resources. As the innovation initiatives progress, we look for opportunities to re-allocate resources, doubling down on initiatives that are succeeding and quickly killing those that are struggling by using metered funding, agile governance, and other mechanisms. This effectively brings zero-based budgeting to the innovation effort and is critical for maximizing ROI.
8. **BOLD INVESTMENTS:** It is both critical the resources that are available for the innovation projects as well as how those resources are allocated
9. **INCREASING INVESTMENT:** The industry is about to enter a period where some of the money previously spent on regulation and compliance can now be invested into new products and services.
10. **ENSURING INVESTMENT BALANCE:** we conduct a review of all innovation initiatives enterprise-wide to understand how much is being invested across the organization and where. This review is overseen by senior leaders or cross-functional/cross-business-unit group of leaders who are empowered and held responsible for managing the entire portfolio. Ensuring this coherence and balance across business lines (for example, so retail and corporate do not lose sight of the small and medium size business opportunity) as well as non-client facing functions like IT and risk management is critical

Human resources [B-R-H]:

1. **PEOPLE AS THE ASSET:** People are the asset
2. **TALENT RETENTION:** Cultivation and retention of talent to drive and support innovation (for example, digital, design, business model specialists)
3. **TRAINING:** The need for speed to innovate and transform our organization requires profound changes in culture, strategy, processes and employee skills. We have made significant progress in organizing our key project teams into agile structures, promoting constant training and spreading innovation programs and culture across the organization.
4. **NEED TO RETRAIN, REPLACE AND FACE SHORT SUPPLY:** We need to look at our workforce. As much as 30% of jobs will be less relevant because of robotics and automated technologies. People will need to be retrained or replaced. Because all industries are going to be digitally disrupted, the availability of talent will be in short supply, leading to new partnerships, collaborations and opportunities for those willing to become part of the future.
5. **FINDING INNOVATORS:** But as we look at innovation, what we're finding is there just aren't that many people who are natural innovators. What we look for in an innovator is someone who has a multidisciplinary view on their job and has a set of experiences which has taught them a portfolio of capabilities, which they're applying almost in a general management-like way to the task of innovation. The reality is there aren't as many people as we would like who understand and have that full set of capabilities—and more importantly, who can operate within a large, complex organization and deploy them in such a way that they can have disproportionate impact.
6. **NEW JOBS:** Today's operations employees are unlikely to recognize their future counterparts. Roles that previously toiled in obscurity and without interaction with

customers will now be intensely focused on customer needs, doing critical outreach. They will also have tech, data, and user-experience backgrounds, and will include digital designers, customer service and experience experts, engineers, and data scientists. These highly paid individuals will focus on innovation and on developing technological approaches to improving in customer experience. They will also have deep knowledge of a bank's systems and possess the empathy and communication skills needed to manage exceptions and offer "white glove" service to customers with complex problems.

7. IDENTIFICATION OF TALENT POOLS: Operations employees in 2030 will need to know how to code, develop products, and understand data, but they will also need the personal warmth and insight to manage exceptions and deal with complex customer problems. To attract this kind of talent, we need to expand our geographic footprints and identify talent pools with the required skills and attributes. They will need a new hiring approach to assess and hire talent for operations with different skills from those required today. Finally, banks will need training approaches to develop not only technical skills, but also empathy and the ability to impress customers in every single interaction.
8. NEW SKILLS: We have to look at how to upskill our existing workforce and encourage them to sit easily within this new environment. You have to cater for more creative and non-traditional people (i.e. non-banking) and that will be a big challenge for us. Those people will often look, talk and think differently.
9. UPSKILLING: Banks have to look at how they upskill the existing workforce and encourage them to sit easily within this new environment. You have to cater for more creative and non-traditional people (i.e. non-banking) and that will be a big challenge for banks. Those people will often look, talk and think differently.
10. HIRING: Finding the right people to drive and implement innovation will continue to be a challenge. As a result, the need to partner with outside organizations continues to be a focus. Potentially in an optimistic perspective, the next two areas of focus will be to train current employees or hiring in a traditional manner. Using innovation events like hackathons was the least likely source of finding talent over the next three years.
11. CHANGE IN JOB DESCRIPTION: Competitive disruption is the new reality in the banking ecosystem. And, while the increased adoption of AI and robots will not result in the elimination of every job, it is clear that most current jobs will change, requiring individuals at all levels of our Bank to learn new skills. There are also jobs that could be completely displaced by advanced technology and automation.
12. FACING CONTINUOUS CHANGE: We realized as a Bank the need to have employees with the skills to understand how new technologies can be effectively applied within our institution. We need foremost an agile and adaptive workforces to navigate these changes.

Technology competencies [B-TC]:

1. There is an acute awareness of the need for a robust, agile and scalable infrastructure to support the pace consumer demand dictates.
2. API: The more interesting part is how the APIs have become part of a new business model." It is a model that lends itself more to innovation and is able to generate new ideas without having to channel everything through the many layers of the bank's internal technical teams.

“You can build a design thinking team created by business users, clients and technology people. Once that has been agreed, then you can bring in technical people,”.

3. **IMPACT OF IT:** Al evolucionar el sector hacia una vertiente más tecnológica, se abre una puerta a nuevos comeptidores cuya base es principalmente tecnológica, como BigTehcs, Fintechs o empresas de telecomunicación. El principal valor de estas empresas tencológicas es la agilidad y la reducción de costes a través de la automatización y desentemediación de los procesos.
4. **IT AS A C.A.:** La digitalización es una solución que puede tener una mayor aprotación para mantener una ventaja competitiva.
5. **NEED TO UNDERSTAND IT:** la implementación de la tecnología se debe basar ene l conocimiento de la misma para pdoer implantar sus posibles aplicaciones paulatinamente.
6. **SECURITY:** Secure IT environments so teams can access enterprise data, CRM systems, and so on
7. **NEED TO CHANGE CORE BANKING:** Attackers are growing their businesses and attracting customers with the help of modern core technology architecture, which enables them to innovate faster and operate more efficiently. We are concerned about the limitations of our own core architectures and our relatively slow pace of change. We are reviewing our core banking platforms.
8. **CHANGE OF CORE BANKING:** We have explored the potential of next-generation platforms (cloud based) which will allow faster innovation.
9. **MODERNIZING SLOWLY CORE BANKING:** We have pursued this strategy of progressive modernization of IT platforms. It comprises retaining the legacy platform but progressively minimizing it as they build a modern architecture around it. It is often seen as a safe option if the current architecture is viable for the next five to ten years.
10. **API:** Application programming interfaces (APIs) are shortcuts that make it easier for software developers to build new applications. In the banking context, however, they are something more. APIs enable easy access to banking services, products, and data. This transforms them into keys, capable of unlocking a range of business opportunities. Add the impact of regulation and they change again, becoming agents of disruption with transformative potential.
11. **LEGACY:** Legacy core banking systems at the heart of banks’ IT infrastructure are generally identified as one of the causes, holding back banks’ innovation efforts and crippling their agility. Often it is not the systems themselves to blame. They have performed reliably for many years but they have become increasingly complex and it’s getting harder to find talent that can support them. Innovation is happening much faster from the outside-in and less on core banking systems. These systems are systems of record and can only change at a rate which is much slower than current innovation around the customer or customer engagement.
12. **FROM LEGACY TO MODERN:** “We consider the idea of keeping any legacy systems for the long term as one to keep away from. If you find a way to keep your legacy system up and running, that’s a compromise. During the next decade I expect to see a mix of legacy and agile technology prevail as banks continue their migration strategies. For this intermediate period, banks will be looking to wrap their legacy systems and move via an enterprise service business to new modular technologies.”
13. **LEGACY SYSTEMS:** The problem is that the technology, software and systems that have built up over many years are all quite different. This creates problems when trying to adopt new technology, and lies at the heart of the tension between advocates for innovation and the

- guardians of the bank's stability. Inflexible IT systems and bottlenecks in IT development were our top two barriers to innovation
14. LEGACY SYSTEMS: Successful teams can develop a hybrid approach where you are agile within your existing architecture and, at Bank, we are working with the business and technology teams to achieve this.
 15. CLOUD: The use of the cloud is increasing at Bank. In March 2017, the bank announced it is investigating how it can use Google's Cloud platform to store data in a private cloud. "The world is becoming digital and data is growing exponentially, so banks will benefit from the flexibility the cloud gives to store and manipulate the data, as well as the ability to access it and organise it in a standardised way.
 16. AI: The bank will then be able to apply machine learning and AI to create valuable insights for clients. It will also be a much more prolific user of APIs in order to achieve the move to cloud platforms. The migration from existing infrastructure into a cloud environment should not be underestimated and the use of APIs will be integral for banks.

Employee competencies [B-E]:

1. REWARDING: Incentives to reward innovation.
2. FREEDOM TO THINK: Agile only works when you have liberated thinkers who are able to think differently. And it is always ultimately the people that make one bank different from another.
3. INVESTING: By cultivating an innovation culture, through investment and new organizational structures, we have empowered our internal teams and external partners to be the best they can be.
4. RECOGNITION AND SUPPORT: People need to first change their mindsets to embrace change as an everyday norm and to become open to, if not comfortable with, change itself. Second, they should stay positive and find the courage of their convictions to overcome the paralysis of inaction. Third, they need to find ways to implement ideas." The challenge may be finding an environment that supports this personal growth.
5. SUPPORT FROM MANAGEMENT: Talent is crucial. Banks need to recruit the best people and hold onto them. This is a sure route to competitive advantage. A related point is the necessity of senior level buy-in. Still, senior executives may require education on the relevance and potential of innovation. Once engaged, leaders should adopt a mentality, so that every initiative is gauged. Incentivization schemes should also reflect this priority.
6. REBELS, CLUSTER, REWARD, LATERAL THINKING: Find the rebels that organizations tend to push rebels away, not realizing that they are the best opportunity to push innovation forward. They are the ones to challenge the status quo. Rebels are not odd tattooed guys with stinky t-shirts and a beard. They are rebels in their mind. They think laterally, they find both problems and solutions not many people see, and their reward is mostly about freedom and recognition as opposed to money and power. There are ways to not only spot them, but also to cluster their work and use it to the great advantage of the organization
7. PERFORMANCE GOALS: Our leaders pay special attention to help employees to meet their performance goals related to innovation. Compensations schemes are not exclusively based on performance but rather a split between short-term performance and mid-term innovation with specific reward systems to recognize successful innovative projects

8. EMPLOYEES AUTONOMY: Bank employees willing to innovate have to be open to change. While many people are willing to challenge the status quo of the bank of the industry, you really need to put very dynamic and autonomous people together.

Market competency [B-M]:

1. MARKET TRENDS: To be successful, the strategic change programme of a retail bank must be founded on a robust understanding of the major trends affecting its market—how the expectations of their customers are changing, what their competitors (both new and traditional) are up to and the extent to which new regulation and technologies will cause disruption. Improving customer journeys (for both internal cost / efficiency reasons, and external client experience and maximising the various benefits of big data and Artificial Intelligence (AI) are the key focus of banks innovation
2. CONSUMER NEEDS: Exploring granular consumer needs with advanced analytics. CPG leaders explore opportunities through highly granular, data-rich maps of product benefits, consumer needs, and usage occasions rather than just segments or categories (we call these GrowthMaps). These can reveal how a seemingly niche and emerging trend could have surprisingly broad reach and applicability.
3. COMBINING DATA SOURCES: Combining many data sources to quickly address tipping-point trends. Leaders combine various data sources (consumer, business, technology) to identify market trends that are hitting relevant tipping points. They understand where the most promising trends are, where they have existing capabilities to play, and where they might need to build new muscle. And they bring all this together to rapidly prioritize where to take action.
4. EMPLOYEES AND CUSTOMERS: Innovate with your clients Experience says that the best community that is able to challenge the current status, spot opportunity for innovation, and eventually create new products are your own personnel and your customers. Rather than creating a space just for your employees to innovate, it is important that you invite your own clients, and even prospects and suppliers into that space. The way to foster client-driven innovation comes in many forms, from co-creation to challenge-led innovation to venture building. And each one of these practices requires way more than 1000 words to describe.
5. CUSTOMER JOURNEY: Finally, when a single view of the consumer is not developed, organizations fail to recognize the consumer journey and integrated touchpoints, and have trouble creating consistent experiences. All of these challenges hinder optimal digital strategies.

Operations competency

Organization [B-O-O]:

1. NEED OF TOP MANAGEMENT SUPPORT: To pursue innovation, we need strong leadership that will ensure changes actually occur and are fully followed through. You also need someone that sees the benefits of innovation, rather than the costs. It is actually costlier to stay where you are and not make any changes.

2. **NEED OF TOP MANAGEMENT SUPPORT vs COMMAND AND CONTROL:** The fundamental change of approach from the traditional 'command and control' model must begin at the top of the organisation with the full and continuous support of the bank's Board and Executive Management. With this in place, the use of agile techniques both in IT development (moving away from the previous waterfall methodology) and in process and new product redesign can begin allowing for real innovation with an agile way of working
3. **FLAT ORGANIZATION:** We moved from successful—but siloed—use cases, toward a more scalable and reusable analytics approach. This approach includes an organizational structure of “domains” and “horizontals,” which allow the bank to apply their solutions more broadly as well as more effectively and efficiently.
4. **FLAT ORGANIZATION:** The biggest barrier is a change in mindset about how banking is carried out. Such a mental shift is necessary within an organisation to enable innovation. This means banks of the future or innovative banks must have a flatter structure, less bureaucracy, and clear established standards for how partners can plug into their network, while staying compliant with legal requirements and ensuring security isn't compromised.
5. **VC TYPE ORGANIZATION:** Enhanced operating model by setting up a VC-style governance committee to help prioritize initiatives in the pipeline, and to create a talent pool that could tap for new priorities and reallocate across initiatives.
6. **MIXING AND EMPOWERING:** We centralized, empowered, and incentivized a team of executives from across core corporate functions (for example, accounting, risk, procurement, compliance) to keep innovation teams working quickly and efficiently toward their goals.
7. **FROM CENTRALIZED TO DECENTRALIZED:** From an operating model perspective, there are two basic steps, starting with a centralized model and progressively moving to a decentralized approach. Centralized models, with a single team developing APIs, can create critical mass and act as a focal point for learning. A decentralized version, meanwhile, suits more mature scenarios. It most often comprises agile teams working across the business. Funding strategy may echo this approach, with funding initially provided centrally but later shared between teams.
8. **ADAPT TO CUSTOMER NEEDS AND IT:** We have always functioned with an organizational trinity: front offices (branches), middle offices (call centers), and back offices (operations). In the next ten years, this trinity will evolve dramatically. As we've already noted, back offices will slim down. Call centers will all but disappear due to AI bots and automation, and branches will be scaled down in number and transformed in function. As more customer transactions move to digital channels, front-line branch employees will operate as skilled personal advisors, helping customers get answers to complex questions that can't be addressed digitally, giving advice about bank products and features, and generally serving as a one-stop-shop for customers in need across journeys. This is a new paradigm in which customers will receive personalized advice, relying on a simpler organization.
9. **IMPLICATION AND ROTATION PROGRAMS:** Hardwire points of contact between the innovation labs and the “mother ship.” Embed people from the sponsor BU as a core part of the innovation team, and rotate people from the main business through the innovation labs. Assign respected leaders from the legacy business to manage innovation projects. Create a central innovation roadmap that business units agree on, and track it on the CEO/COO agenda.
10. **IDENTIFY SPEED:** Set up and prequalify your “speedboat” network. These can be factories, partners, agencies, and vendors who can support small scale procurement and

manufacturing, run first-purchase tests, and even support a riskier newproduct's first few years of manufacturing before committing the capital expenditure for scaled/global manufacturing.

11. SILOS: When people discuss silos in banking, most think in terms of an organizational chart. While this illustrates the division of responsibilities within a financial institution, that view is far too simplistic. A much larger dynamic lies beneath the surface, where the inability to share insight about customers across silos makes the process of seamless digital transformation close to impossible so our priority right now is to overcome those silos.

Culture [B-O-C]:

1. REDISIGN THE CULTURE: Bottom line, the effort made to make a cultural transformation must equal or exceed that which is being done to achieve operational transformations. We must be proactive in shaping and measuring culture, approaching it with the same rigor and discipline with which they tackle operational transformations
2. NEEDED CULTURE: The focus of the cultural transformation must be on eliminating silos, accepting more risks, and focusing more acutely on the consumer experience. Not making these required cultural changes can actually have a negative impact on financial performance.
3. CULTURE AS STARTING POINT: We prioritized an 'innovation culture' as the primary driver of innovation.
4. NEED OF CULTURAL CHANGE: Building an innovation culture begins with making innovation essential to the day-to-day business, and it's critical that it start at the top, with the CEO and senior executive team.
5. COMMITMENT TO CULTURE CHANGE: Building a 'culture of innovation' is most likely at the top of our banking corporate agenda. There is no denying that a firm's own employees are uniquely positioned to understand both their customers and their own organization. We have seen movement over the past decade toward a greater commitment to innovation, but we have also seen the lack of commitment doom innovation initiatives.
6. CULTURE AS A STOPPER: The human and cultural issues involved in innovation and the use of new technology and techniques are a commonly held. There are technical, legal, commercial and cultural barriers.
7. NEED FOR CULTURAL CHANGE: Getting culture right is the key to success in a digital world and resolving culture issues is 'no longer optional'.
8. CULTURAL CHANGE: A culture change is required to succeed in the future. Gone are the days of incremental adjustments to business models. Innovation within Banks need to convince management of the benefits of going beyond buying new technology or building new mobile apps. The fundamental change that needs to happen within a business must go much deeper than the consumer interface. Innovation in banking is both costly and complex. It is not an easy journey. It requires commitment from top management to re-imagine business models, build new strategic alliances and develop a workforce that may be far different than the team they have today. It requires to quickly respond to change – it requires urgency.
9. CULTURAL CHANGE: Working with young individual developers will be a cultural change. We can talk to a 20-year-old who can go onto any interface and fix it using simple web tools that are available. They have a totally different mindset to the dedicated banking and financial

professionals. It seems easier to teach these guys about the banking industry rather than the other way round.

10. **LEARN TO FAIL FAST:** We need to be brave and prepared to ditch the obsolete ‘blame culture’ and migrate into businesses that are prepared to experiment with new ideas. Speaking of our branch transformation programme whereby different types of branches (i.e. some self-service, ATM-based, others more fully staffed with tellers, some more sales-staff focused) are put in different areas. We learnt to fail fast. So failure for good reasons is acceptable as it helps the organisation to learn and constantly improve. This is a key advantage of an approach based on innovation.
11. **COMITMENT TO CULTURAL CHANGE:** When we mention culture, we are not talking about some open google-like office spaces. We are not talking about meetings full of high-fives, or posting a couple of thumbs up selfies. And we are not even talking about the “leadership is open to listen to your ideas” type of exercise. It’s an organization-wide, profoundly rooted, bullshit-free acceptance that you need everybody’s ideas, fast failure acceptance, and a continuous self-challenging mindset.
12. **CULTURAL CHANGE:** There often is a more conservative attitude in banking but they need to think beyond the normal way of doing things to achieve any radical change.
13. **CULTURAL CHANGE / COMITMENT:** In all of these industries, the winners are going to be the ones with the highest capability to make innovation part of their DNA, not another slide in their PowerPoints. That requires humility, vision, openness, agility, ability to fail and reinvent yourself, and ultimately building an environment where everyone feels responsible for a common objective.
14. **NEED FOR AN INNOVATION CULTURE:** The primary driver of innovation, beyond budget and personnel, is the presence of an ‘innovation culture’ and a focus on making innovation an integral part of the way an organization views itself.
15. **TECHY TOP MANAGEMENT NEEDED:-**While many banking executives talk a good game about ‘agility,’ often things aren’t very agile in practice. Moven has worked with traditional banking institutions to adapt their spending and budgeting technology to their operations, says King. Looking back on Moven’s work with TD Bank’s Canadian operations for its MySpend app, King says that adapting the technology took about three months. That was the easy part. But negotiating with the institution’s purchasing department took nine months. Attribution for such problems usually resides with the industry’s risk-averse culture. Whenever risk management enters the room, innovation usually runs out. Traditional financial institutions’ leadership simply isn’t oriented to innovation. Technology firms have technology people at the helm. But few banking institutions have that kind of experience at the top. King notes that some institutions, such as Capital One, BBVA, and USAA, count technologists among their leaders, and he credits some of their success with digital innovation and transformation to that factor.
16. **CUSTOMER CENTRIC CULTURE:** having a customer-centric culture is more than just a good thing — it’s become a matter of survival. Although companies have long declared their intention to get close to their customers, the digital age is forcing them to actually do it, as well as providing them with better means to do so.

Risk [B-O-R]:

1. **RISK AVERSION:** When silos exist within financial institution, it is impossible to get a true 360 degree view of the consumer, resulting in both slow and incomplete responses to needs. The cultural issue of risk aversion usually results in an under investment in strategic opportunities and slow responses to consumer needs as well.
2. **RISK TAKING:** To build something new, an organization (or an individual) must expand their willingness to take on risk. In many cases, you're trying something new that nobody's ever tried before. And, since it is hard to predict the future, there is risk involved. What is interesting about this period of digital transformation, is that this 'risk' is to future-proof yourself and your business.
3. **AVOID RISK:** Accepting risk goes far deeper than encouraging experimentation and the acceptance of failure. In fact, many of our leaders started their career with the desire to be in a lower risk environment. Beyond the personal aspect of accepting risks, capital markets have typically rewarded organizations that were more risk averse, making a change in culture that much more difficult.
4. **COMITMENT OF TOP MANAGEMENT TO TAKE RISK:** Nowhere is the importance of top leadership commitment more important than on the perspective of risk-taking. While outside hires and start-up partnerships may help, top management must also empower frontline employees to make decisions based on new insights that accept small-scale risks.
5. **DECISION PROCESS:** The critical question for executives concerned with their organization's risk appetite is whether they are trusting their employees, at all levels, to make big enough bets without subjecting them to red tape.
6. **SPEED IN DECISION PROCESS:** Executives must be willing to make bold, decisive actions that enable the business to pivot rapidly, sometimes at very large scale. In banking, the pace of change has never been faster ... leadership decisioning must reflect this new norm.
7. **INTERNAL RESISTANCE:** Whenever risk management enters the room, innovation usually runs out
8. **UNDER INVESTING:** The cultural issue of risk aversion usually results in an under investment in strategic opportunities and slow responses to consumer needs as well
9. **TOP MANAGEMENT COMITMENT TO RISK:** Top management must also empower frontline employees to make decisions based on new insights that accept small-scale risks

Change [B-O-CH]:

1. **MOVING TO ECOSYSTEMS:** The most challenging aspect of moving traditional banks to a platform-based approach or ecosystem will be in managing the organisational change involved, which is an integrated effort that covers everything from strategy and governance to customer experience management.
2. **CHANGING TOP MANAGMENT CULTURE:** Waiting for a banking company's culture to change organically is not a fast enough process in the digital age. In other words, it is difficult to teach an old dog new tricks. One primary reason is because the leadership already in place may be part of the foundation of the existing culture.
3. **CONTINOUS RAPID CHANGE:** Change is going to continue ... albeit at a faster pace than we have ever experienced. Rather than reacting to this change, it must be embraced and dealt with both strategically and organizationally. Speed and agility is part of this process.
4. **TOP MANAGEMENT CHANGE:** To change the company culture and legacy DNA, banks identify new leaders who understand such challenges and may help the bank to change

effectively. These leaders may not be legacy bankers, but senior executives who have a legacy in tech or digital firms from different industries.

5. **ANTICIPATING CHANGE:** An innovative organization must be built in anticipation of change. This requires new processes, skills, products and approach to meeting consumer needs. Employees must be prepared to accept change, be aware of the ways change can impact their work, and be willing to disrupt themselves as needed in order to cope with the new market conditions.
6. **SIMPLIFIED STRUCTURES NEEDED:** Build agility and simplify governance and way of working.
7. **SHARED VALUES:** Ensure that you share and live the same values
8. **HUMAN RESISTANCE TO CHANGE:** The main challenge of the digital revolution banking is facing is not digital...it is human and cultural
9. **FAILURE ACCEPTANCE:** Jump : dare to make mistakes, accept failure

Innovation outcomes

[6] What kind of innovation do you consider more appropriate from tactical/statistical stand point? Why?

Incremental innovation vs. radical innovation [B-F]:

1. **INCREMENTAL/RADICAL:** Multiple (or at least flexible) innovation development and delivery pathways tailored to the different needs of incremental versus disruptive initiatives
2. **INCREMENTAL/RADICAL:** As banks turn to focus on innovation, there will still be compromises to make. For example, at what point do you stop the provision of incremental services on existing products and migrate to new offerings? Banks have to manage their customers' expectations carefully in terms of what services will be available in the future.
3. **INCREMENTAL:** One approach to mitigating risks is avoiding 'big bang, behemoth projects' and adopt an evolutionary approach to change. We make changes incrementally, breaking the overall project into smaller digestible parts and changing those step by step.
4. **RADICAL:** Scaled success requires making disruptive innovation part of the normal course of business.
5. **RADICAL:** Radical is the new normal... in any business, including banking
6. **RADICAL:** Banks must be willing to disrupt the status quo. Slow, incremental adjustments to last year's strategy aren't enough. The consumer expects more from their financial institution because they get more from other business partnerships like Amazon, Google, and Apple.

Marketing, process, administration, business model innovation [B-TY]:

1. **CUSTOMER CENTRIC:** Done well, customer-centric cultures anticipate emerging changes in consumer behavior and customize relevant interactions by integrating structured data with unstructured data for a better consumer journey. Customers demand a more

- comprehensive and personalized banking experience but banks struggle to deliver a delightful last-mile experience.
2. CUSTOMER CENTRIC: Customers should lie at the heart of any bancassurance innovation strategy. Therefore, a customer-centric mind-set should influence every decision, from paring down to a simplified product portfolio to building a seamless customer journey across multiple channels and points of contact. Furthermore, bancassurers should be obsessive about offering best-in-class services and support across both digital and physical channels. To do so, banks and insurers will need to work together closely to empower all the functions involved with agility.
 3. CUSTOMER CENTRIC: Improving the customer experience is the top innovation goal. Consumers say a seamless experience, single point of contact, rewards and security are essential. Can banks and credit unions compete with challenger banks and big tech firms and potentially monetize a great customer experience like Amazon?
 4. CUSTOMER CENTRIC: customers have come to expect seamless, intuitive, and convenient interactions on par with the digital experiences elsewhere in their lives, such as on Google and Amazon. Customers increasingly expect a personalized experience.
 5. CUSTOMER CENTRIC: Customers remain at the center of our banks' innovation efforts as organizations across the industry move to improve digital customer experience across new touch-points and channels. In line with this, delivery channels are the key focus of innovation, with most banks saying that mobile and online will be the primary distribution channels in four years' time. this means shifting the conversation from focusing on great ideas to prioritizing great ideas which solve problems. What is the pain that can be removed?
 6. CHANNEL: In reality, the most important innovation over the past decade hasn't been a single product or feature. It has been the shift towards giving consumers closer and more immediate access to, and control of, their accounts. I believe this is the most important innovation because it makes for better informed and more empowered customers. It's a clear enabler of progress for individuals and for societies.
 7. CHANNEL: The development of remote usage whatever the channel, and notably through the mobile phone, has been the most transformative. It has rejuvenated the way we design interactions with clients (UX excellence; mass customization, etc.), and the way we design our business models (the role and sizing of our physical branch network; the pricing strategy etc.).
 8. CHANNEL: The channel offers substantial growth opportunities for players that are ready to refine their approach through innovation. By laying the foundation for digital and analytics capabilities, building partnerships across ecosystems, and continuously putting the customer at the center of all decisions, banks can achieve significant growth and help make their organizations more resilient in the years to come.
 9. CHANNELS: Innovate to develop more channels to connect with customers
 10. IT COMPLEXITY REDUCTION: IT complexity reduction has been our key focus in the recent years to ensure new technologies can be easily deployed or integrated into our core banking
 11. PRODUCTS: In terms of product innovation, we focus on payments, mobile wallets and lending as the most important areas of banking. These are also the three areas where non-traditional financial institutions pose the biggest competitive threat.
 12. CUSTOMER JOURNEY / IT: Banks also need to think more about their customers' journey and apply technology that can help.
 13. CUSTOMER EXPERIENCE: The most relevant innovations over the past years were related to customer experience. In other words, innovations that changed the way customers use their

bank, do simple transactions, request information and interact with the brand. In recent years, the availability of digital channels such as the Internet and mobile, as well as social media, largely increased the level of banking convenience and transaction speed, which positively influenced the usage and engagement of customers with financial products and brands.

14. COST EFFICIENCY: We are dedicating big efforts to improve our internal processes in order to improve efficiency and eventually have an impact on our P&L bottom line
15. COST EFFICIENCY AND CUSTOMER EXPERIENCE: improved customer experience, and significant cost savings
16. BUSINESS MODEL: Business model innovation is critical for the future of any banking institution. New business building is an essential skill to survive in today's rapidly changing environment – but requires a new mindset and approach. The launch of dedicated business models targeting either a specific service or targeting specific segments of clients, leveraging alternative customer bases, technologies and distribution partnerships.

Faster vs slower innovation [B-RT]:

1. SLOW: A lack of standards for some new applications (like open APIs) needs to be considered, as does security, so we are not willing to put speed of development before security.
2. SLOW: We might not always be first but we will always be safe.
3. SLOW: Leaders can also manage the balance between short-term initiatives that will generate revenue or cost savings relatively quickly, with longer-term bets. Designed correctly, this development strategy can make initiatives essentially self-funding
4. SLOW: We do small bets to learn and evolve avoiding big mistakes that could jeopardize our internal reputation
5. FAST: Speed of innovation is a critical factor often forgotten, specially when facing the fintech competition
6. FAST: Being a 'Fast Follower' doesn't work anymore. Unfortunately, that strategy won't yield the same results anymore, given the pace of change in financial services. Most organizations now realize that the 'train of digital transformation' is going 90 miles an hour, and it is not slowing down. Banks have got the 'follower' part nailed, but not the 'fast' part. Banking institutions have no choice but to speed up the process. We have to be prepared to move quickly when new opportunities to innovate arise. Voice-operated services — such as the skills that drive Amazon Alexa — technology, are already achieving significant consumer acceptance, but few banks have solutions using this technology. Digital account opening is another major weakness.
7. FAST / COMPETITIVE ADVANTAGE: Being able to launch products quickly is a critical competitive differentiator in the current crowded marketplace. Faster product delivery is restrained by monolithic architectures (leading to multiple interdependencies and bottlenecks), poorly documented legacy code (causing over-reliance on a small number of subject matter experts), and manual delivery processes.
8. FAST TO CATCH UP WITH CUSTOMER NEEDS: The challenge that lies at the heart of banks' efforts to innovate can be encapsulated in a single word – speed. Consumers are witnessing an ever-increasing rate of innovation from new, digitally-enabled providers but they are not

- witnessing the same agility in service or product development from their banks. Customer expectations have also been set to a higher bar by Fintechs and large technology companies.
9. FAST: Speed to market is vital when adopting new technology or releasing new, innovative services. This puts us at a disadvantage to newer challenger banks because they have existing products to support whereas start-ups have a clean slate
 10. FAST: There is a migration process from existing legacy products and systems to the new ones and it is often underestimated how long that process takes.
 11. FAST TO OVERCOME COMPETITION: one of the reasons new age firms have such a significant impact is the speed and frequency with which they release new products and features. Fin Techs release new, useful features frequently after paying attention to their customers and thus, nurture a virtuous cycle of loyalty. In that sense, customer expectations have also been set to a higher bar by FinTechs and large technology companies
 12. FAST: Failure to move fast to develop new products and address last-mile challenges can expose banks to significant threats and market share loss. The train of digital transformation is going fast, and it is not slowing down. Banks have no choice but to speed up the innovation process and be prepared to move quickly when new opportunities to innovate arise.
 13. MIX FAST/SLOW: leaders can also manage the balance between short-term initiatives that will generate revenue or cost savings relatively quickly, with longer-term bets. Designed correctly, this development strategy can make initiatives essentially self-funding
 14. SECURITY FIRST: A lack of standards for some new applications (like open APIs) needs to be considered, as does security, so we are not willing to put speed of development before security"
 15. SECURITY FIRST: We might not always be first but we will always be safe.
 16. REPUTATION FIRST: We do small bets to learn and evolve avoiding big mistakes that could jeopardize our internal reputation

Internal, cooperative, external, acquired innovation [B-C]:

1. NEED TO PARTNER: We became aware that there are better ways to connect with customers and that we did not need to provide all of the services ourselves. We had to accept that there are third parties out there that can do a better job of providing certain services.
2. NEED TO PARTNER: I think we need to revisit how we look at partnerships. Both when it comes to how banks work together, should we develop all different systems in silos, should we collaborate more between the banks.
3. START UP AS ROLE MODEL – We began by setting up accelerators/incubators or were working with independent accelerators/incubators. There was also a trend towards investing in start-ups either through dedicated venture funds or on an ad-hoc basis. We have seen over the past several years that start-ups embody the core principles of innovation that drive commercial success. They embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge. The question is whether banking can replicate the best of fintech start-ups while leveraging their customer base scale advantage to respond to a changing marketplace. Or, will the majority of the industry need to be fast-followers ... or laggards, with the inherent risks?

4. **ADVANTAGES OF PARTNERING-ACCELERATION:** FinTechs are speedboats, banks are ocean liners. The former moves, fast, can get places fast, but cannot carry many passengers. The latter is slow and steady and has many passengers. They need each other and the symbiosis is starting. I foresee a lot of acquisitive activity of FinTechs, the challenge will be integration, without killing their spirit and essence of what they are
5. **ADVANTAGE OF PARTNERING – SYNERGIES:** Fintech firms and banks working together isn't happening as much as it should. The benefits are clear: Fintech firms have intriguing new products and services but many have trouble finding the scale that will make them pay, while banks and credit unions have established customer bases.
6. **ADVANTAGES OF PARTNERING – BETTER OFFERING:** There are many win-win scenarios out there where we can combine our strengths between banks and fintech companies and simply create better services for our customers. We as a bank don't need to be the "one stop shop" for everything.
7. **ADVANTAGES OF PARTNERING – BETTER CUSTOMER SERVICE:** We changed our way of thinking about partnership in this area. We decided that from both a fintech perspective and a VC perspective, how do we want to invest in these kind of companies, but also how can we collaborate, so we changed our way of looking at them and our mindset and suddenly we then had a whole range of partners to see how they could help us provide better services for our customers.
8. **ADVANTAGES OF PARTNERING:** there will need to be partnerships between banks and solution providers as well as collaboration between traditional banking organizations. Only with these alignments will organizations be able to be as agile and flexible as the marketplace requires.
9. **CHALLENGES – CULTURAL CLASH:** I am not suggesting that every company should build a fund for massive innovations. Start-ups are not usually equipped to deal with legacy organizations, and the opposite is also true.
10. **CHALLENGES – CULTURAL CLASH:** What is lacking in most organizations is a fast way to engage with start-ups or innovation opportunities in a way that doesn't stymie the innovation culture of the smaller firm. Sometimes the investment capabilities could be 'spare cash for experimenting' or 'seed money for venture building'. The common denominator is that organizations should act more like angel investors than the way they do now. And they should realize that it is possible to make big changes with small bets.
11. **CO INNOVATION:** Co innovation with other business partners, a dedicated team constantly trying new ideas, programs encouraging submission of new ideas, partnering with large tech companies, partnering with start ups, running an accelerator internally and externally, create or join an innovation consortium, investment in start ups
12. **PARTNERING:** For most organizations, the ability to invest in brand new innovations becomes cost and time prohibitive. Fortunately, there are thousands of organizations working independently and on behalf of legacy bank and credit union firms, finding new solutions that improve the customer experience using new technologies. Most of these fintech firms lack scalability and capital but have innovations that are 'street ready'.
13. **PARTNERING TO NEW BUSINESS:** Partnering with fintechs, and launching new ecosystem strategies to create growth opportunities beyond banking.
14. **ECOSYSTEMS:** Various ecosystem models are bringing together fintechs, companies, banks, and other financial services providers to buy and sell products, share technology, and expand their networks. Banks in Europe and the US are also starting to get involved, often working with, or investing in, fintechs to create new revenue streams and more tailored customer experiences. Some have launched aggregator apps, bringing together account information from a number of

institutions, or have created online marketplaces in which partners can pick and choose products and services, sometimes to integrate into their own platforms.

15. **ECOSYSTEMS:** The most successful banks have been built on open ecosystems, where third parties, developers – even consumers – are encouraged to add their own applications, products and services, that can be available to all, adding value and extending the core proposition. In contrast, banks have been built on closed, internalised systems, that are tightly guarded from external threats and closed to third parties. As ecosystems reshape traditional sectors, bancassurers must better define their role to ensure their channel remains relevant. As such, leading banks and insurers are actively seeking new types of partnerships across a broader product scope and wider geographical footprint. By following suit and partnering with additional services and product offerings via digital platforms and ecosystems, bancassurers can sharpen their value proposition for customers and capture cross-selling opportunities.
16. **PARTNERSHIPS:** The importance to banks of spending time and effort in building mutually-beneficial relationships is perhaps a sign of a significant change in approach – the days of a bank having ‘suppliers’ having been superseded by them having ‘partners’. Although some suppliers may be reluctant to enter into such close arrangements with one bank for fear of losing opportunities with that bank’s competitors.

Innovation orientation and firm performance [B-FP]:

[7] Does your Bank consider, and therefore target, that the more introduced innovations the higher the level of firm performance?. Why? How do you measure the impact of innovation orientation in terms of your Bank’s performance improvement?

1. ROE: La presión por mejorar la rentabilidad medida en términos de ROE, lleva a buscar vías de mejora de la rentabilidad como uno de los principales desafíos más inmediatos del sector, y que la innovación podría ayudar a desarrollar, todo ello en un entorno presionado por los bajos tipos de interés y el aumento de la exigencia regulatoria en materia de solvencia y protección al inversor
2. ROE: Por un lado, optar por la transformación digital interna, un proceso ya iniciado y al que nuestro banco dedica entre el 15% y el 20% de su beneficio. Por otro, la creación de planes abiertos de innovación con los ecosistemas ya existentes en los que se definen áreas comunes de cooperación. Esta estrategia busca puede elevar el ROE a cinco años entre un +2,5%-3,0%.
3. KPIS: Metrics that track innovation—consumer excitement, word ofmouth, adoption rates; and a clear understanding of how each person’s role adds value to the process.
4. KPIs: revenue after risk cost, new client acquisition, NPS, or operating expense reduction
5. *KPIS:* In 2019, We established a new dashboard with : On one hand we have the dimension of Innovation Capability with worklines: internal innovation (% people in; % internal challenges/cohorts ; %ideas submitted ; idea conversion rate ; project failure rate ; delivery rate of internal ideas ; number of intrapreneurs ; TTP/TMT); external innovation (number of partners active programmes -incubator ; accelerator ; scale-ups- : startup conversion to PoC ; ... Nº projects with devliery ; %failure) and intra-company (HQ-banks) innovation management; For the dimension of « Innovation Impact » we have three streams : 1/ Business Models

Innovations (new biz KPIs) ; 2/ Customer Experience & Delivery Innovation ; and 3/Process / Operational Innovation.

6. **TIME FRAME:** We move from taking a short-term view of innovation returns to a long-term view. We now do not expect return in one year time but at least at the third year. This extended view of returns from investment in innovation was definitely welcome, since this indicated a separation between innovation and quarterly financial reports. This is a cultural change in our opinion.
7. **INNOVATION PORTFOLIO:** Manage the organization's innovation efforts and investments as an integrated "innovation portfolio" instead of treating the incubator, CVC, BU innovation teams, and so on, as stand-alone units with individual (and often competing) budgets and objectives— which is the common approach today.
8. **STRATEGY:** To get a meaningful return on innovation, instead of looking for financial impacts, we connected our initiatives with a clear strategy and distinct goals.
9. **NO CLEAR IMPACT:** It has proven difficult for us to innovate in ways that deliver significant growth in the form of new processes, products, services, experiences, and business models.
10. **NOT LEVERAGING ON INNOVATION:** Our understanding is that very few banks are effectively using innovation to elevate their performance.
11. **PROCEDURE:** When assessing the impact of innovation we question ourselves first what ROI and total contribution to revenue and profits do we need from innovation and how quickly do we need it; then what portfolio of innovation initiatives can plausibly attain this ROI and fulfill our strategy; and finally how do we organize to bring the bank's full resources to these efforts— so our scale becomes an advantage instead of a hindrance to innovating
12. **PROCEDURE:** A crucial component is for leadership to set goals for the return on innovation, define metrics to measure progress (for example, revenue after risk cost, new client acquisition, NPS, or operating expense reduction), and set timeframes to achieve these goals. All these aspirations must be "wired" into annual plans. This will help the leader measure ROI, understand what initiatives to continue and discontinue, and create accountability.
13. **IMPACT:** We were increasingly investing in innovation as a means of generating revenue and controlling costs. There were signs that the investment in innovation was making a difference with innovation performance being perceived to be improving.

Environmental turbulence as a moderator factor

[8] Which factors from the environment do you consider as key to facilitate/jeopardize innovation development? Why?

Factors from the environment that facilitate innovation development [B-TR]:

1. REGULATION: As a result of a great deal of regulatory change in 2018 ushered in by open banking, PSD2 and GDPR, we are being encouraged to take a second look at technological capabilities such as data analytics, artificial intelligence (AI), blockchain, cloud, Internet of Things (IoT) and 5G. These are all to introduce agility, which in turn creates a myriad of opportunities and challenges for banks to respond to, requiring agility both in development and culture.
2. REGULATION: We consider regulators pushing for changes in the industry, where they were forcing the pace for the development of open APIs. These changes would allow new players to develop innovative services and again force banks to reconsider their traditional business models. In response, even more banks were opening innovation labs and investing in research and development.
3. MARKET / REGULATION: Over the past decade, banks have faced increasing pressure to lower costs, improve regulatory compliance and compete with aggressive fintechs.
4. MARKET / REGULATION: APIs are in effect multipurpose tools, enabling compliance with open banking regulation such as Europe's Payment Services Directive 2 (PSD2), access to ecosystems of related businesses, and simplification of legacy IT systems. They represent a significant opportunity to innovate, work more efficiently, and develop new products and services.
5. MARKET: El estancamiento del crecimiento económico y los bajos tipos de interés llevan a las entidades a re-inventarse.
6. MARKET / IT: Technology is moving too quickly, customers are too demanding, and fintech competitors are too effective at finding ways to innovate across the value chain.
7. COMPETITION: El miedo a la entrada de nuevos players más disruptivos es lo que ha llevado a la innovación
8. REGULATION: We are being pushed by their regulators to be more innovative. The Payment Services Directive 2 (PSD2) and its concept of open banking forces banks to make their customer data accessible to third parties, including both rival banks and new non-bank competitors able to offer new banking products and payment services to these consumers.
9. REGULATION: Menor impacto en solvencia de las inversiones en tecnología (considerados como intangibles)
10. REGULATION: In the Nordic region, traditional banking is experiencing disruption on an unprecedented level and is being encouraged to rapidly become agile ahead of regulatory change such as the P27 initiative. What this will also continue is the healthy competition among banks for new products and services
11. IT: Disruptive technologies are helping to accelerate the digitalization of banking and to spur changes in banking business models.
12. COMPETITION: Digital commerce platforms such as Amazon and Alibaba are likely to emerge as clear innovation leaders. Consumer technology companies such as Google and Apple come a close second. The growing realization that the biggest threat for banks comes not from within

the industry but from new players with advanced digital capabilities in critical areas of competitive differentiation is making banks notch up their innovation efforts.

Factors from the environment that jeopardize innovation development [B-TRJ]:

1. LEGACY SYSTEMS / INTEGRATION / CULTURE: Naming legacy systems, integration issues and culture, skills sets, digital skills shortage, organizational silos as the biggest barriers.
2. LEGACY SYSTEMS: While the big tech companies of today – Google, Amazon and Facebook – have been unencumbered by legacy infrastructure and able to embrace digital change, the big banks of today are still very much legacy-run, making any radical change that much more challenging
3. IT INTEGRATION / LEGACY SYSTEMS / SPEED: The top three innovation challenges included systems integration, legacy technology, and the time and cost required to move from concept to reality.
4. SAFETY / SECURITY / CULTURE: We also have to understand the risk and liability involved. So we need to find the balance between pushing the boundaries of innovation but maintaining safety and security for the customer. The legal issues can be solved and you can keep up with the technology but overcoming the cultural barriers and changing the way we operate can be a big challenge.
5. NEO BANKS: Competition in the banking industry is intensifying. Neo-banks are winning market share and serving customers at around one third of the cost of traditional banks. Fintechs are targeting lucrative niches in the value chain. Big tech players, with their large customer bases, pose a real threat and a few incumbents are investing heavily in innovation, putting laggards in the shade.
6. OVER REGULATION ON SANDBOXES: La sobre-regulación para las entidades financieras es un bloqueante a la hora de innovar. Limita la capacidad de crear sand-boxes y poder desarrollar nuevos proyectos. No les ocurre lo mismo a las entidades más ágiles y pequeñas que pueden innovar no sujetas a estas regulaciones.
7. REGULATION / CAPITAL MARKETS: Regulatory and investor demands often force banks to focus more on immediate risk, compliance, and cost issues than on long-term growth opportunities.
8. RISK AVERSION: There is also an inherent tension within banks between a risk-averse culture that wants 100 percent predictability and accepting the reality that not all innovations will succeed.
9. RECESSION AND PRIORITIES: Unsurprisingly, during the recession process, innovation was a lower priority for most banks than risk management, balance sheet management and cost management.

Innovation orientation as a long term competitive advantage [B-CA]:

[9] Do you consider having an orientation towards innovation in a Bank is a key long competitive advantage?

1. COMPETITIVE ADVANTAGE: Innovation success requires more than simply pouring time and money into an assortment of consumer-facing digital initiatives, such as developing a new mobile app or redesigning your company's website. Unless innovation efforts are built from within and create sustainable competitive advantages, they will likely put your organization further behind consumer expectations and the competitive norm.
2. COMPETITIVE ADVANTAGE: La innovación se considera como herramienta clave para poder superar los retos actuales del sector.
3. COMPETITIVE ADVANTAGE: Las entidades que se encuentran en un proceso de digitalización más avanzado, mantendrán una ventaja competitiva
4. COMPETITIVE ADVANTAGE: El cambio cultural de los empleados, hacia una cultura más innovadora se considera como una palanca competitiva de mayor valor. Se requiere de una transformación a lo largo de toda la estructura organizativa.
5. COMPETITIVE ADVANTAGE: La innovación debe ser una de las metas que las entidades financieras deben marcarse para el futuro más próximo. Ante los retos que se presentan, existe una necesidad real de transformación para las entidades financieras, si quieres surgir manteniendo una cuota de mercado relevante.
6. COMPETITIVE ADVANTAGE IN THE LONG RUN: The pressure to innovate for long-term competitiveness is significant, but innovation within banks is not a trivial undertaking. Indeed, banking industry characteristics can work strongly against innovation. For one, economic payoff is usually slow. The balance-sheet driven, vintage-based economics of the banking business means new growth innovations don't fall to the bottom line in a visible way for three to five years. Therefore, need to think in the long run.
7. COMPETITIVE ADVANTAGE TO ANTICIPATE MARKET CHANGES: Las entidades tradicionales que quieran mantener el liderazgo tendrán que convertirse en un «banco plataforma», es decir, una entidad financiera que funcione como una plataforma abierta que conecte con todos los actores del sector, con aplicaciones suficientes, que aproveche todas las oportunidades de las nuevas directivas regulatorias, así como de los sandbox de los distintos países y abierta a la banca internacional. Además, estas entidades contarán con un amplio ecosistema de colaboradores externos que les permitirá anticiparse e identificar los últimos modelos de negocio para contentar y cubrir las necesidades de los clientes.
8. STILL NOT THERE: Innovation in banking is not universal, with many organizations needing to create a culture that will embrace the change that is occurring in the marketplace, take qualified risks, and be willing to disrupt current business models to succeed in the long run.
9. STILL NOT THERE: To move forward at the speed of change will require a doubling down on providing a culture of innovation throughout organizations, combined with a willingness to embrace change, take appropriate risks and disrupt what has been the norm in the past. This requires getting out of our comfort zone and finding a way to serve the consumer in the way they are being served by big tech alternatives.
10. CHANGES SO FAR: Over the years, there has been a growing realization in banking towards innovation as the proven path to differentiation and competitiveness. While the transformation has been slow, over the last decade the industry witnessed an increasing willingness to discard

the traditional short-term focus, functional siloes and risk-averse culture towards more meaningful advancements and open culture.

Innovation related pitfalls[B-P]

[10] Do you consider having an orientation towards innovation may come with some pitfalls?

1. **SURPLUS OF IDEAS:** Unfortunately, while many Banks say they are increasing their efforts to build a work environment that inspires innovation and creativity, we sometimes have a surplus of ideas that aren't being nurtured.
2. **INTERNAL PROCESSES:** A bank's procurement process was a significant challenge, particularly when trying to work with small or only recently established fintechs. Such businesses often do not have the balance sheet, documented internal processes or reference cases to enable them to pass the standard due diligence tests of banks
3. **COMPLEX ORGANIZATION:** When dealing with large banks, fintechs struggle to identify who they should talk to within the organisation. This issue is complicated by the complex structures of the largest banks featuring decision makers at global, regional and country level. Additionally, banks have slow and complicated buying cycles which are not a good fit with small fintechs
4. **STATUS QUO AS A STOPPER:** Status quo leadership is the biggest impediment to any innovation. Any innovation in an organization needs all elements of the system to operate at an equally high level — rather than more funds, expenditures, activities or tactical interventions.
5. **START UPS- PITFALLS:** Pay attention to start-ups Start-ups are the lifeblood of the innovation ecosystem, regardless of the industry we are talking about. You always have a bunch of entrepreneurs, experts, former employees, and small teams with an idea who are either trying to disrupt your industry or simply taking advantage of low hanging fruit opportunities. These include unrealized efficiencies and unmet customer experience opportunities. Organizations have a tendency to miss the obvious. To miss opportunities that don't fit the legacy mold or have been avoided in the past. Instead, organizations do Silicon Valley trips, mostly to show their shareholders they actually 'keep abreast with new technologies and Innovations.' The truth is, they don't usually learn anything they would support back home. Start-ups are by far the best source of inspiration for any business, and yet plenty of organizations don't know how to relate to that.

Appendix 9 - On-line questionnaire used with Banks

LETTER OF CONSENT/INVITATION:

TITLE OF STUDY: Innovation Orientation in the Banking industry

Dear Mr./Mrs.,

I am currently enrolled in a PhD program at Universitat Oberta de Catalunya. The purpose of my research is to determine how banks ensure they are innovative in the long run.

The results of the research should help Banks to better identify the best way to be/become successfully innovative. You are part of a representative sample of European Banks, which insights will be very helpful for our research.

Therefore I kindly invite you to participate in this research study by answering the enclosed questionnaire, which has been designed to collect information as to validate to what extent banks are implementing the different items of the innovation orientation model as described by Siguaw et al (2006).

If you agree to participate in this project, please answer the questions on the questionnaire as best you can. It should take approximately 10 minutes to complete. Please return the questionnaire at your earliest convenience by email to the following email address (acallau@uoc.edu) or answering the questions directly on-line through the following link:

[LINK]

Your responses will remain confidential and anonymous. Data from this research will be reported only as a collective combined total. No one other than the researcher will know your individual answers to this questionnaire.

Should you be interested in receiving the conclusions of the research, please provide your email address at the end of the questionnaire.

If you have any questions about this project, feel free to contact Enric Serradell, Thesis Director (eserradell@uoc.edu).

We recognize the value of your time, and sincerely appreciate your efforts on our behalf.

Sincerely yours,

Artur Callau

E mail: acallau@uoc.edu

QUESTIONNAIRE:

Thank you very much for your time and cooperation in answering the following questions that aim to capture information as to validate **what tools and approaches are more effective in the banking industry to ensure banks are innovative.**

Your responses will be treated confidentially, and conclusions, which will be part of a PhD thesis conducted within the Universitat Oberta de Catalunya (www.uoc.edu), and will be presented on an aggregated format, thus no specific data from your responses will be made public to third parties.

Upon reception of your answers, and if you are interested, you could receive:

- Innovation orientation model that sets, according to literature review, the model a given organization should implement in order to ensure it is innovative
- Once the research is concluded, you will receive the innovation orientation model that seems to be more effective for the banking industry (estimated June 2019)

I would really appreciate if you answer the questions as honestly and complete as possible.

A last remark, the definitions to the concepts to be used:

- *Innovation: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. [Oslo Manual; 2005]*
- *Innovative entities: organizations that have implemented a multidimensional knowledge structure composed of a learning philosophy, strategic direction, and transfunctional beliefs that, in turn, guide and direct all organizational strategies and actions, including those embedded in the formal and informal systems, behaviors, competencies, and processes of the firm to promote innovative thinking and facilitate successful development, evolution, and execution of innovations. [Judy A. Siguaw, Penny M. Simpson, and Cathy A. Enz; 2006]*

If you have any questions about this project, feel free to contact myself (Artur Callau, PhD Candidate at acallau@uoc.edu) or Dr. Enric Serradell, Thesis Director (eserradell@uoc.edu).

Thanks in advance for your time and cooperation.

Strategic direction: strategy oriented to be innovative

1) Do you consider that your Bank has a strategic direction leading to innovation?

- Yes
- No
- Not clearly defined
- I do not know

2) Do you consider the way your Bank is lead by top management is ensuring that the organization will be innovative in the long run?

- Yes
- No
- I do not know

3) Do you consider your Bank flexible enough to adapt emerging strategies?

- Yes
- No
- I do not know

4) To what extent do you agree with the following statements?

Our top management...

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / N.A. = I do not know – I cannot assess	1	2	3	4	5	NA
...has a clear understanding of where we as a Bank are going						
...paints an intereseting picture of the future for our Bank						
...sells always new opportunities for the Bank						
...inspires others with its plans for the future						
... is able to get others committed to its dreams						
... sets a corporate strategy that creates new ideas and fcilitates proactive and competitively aggressive positioning						

5) To what extent do you agree with the following statements?

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / N.A. = I do not know – I cannot assess	1	2	3	4	5	NA
The purpose or reason for our Bank's existence is clearly identified						
The services and/or products provided are clearly identified.						
The fundamental, unique competitive advantage that sets our Bank apart from others is clearly identified.						
The scope of the Bank's operations in terms of products and services offered and markets served is clearly identified.						
There is a clear description of our Bank's philosophy about how it does business and treats our customers.						
There is a clear description of what our Bank wants to become.						
Our mission statement promotes a sense of shared expectations in employees.						
Our mission statement communicates a positive public image to important stakeholder groups.						
The importance of factors such as technology, creativity, and innovation is emphasized.						
Our strategy, mission, and vision are aggressive enough to push the organization to new boundaries (moon shot thinking)						

6) Do you consider that the Board of Directors at your Bank is ensuring that the organization will be innovative in the long run?

- Yes
- No
- I do not know

Learning philosophy / learning orientation: willingness to learn

7) Do you consider having a learning philosophy within your Bank?

- Yes
- No
- I do not know

8) Which of the following tools are in place in your Bank? Please tick that/those that apply.

- Commitment to continuous learning
- Shared vision on understanding, learning, thinking, acquiring, transforming and using knowledge
- Open mindness
- Intraorganizational knowledge sharing
- Tools in place to gather, assimilate and apply knowledge
- Absorptive capacity
- Learning from customers
- Learning from others (competition, third parties)
- Learning from the past
- I do not know

9) To what degree do you agree with the following statements from your experience at your Bank?

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / N.A. = I do not know – I cannot assess	1	2	3	4	5	NA
Our Bank's ability to learn is the key of our competitive advantage.						
The basic values of our Bank include learning as key to improvement.						
The sense in our Bank is that employee learning is an investment, not an expense.						
Learning in our Bank is seen as a key commodity necessary to guarantee organizational survival.						
There is a commonality of purpose in our Bank.						
There is agreement on our Bank vision across all levels, functions, and divisions.						
All employees are committed to the goals of our Bank.						
Employees view themselves as partners in charting the direction of our Bank.						
Our Bank is not afraid to reflect critically on the shared assumptions we have made about our customers.						
Personnel in our Bank realize that the way they perceive the marketplace must be continually questioned.						
We collectively question our own biases about the way we interpret customer information						

Knowledge structure: willingness to share/transfer knowledge:

10) Are the functional areas of your Bank continuously sharing and transferring knowledge mutually?

- Yes
- No
- I do not know

11) Which of the following feature(s) seem to be used in your Bank? Tick that/those that apply.

- Encouraging and facilitating knowledge/insights transfer across and within business subunits
- Aiming to retain diversity of views
- Fostering cooperative beliefs and understandings among all functional areas to direct them
- Strong coordination among R&D/Innovation, marketing, and operations
- I do not know

12) To what degree do you agree with the following statements?

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / N.A. = I do not know – I cannot assess	1	2	3	4	5	NA
Open communication is practiced among all departments in our Bank.						
There is an overall satisfaction with interdepartmental relationships in our Bank.						
There is a give-and-take-relationship among all departments in our Bank.						

ORGANIZATIONAL RESOURCES: Competencies to foster/to become innovative

13) Among the organizational competencies your Bank has, which ones you consider key to keep up with innovation?

Note: Organizational competencies refer to activities an organization is good at doing.

Competencies:

14) Are there in you Bank specific procedures and practices to foster innovation?

- Yes
- No
- I do not know

15) Which of the following competencies you consider critical for innovation in your Bank. Tick that/those that apply.

- Resource allocation: capital, tools, human resources, talent
- Technology competencies
- Employee competencies
- Market competency
- Operations competency
- I do not know

A.- Resource allocations:

16) Is your Bank willing to devote resources (i.e. budget, FTEs,...) to all areas of the Bank in efforts that specifically encourage the creating, development and implementation of innovation?

- Yes
- No
- I do not know

17) Is your Bank supporting human resources/employees to ensure innovation takes place?

- Yes
- No
- I do not know

18) Do you consider having in place in your Bank a rapid approval process for innovation projects?

- Yes
- No
- I do not know

19) Is your Bank mainly looking for quick innovation wins or rather is it willing to accept long term returns?

- Looking always for quick wins
- Willing to accept long term returns
- I do not know

B.- Technology competencies:

20) Is your Bank always open to deploy/develop/embrace new technologies to stimulate and sustain innovation?

- Always open
- Some times
- Rarely
- I do not know

C.- Employee competencies:

21) Has your Bank implemented formal or informal policies, procedures, practices and incentives devoted to stimulate and sustain innovation from employees?

- Yes
- No
- I do not know

22) Which of the following features would you consider are in place in your Bank to ensure employees are innovative? Please tick that/those that apply

- Knowledge dissemination
- Clarity of direction
- Commonly shared understandings
- Encouraging employees interaction
- Encouraging risk taking related to innovation
- Employees' autonomy
- I do not know

D.- Market competency:

23) Which of the following competencies, if any, does your Bank consider as key to ensure it has a clear understanding of the market needs (tick those that apply):

- Customer orientation
- Competition orientation
- Interfunctional coordination (coordinated utilization of company resources)
- New technologies
- Information dissemination
- Responsiveness: design of plans based on market intelligence and the execution of such plans
- None of the above
- I do not know

E.- Operations competencies

24) Do you consider your Bank has an organizational culture to stimulate and sustain innovation?

- Yes
- No
- I do not know

25) Which of the following operational competencies are used in your Bank and are considered as key to be innovative? Please tick that/those that apply.

- Facilitating new learnings
- Facilitating continuous changes
- Improving in administrative and work processes
- Encouraging gathering and disseminating information from an array of sources
- Setting up systematic innovation program/tools
- I do not know

26) Which of the following cultural values are encouraged within your Bank to stimulate and sustain innovation. Please tick that/those that apply:

- Employees encouraged to challenge and experiment
- Employees are free to explore without fear of punishment
- Employees are stimulated/recognized to challenge
- Employees are stimulated to take risks
- I do not know

INNOVATION OUTCOMES:

27) Do you consider that your Bank has organizational competencies that are more likely to produce a greater number of radical or incremental innovations?

- More radical innovation
- More incremental innovation
- Both of them (radical and incremental innovation at the same time)
- I do not know

28) Do you consider that your Bank is more willing to adapt/embrace/support:

- Incremental innovation
- Radical innovation
- Both of them
- I do not know

29) Do you consider that your Bank focuses on which of the following(s) types of innovation:

- Marketing innovation: products, services, market development
- Process innovation: ways of doing business or products
- Administration innovation: organizational structure, administration processes
- Business model innovation: looking for new ways of doing business
- All of them
- I do not know

30) Do you consider that your Bank has a fast way to adapt innovation (i.e. take innovation from inception to implementation at a faster rate than competitors)?

- My Bank is faster than the competition
- My Bank is slower than the competition
- My Banks is as fast as competition
- I do not know

31) Which of the following strategies, if any, is currently used by your Banks in order to be more innovative. Please tick that/those that apply:

- Internal innovation development
- Acquiring innovative solutions
- Cooperate with external organizations to develop innovation
- None of the above
- I do not know

INNOVATION ORIENTATION AND PERFORMANCE:

32) What would you consider the key impacts of Innovation Orientation in performance. Tick those that apply:

- Product quality improvement
- Cost reduction
- Organizational performance (i.e cost to income improvement)
- Return on assets (RoA)
- Business growth (i.e. in terms of income and/or profits)
- Return on investments (ROI)
- Profitability (in terms of return to equity – ROE)
- Stock market improvement (if listed Bank)
- I do not know

33) Does your Bank consider, and therefore target, that the more introduced innovations the higher the level of firm performance?

- Yes, more innovation will lead to better performance
- No, more innovation does not directly lead to better performance
- I do not know

34) Does your Bank consider, and therefore target, that the more both radical and/or incremental forms of innovation are implemented, the higher the level of firm performance?

- Yes, more radical/incremental innovation will lead to better performance
- No, more radical/incremental innovation do not directly lead to better performance
- I do not know

35) Does your Bank consider, and therefore target, that having a greater innovation developing speed, implies having a higher level of firm performance?

- Yes, having greater innovation developing speed will lead to better performance
- No, having greater innovation developing speed does not directly lead to better performance
- I do not know

36) To what extent do you agree with the following statements. “Highly innovation oriented banks lead the industry in...?”

Scale:	1	2	3	4	5	NA
1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree						
/N.A. = I do not know – I cannot assess						
... producing radical and incremental innovations up to an ideal point, bringing innovations to market faster up to an ideal point, and developing higher quality innovations of all types.						
... customer satisfaction and loyalty.						
... company-specified competition-related measures, such as market share.						
... employee recruitment, satisfaction, performance and retention						
... operational efficiency.						
... creating innovations outside their core competencies.						
... unprofitable innovations.						
... innovation failure rates and fast-follower imitation.						
... employee job stress, dissatisfaction and turnover						
... in investment costs.						
... being more ambitious on their innovation impact goals						

ENVIRONMENTAL TURBULENCE AS MODERATOR FACTOR: limitation/acceleraton factors from outside

37) Which factors from the environment do you consider as key to facilitate/jeopardize innovation development?

Factors from the environment that facilitate innovation development:

Factors from the environment that jeopardize innovation development:

38) Which of the following factors from the environment you consider as forcing Banks to become more innovative? Please tick and rank from 1 (most critical factor) the following factors

- Activity of the FinTechs
- BigTechs (Google, Apple, Facebook, Amazon) entering into the financial industry
- Competitors' activity
- Regulation
- Others. Specify: _____

CLOSING QUESTIONS:

39) Do you consider having an orientation towards innovation in a Bank is a key long competitive advantage?

- Yes
- No
- I do not know

40) To what extent do you consider the following factors as key for a Bank to be oriented towards innovation?

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree /N.A. = I do not know – I cannot assess	1	2	3	4	5	NA
The Bank has a strategy oriented to be innovative						
The Bank has a learning philosophy in place and is continuously willing to learn						
The Bank has a knowledge structure in place willing to share/transfer knowledge across the organization						
The Bank is willing to allocate resources to innovation (capital, tools, human resources, culture)						
The Bank has/deploys new technology competencies to be dedicated to innovation						
The Bank has enough employee competencies to support innovation						
The bank has a clear understanding of the market						
The Bank has operation competencies to back up innovation						

Demographic questions:

Name of the Bank you work for (optional): _____

Country of headquarters: _____

Country where you are based (if different from the previous question): _____

Net results (last fiscal year available, please specify): Fiscal year: 201 _

- < EUR 100 million
- EUR 100–EUR 250 million
- EUR 250– EUR 1,000 million
- EUR 1,000 – 2,000 million
- EUR 2,000 milion – EUR 4,000 million
- > EUR 4,000 million
- I do not know

Number of employees

- < 1,000
- 1,001–5,000
- 5,001 – 10,000
- 10,001–20,000
- 20,001-30,000
- > 30,000
- I do not know

Shoul you be willing to receive conclusions of the research and more information on best practices on innovation orientation, please provide your email address:

Thank you very much for your time!

Appendix 10 - On-line questionnaire used with Banks results

Following the consolidated results of the on-line quantitative questionnaire that was answered by the in-depth interviewees. The data are presenting following the structure of the questionnaire, therefore it includes the question, and the aggregated results for every question.

The **total number of quantitative questionnaires received was 84**. Of which 72 were considered valid (86%). The researcher estimates that the total potential of questionnaires sent was 147 (3 questionnaires re-sent per in-depth interviews in EUR).

The demographics of the interviewees is the following:

Demographics of Banks quantitative interviews

	Assuming...	... 2x in-depth	... 3x in-depth	o/ of received
Total estimated on-line questionnaires re-sent:		98	147	
Total number of questionnaires received:	84	86%	57%	
Total number of valid questionnaires:	72	73%	49%	86%

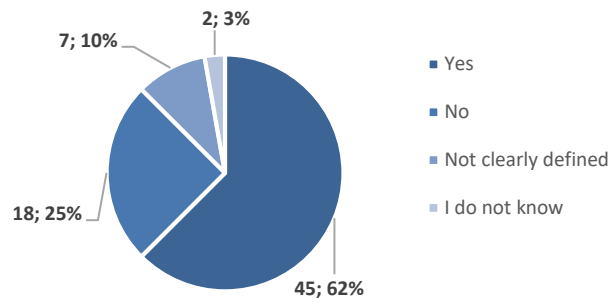
Distribution of valid questionnaires per Bank/function	Total	Management	Innovation
Pioneer Banks	11	3	8
(% out of total valid questionnaires)	15%	4%	11%
Follower Banks	61	40	21
(% out of total valid questionnaires)	8%	6%	29%
Total	72	43	29

The quantitative research was conducted from first quarter 2019 to year end.

Strategic direction

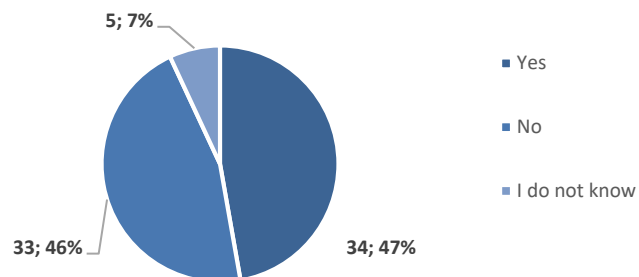
2) Do you consider that your Bank has a strategic direction leading to innovation?

Number respondents ; %
n= 72



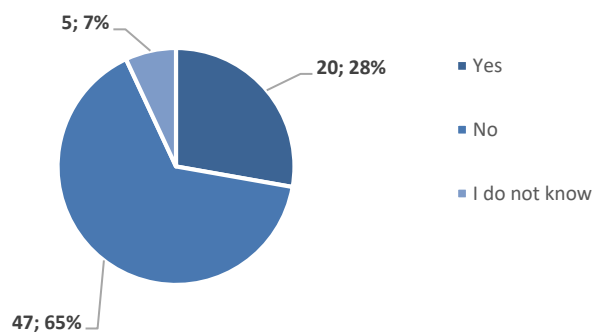
3) Do you consider the way your Bank is lead by top management is ensuring that the organization will be innovative in the long run?

Number respondents ; %
n= 72



4) Do you consider your Bank flexible enough to adapt emerging strategies?

Number respondents ; %
n= 72



5) To what extent do you agree with the following statements?

Top management...	1		2		3		4		5		NA	
	n	%	n	%	n	%	n	%	n	%	n	%
...has a clear understanding of where we as a bank are	0	0%	1	1%	14	19%	36	50%	21	29%	0	0%
...paints an interesting picture of the future for our Bank	2	3%	7	10%	27	38%	23	32%	12	17%	1	1%
...sees always new opportunities for the Bank	3	4%	6	8%	32	44%	21	29%	10	14%	0	0%
...inspires others with its plans for the future	2	3%	8	11%	34	47%	16	22%	12	17%	0	0%
...is able to get others committed to its dreams	3	4%	7	10%	31	43%	20	28%	10	14%	1	1%
...sets a corporate strategy that creates new ideas and facilitates proactive and competitively aggressive	0	0%	6	8%	31	43%	20	28%	14	19%	1	1%

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / NA. Not answered

n = 72

5) To what extent do you agree with the following statements?

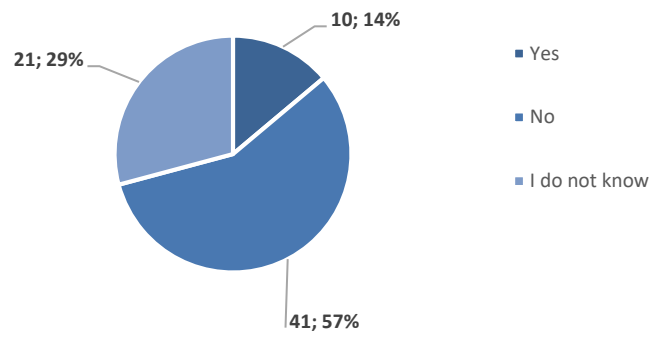
	1		2		3		4		5		NA	
	n	%	n	%	n	%	n	%	n	%	n	%
The purpose or reason for our Bank's existence is clearly	0	0%	3	4%	16	22%	31	43%	22	31%	0	0%
The services and/or products provided are clearly	1	1%	2	3%	29	40%	21	29%	18	25%	1	1%
The fundamental, unique competitive advantage that sets our Bank apart from others is clearly identified.	2	3%	5	7%	28	39%	20	28%	17	24%	0	0%
The scope of the Bank's operations in terms of products and services offered and markets served is clearly	2	3%	4	6%	30	42%	19	26%	16	22%	1	1%
There is a clear description of our Bank's philosophy about how it does business and treats our customers.	1	1%	2	3%	25	35%	23	32%	19	26%	2	3%
There is a clear description of what our Bank wants to	1	1%	2	3%	17	24%	30	42%	20	28%	2	3%
Our mission statement promotes a sense of shared	1	1%	2	3%	15	21%	33	46%	19	26%	2	3%
Our mission statement communicates a positive public image to important stakeholder groups.	2	3%	4	6%	13	18%	31	43%	19	26%	3	4%
The importance of factors such as technology, creativity, and innovation is emphasized.	1	1%	4	6%	44	61%	9	13%	12	17%	2	3%
Our strategy, mission, and vision are aggressive enough to push the organization to new boundaries (moonshot)	1	1%	30	42%	13	18%	13	18%	11	15%	4	6%

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / NA. Not answered

n = 72

6) Do you consider that the Board of Directors at your Bank is ensuring that the organization will be innovative in the long run?

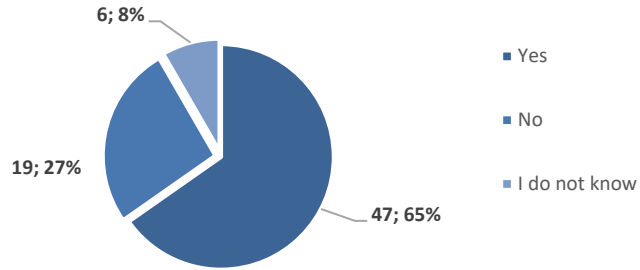
Number respondents; %
n= 72



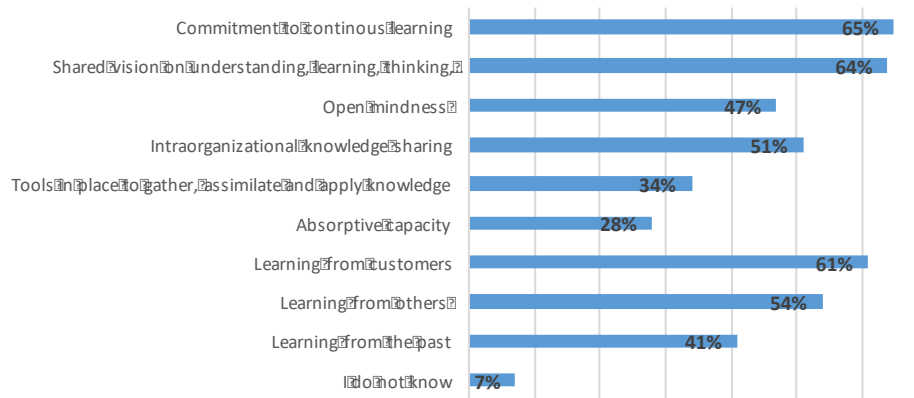
Learning philosophy / learning orientation: willingness to learn

7) Do you consider having a learning philosophy within your Bank?

Number respondents; %
n = 72



8) Which of the following tools are in place in your Bank? Please tick that/those that apply.



n = 72

9) To what degree do you agree with the following statements from your experience at your Bank?

	1		2		3		4		5		NA	
	n	%	n	%	n	%	n	%	n	%	n	%
Our Bank's ability to learn is the key to our competitive	2	3%	4	6%	39	54%	15	21%	10	14%	2	3%
The basic values of our Bank include learning as key to	5	7%	7	10%	29	40%	16	22%	13	18%	2	3%
The sense in our Bank is that employee learning is an investment, not an expense.	2	3%	4	6%	21	29%	25	35%	19	26%	1	1%
Learning in our Bank is seen as a key commodity necessary to guarantee organizational survival.	3	4%	6	8%	28	39%	17	24%	15	21%	3	4%
There is a commonality of purpose in our Bank.	0	0%	3	4%	16	22%	31	43%	22	31%	0	0%
There is agreement on our Bank vision across all levels.	0	0%	1	1%	14	19%	36	50%	21	29%	0	0%
All employees are committed to the goals of our Bank.	1	1%	4	6%	17	24%	29	40%	20	28%	1	1%
Employees view themselves as partners in charting the	5	7%	9	13%	30	42%	16	22%	10	14%	2	3%
Our Bank is not afraid to reflect critically on the shared assumptions we have made about our customers.	2	3%	10	14%	34	47%	13	18%	11	15%	2	3%
Personnel in our Bank realize that the way they perceive the marketplace must be continually questioned.	3	4%	8	11%	35	49%	14	19%	10	14%	2	3%
We collectively question our own biases about the way we interpret customer information	4	6%	14	19%	33	46%	11	15%	8	11%	2	3%

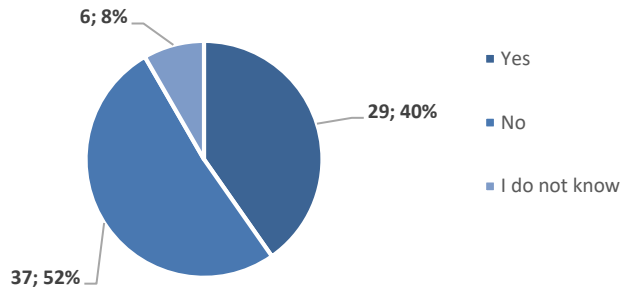
Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / NA. Not answered

n = 72

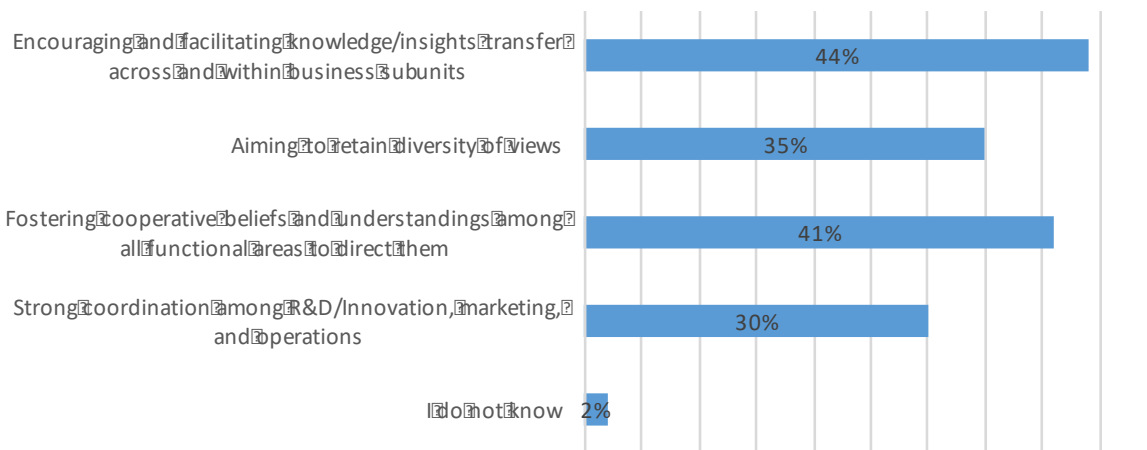
Knowledge structure: willingness to share/transfer knowledge:

10) Are the functional areas of your Bank continuously sharing and transferring knowledge mutually?

Number respondents; %
n= 72



11) Which of the following feature(s) seem to be used in your Bank? Tick that/those that apply.



n = 72

12) To what degree do you agree with the following statements?

	1		2		3		4		5		NA	
	n	%	n	%	n	%	n	%	n	%	n	%
Open communication is practiced among all departments	7	10%	27	38%	19	26%	8	11%	9	13%	2	3%
There is an overall satisfaction with interdepartmental	9	13%	28	39%	20	28%	6	8%	7	10%	2	3%
There is a give-and-take-relationship among all	6	8%	27	38%	18	25%	9	13%	10	14%	2	3%

Scale: 1. Strongly disagree / 2. Disagree / 3. Neutral / 4. Agree / 5. Strongly agree / NA. Not answered

n = 72

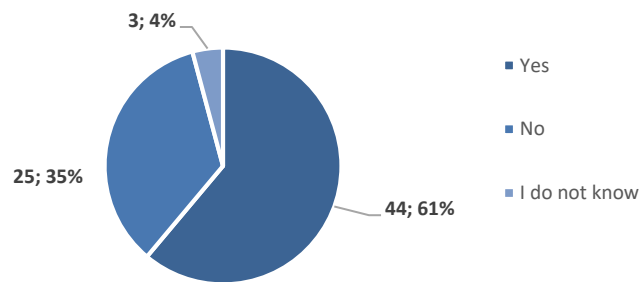
Organizational Competencies

13) Among the organizational competencies your Bank has, which ones you consider key to keep up with innovation?

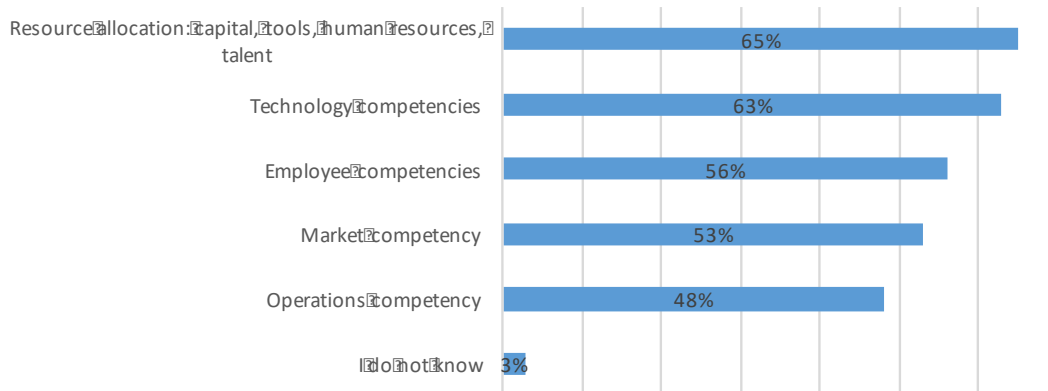
- Customer relationship as innovation insight
- Cross departmental collaboration
- Innovative culture / open mind
- Support from leadership
- Risk acceptance / not punishing culture
- Empowerment of employees
- Decision making speed

14) Are there in you Bank specific procedures and practices to foster innovation?

Number respondents; %
n= 72



15) Which of the following competencies you consider critical for innovation in your Bank. Tick that/those that apply.

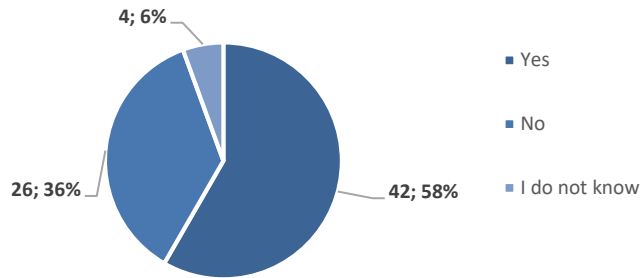


n = 72

Resource allocations:

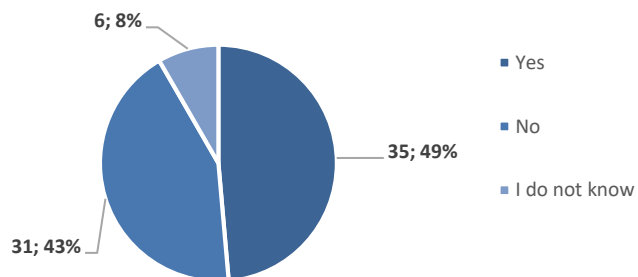
16) Is your Bank willing to devote resources (i.e. budget, FTEs,...) to all areas of the Bank in efforts that specifically encourage the creating, development and implementation of innovation?

*Number respondents; %
n= 72*



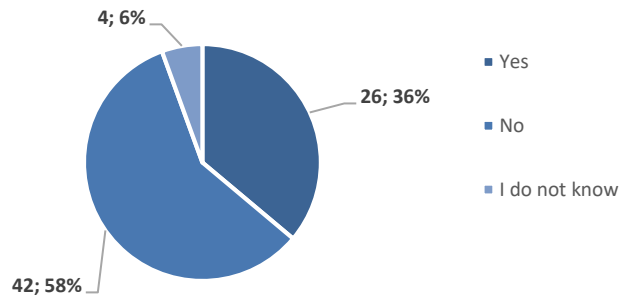
17) Is your Bank supporting human resources/employees to ensure innovation takes place?

*Number respondents; %
n= 72*



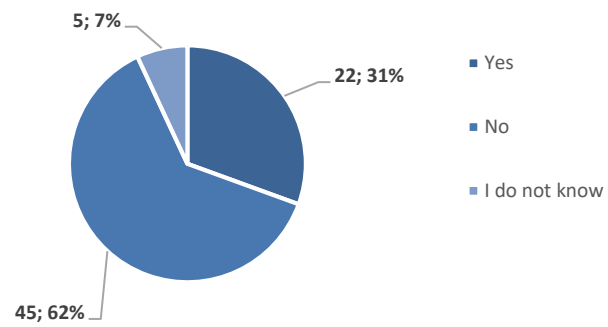
18) Do you consider having in place in your Bank a rapid approval process for innovation projects?

Number respondents; %
n= 72



19) Is your Bank mainly looking for quick innovation wins or rather is it willing to accept long term returns?

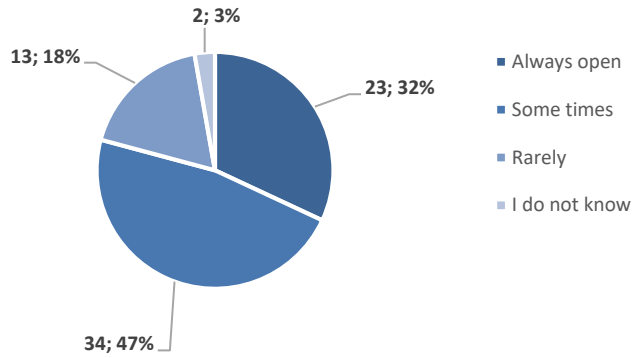
Number respondents; %
n= 72



Technology competencies:

20) Is your Bank always open to deploy/develop/embrace new technologies to stimulate and sustain innovation?

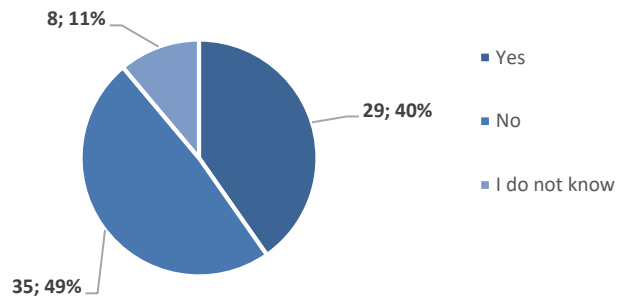
Number respondents; %
n= 72



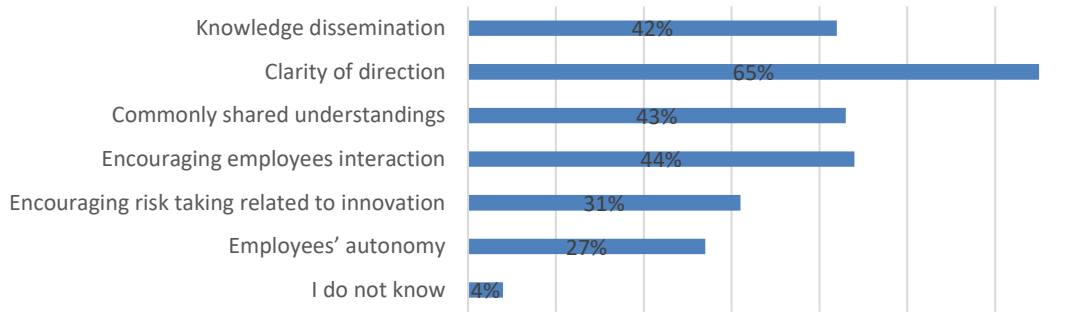
Employee competencies:

21) Has your Bank implemented formal or informal policies, procedures, practices and incentives devoted to stimulate and sustain innovation from employees?

Number respondents; %
n= 72



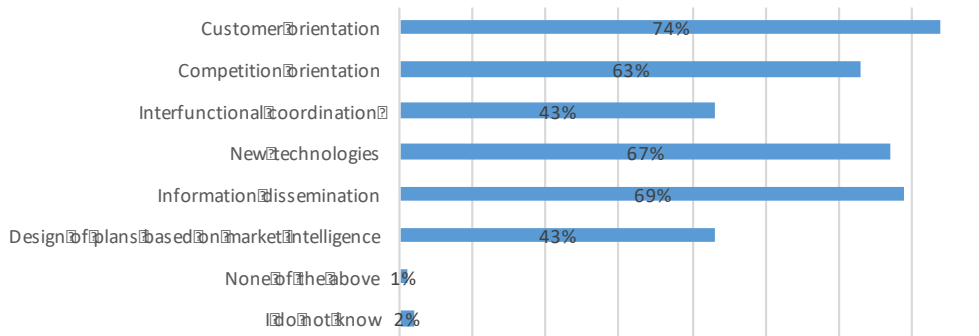
22) Which of the following features would you consider are in place in your Bank to ensure employees are innovative? Please tick that/those that apply.



n = 72

Market competency:

23) Which of the following competencies, if any, does your Bank consider as key to ensure it has a clear understanding of the market needs (tick those that apply):

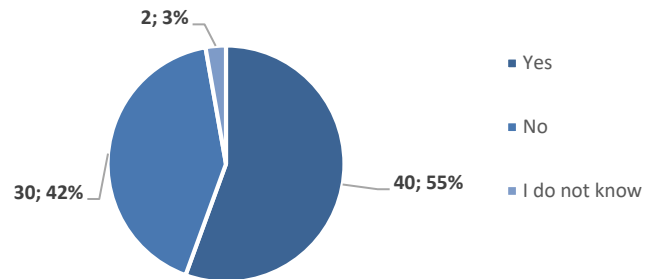


n = 72

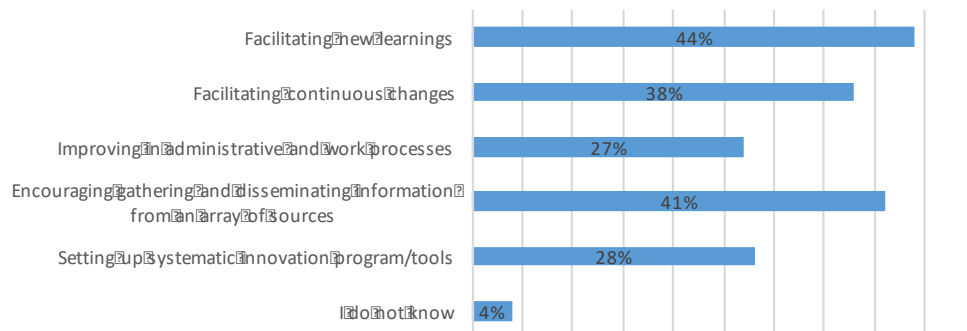
Operations competencies

24) Do you consider your Bank has an organizational culture to stimulate and sustain innovation?

Number respondents; %
n= 72

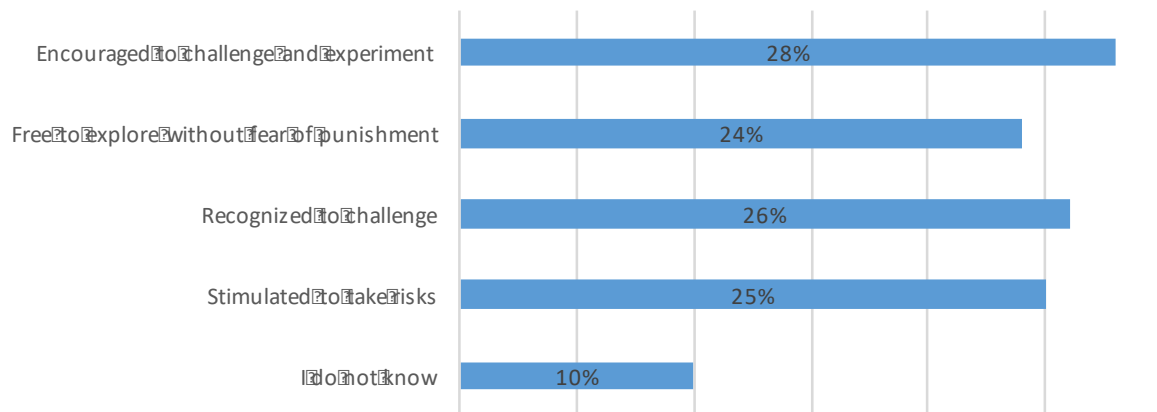


25) Which of the following operational competencies are used in your Bank and are considered as key to be innovative? Please tick that/those that apply.



n = 72

26) Which of the following cultural values are encouraged within your Bank to stimulate and sustain innovation. Please tick that/those that apply:

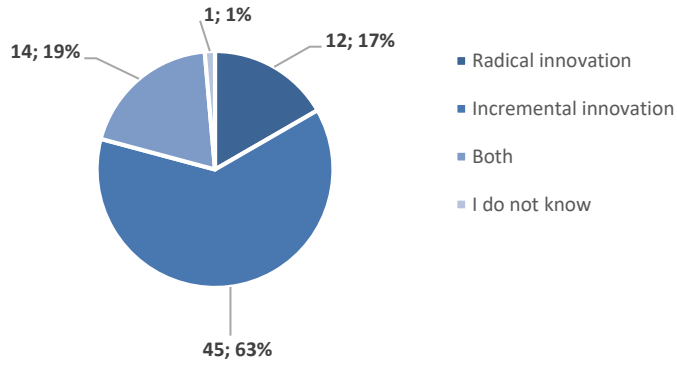


n = 72

Innovation outcomes

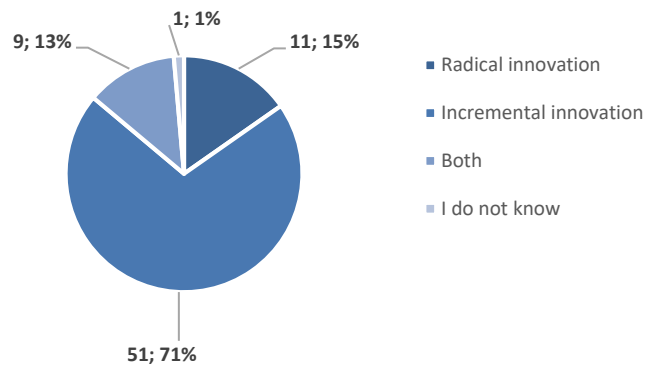
27) Do you consider that your Bank has organizational competencies that are more likely to produce a greater number of radical or incremental innovations?

Number respondents; %
n= 72

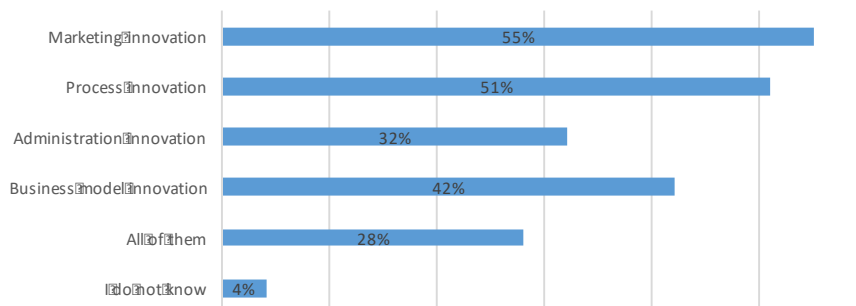


28) Do you consider that your Bank is more willing to adapt/embrace/support:

Number respondents; %
n= 72



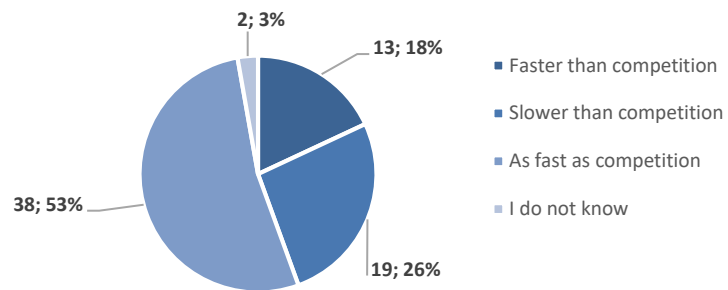
29) Do you consider that your Bank focuses on which of the following(s) types of innovation:



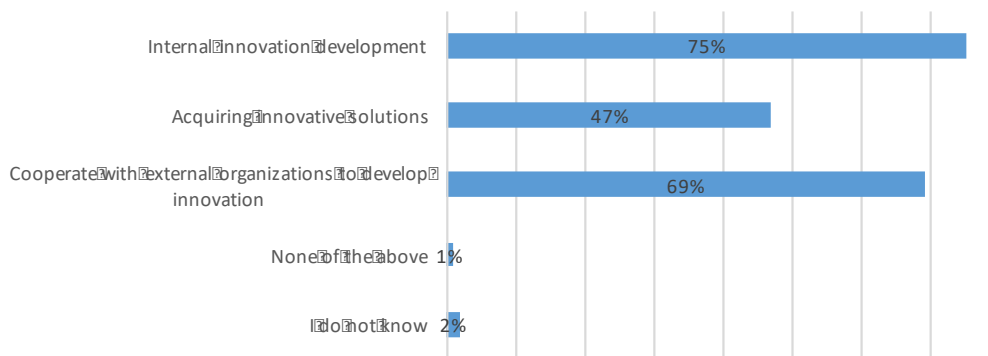
n = 72

30) Do you consider that your Bank has a fast way to adapt innovation (i.e. take innovation from inception to implementation at a faster rate than competitors)?

Number respondents; %
n= 72



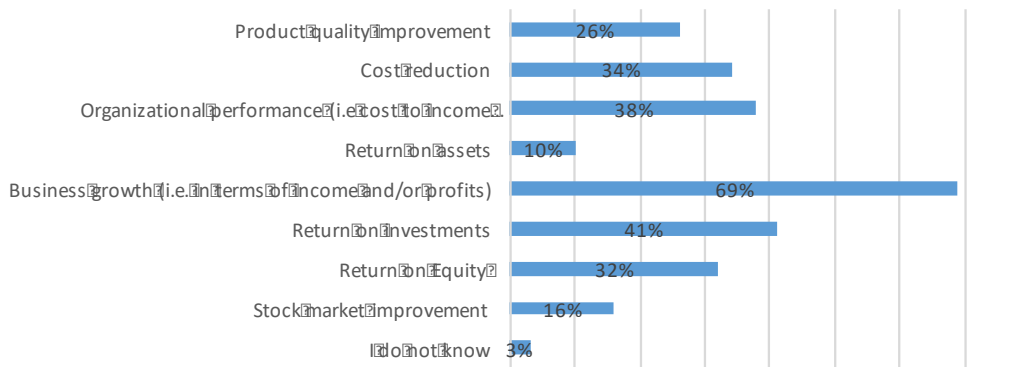
31) Which of the following strategies, if any, is currently used by your Banks in order to be more innovative. Please tick that/those that apply:



n = 72

Innovation orientation and firm performance

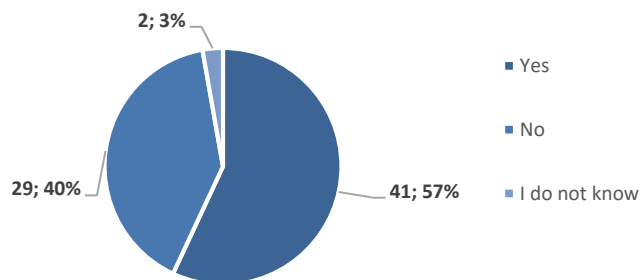
32) What would you consider the key impacts of Innovation Orientation in performance. Tick those that apply:



n = 72

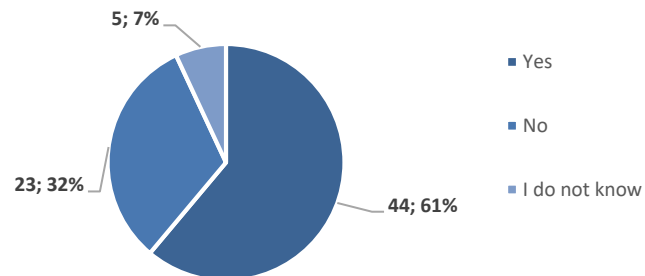
33) Does your Bank consider, and therefore target, that the more introduced innovations the higher the level of firm performance?

Number respondents; %
n = 72



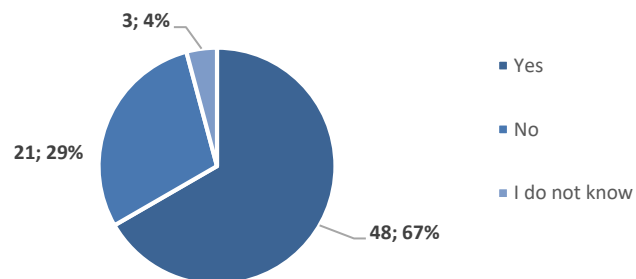
34) Does your Bank consider, and therefore target, that the more both radical and/or incremental forms of innovation are implemented, the higher the level of firm performance?

Number respondents; %
n= 72



35) Does your Bank consider, and therefore target, that having a greater innovation developing speed, implies having a higher level of firm performance?

Number respondents; %
n= 72



36) To what extent do you agree with the following statements. “Highly innovation oriented banks lead the industry in...?”

	1		2		3		4		5		NA	
	n	%	n	%	n	%	n	%	n	%	n	%
...Producing radical and incremental innovations up to an ideal point, bringing innovations to market faster up to an ideal point, and developing higher quality innovations	2	3%	4	6%	26	36%	23	32%	15	21%	2	3%
...Customer satisfaction and loyalty.	1	1%	2	3%	25	35%	25	35%	18	25%	1	1%
...Company-specified competition-related measures,	2	3%	5	7%	29	40%	20	28%	13	18%	3	4%
...Employee recruitment, satisfaction, performance and	1	1%	3	4%	28	39%	19	26%	18	25%	3	4%
...Operational efficiency.	3	4%	5	7%	27	38%	23	32%	12	17%	2	3%
...Creating innovations outside their core competencies.	5	7%	9	13%	34	47%	12	17%	11	15%	1	1%
...Unprofitable innovations.	3	4%	12	17%	31	43%	15	21%	11	15%	0	0%
...Innovation failure rates and fast-follower imitation.	2	3%	10	14%	30	42%	16	22%	13	18%	1	1%
...Employee job stress, dissatisfaction and turnover	1	1%	4	6%	24	33%	22	31%	19	26%	2	3%
...Investment costs.	3	4%	10	14%	32	44%	14	19%	13	18%	0	0%
...Being more ambitious on their innovation impact goals	2	3%	3	4%	22	31%	23	32%	19	26%	3	4%

Environmental turbulences

37) Which factors from the environment do you consider as key to facilitate/jeopardize innovation development?

Factors from the environment that facilitate innovation development:

- a. New technologies (AI, machine learning, blockchain, IoT) – 36% respondents
- b. Changing customer behaviors and demands – 33%
- c. Changing competitive landscape – 27%
- d. Open banking – 26%

Factors from the environment that jeopardize innovation development:

- a. Emerging regulation on digital technology (data protection, digital taxation,...) – 31%
- b. Capital / solvency regulation – 28%
- c. Growing political and socio-economic instability – 27%
- d. Change in macroeconomic cycle – 23%
- e. Management of non performing loans – 22%

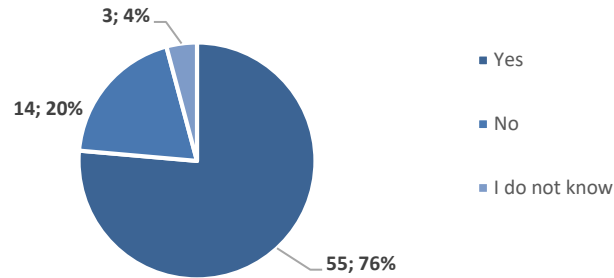
**38) Which of the following factors from the environment you consider as forcing Banks to become more innovative?
Please tick and rank from 1 (most critical factor) the following factors**

- 1) Competitors' activity
 - 2) Activity of the FinTechs
 - 3) BigTechs (Google, Apple, Facebook, Amazon) entering into the financial industry
 - 4) Regulation
- Others. Specify:
- a. Challenger Banks
 - b. NeoBanks
 - c. Players from other industries

Closing questions

39) Do you consider having an orientation towards innovation in a Bank is a key long competitive advantage?

Number respondents; %
n= 72



40) To what extent do you consider the following factors as key for a Bank to be oriented towards innovation?

	1		2		3		4		5		NA	
	n	%	n	%	n	%	n	%	n	%	n	%
The Bank has a strategy oriented to be innovative	1	1%	1	1%	25	35%	25	35%	20	28%	0	0%
The Bank has a learning philosophy in place and is	3	4%	3	4%	23	32%	25	35%	17	24%	1	1%
The Bank has a knowledge structure in place willing to share/transfer knowledge across the organization	7	10%	20	28%	26	36%	9	13%	8	11%	2	3%
The Bank is willing to allocate resources to innovation (capital, tools, human resources, culture)	2	3%	3	4%	25	35%	25	35%	16	22%	1	1%
The Bank has/deployed new technology/competencies to be dedicated to innovation	3	4%	10	14%	24	33%	18	25%	15	21%	2	3%
The Bank has enough employee competencies to	1	1%	6	8%	26	36%	21	29%	18	25%	0	0%
The Bank has a clear understanding of the market	0	0%	2	3%	24	33%	26	36%	20	28%	0	0%
The Bank has operation competencies to back up	2	3%	8	11%	27	38%	19	26%	14	19%	2	3%

Appendix 11 – Corporate statements

Following the disclosed information for the target banks related to innovation orientation or innovation matters. The information has been collected either through corporate web page, corporate presentations, investors' web casts transcripts and any other public material issued by the institutions during the period september 2018 – september 2019.

The content of these materials has been coded using the same codes applied to the in-depth interviews coding systems:

- Strategic direction
- Learning philosophy
- Transfunctional Acclimation
- Organizational competencies
- Innovation outcomes
- Firms performance
- Environment turbulences

AUSTRIAN BANK:

- Increased usage of *AI and robotics*
- *Infrastructure partnership and outsourcing*
- *Engage employees*
- *Efficiency* by consolidating common units
- *Simplification of products and services*
- *New distribution channels*
- Reduce costs and increase efficiency through simplified and automated operational processes;
- Make significant improvements in customer service;
- Deploy *machine learning* and other systems to proactively prevent cybercrime and protect against data integrity compromise;
- Facilitate banks in the onboarding and integration of third-party providers, allowing banks to turn Open Banking / PSD2 / Open *APIs* from an issue of regulatory compliance to one of competitive advantage;
- Enabling banks to benefit from the products of specialist third party providers (TPPs) in important areas such as Know Your Customer (KYC), Anti-Money Laundering (AML), mobile and real-time payments, digital identity, biometrics and customer service applications driven by AI and Machine Learning.

BENELUX BANK:

- The second aspect of progress is that we have continued to launch a number of innovations and **data-driven digital banking** solutions as illustrated here also on our participation in the commodity trading and finance blockchain platform Komgo. We've also opened our **API platform** for development of outsiders on our platform that has accelerated the speed of development of new innovations on our platform. And as a result you've seen some innovations and improvements on our app which is now the most functional and one of the highest rated apps in the industry. And then finally, one example of that innovation is the voice enabling of our banking services via Google Assistant. I think what you'll see is increasingly BANK being on the forefront of the developments in digital banking. And frankly the frontier is moving very fast so this forefront is only a temporary forefront but we continue to be on the **leading edge** of what is happening.
- And the third part of the progress on excellent **customer focus** is the change phase we're going through right now in the Dutch retail operations where we have adopted a new distribution model preserving the local presence of around 100 local banks but supported by the formation of 14 regional hubs where specialized functions are being concentrated. And secondly, the what we call simplified skill effort in the central organization of Rabobank where we apply all lean and agile principles to the full organization that supports the Rabobank worldwide. In other words, all of that geared towards making sure that we are an excellent customer-focused bank, and the progress has been substantial.
- Continuously delivering **innovative products** for our clients
- Focus on better **service and digitalization** supported by higher customer satisfaction scores
- Increasing **employee engagement, focus on diversity and inclusion**
- Implementation of **"Simplify@scale"**, a way of working to simplify and accelerate digitalization and aiming at shortening **time-to-market**, **faster decision making** and **ownership**
- Data-driven **digital banking**: "To increase the digital adoption of our clients, further development of **open banking** capabilities and the leverage of data and analytics"
- Innovation and beyond banking: "To innovate for and with clients, highly engaged in (inter)national start-up and innovation communities"
- Agile organization and technology: "To implement a fully agile organization and modern IT landscape"

BENELUX BANK:

- *We created a strong international innovation network, with clear accountabilities and governance*
- *Further optimise our integrated distribution model according to a real-time omni-channel approach*
- *Prepare our applications to engage with Fintechs and other value chain players*
- *Invest in our digital presence (e.g., social media) to enhance client relationships and anticipate their needs*
- *Further increase efficiency and effectiveness of data management*
- *Set up an open architecture IT package as core banking system for our International Markets Business Unit*

BRITISH BANK:

- Digitisation driving higher customer satisfaction & market share gains
- Expected revenue growth above peers & high structural growth in LatAm
- New revenue pools: new ventures & global businesses
- Deliver customer growth focusing on superior experience and best in class efficiency
- Accelerate through high growth ventures "Speedboats" Fast experimentation to serve our banks with new solutions while competing in the open market to attract new customers
- GBP XX billion investment in IT and digital -improving the customer experience while lowering the cost of delivery

BRITISH BANK:

- Enhance customer centricity and customer service through investments in technology
- Investments to grow, improve customer service and defend competitive position of established businesses in short term. Criteria: Positive Return on Investment in financial year
- Invest in digital capabilities to deliver improved customer service
- Expand the reach of BRITISH BANK, including partnerships
- Safeguard our customers and deliver industry-leading financial crime standards
- Transform technology and business model, enabling simpler, safer and faster experiences for clients, and seamless communication with trade ecosystems
- Streamlining governance
- Simplify the organisation and invest in future skills
- Strengthen accountability, decision-making
- Clarify roles within the organisation's matrix
- Invest in talent
- Leverage our size and strength to embrace new technologies over a period of disruptive technological change. Investing USDXX bn until 2020 primarily in growth and technology while delivering positive adjusted jaws
- Reducing number of committees needed to manage the business, e.g. Holdings Board committees reduced from 7 to 5
- Improving the efficiency and effectiveness of governance
- Embed throughout the organisation and for all legal entities
- A leadership encouraging the right behaviours
- A connected leadership cadre committed to reinforcing our new ways of working
- Balanced scorecards to incentivise the right performance and behaviours from the leadership and across the organisation
- HSBC: Building a platform for future talent
- Established BRITISH BANK Digital Solutions to attract and develop technology talent
- Implementing agile ways of working across large parts of technology and business teams
- Access to digital training and resources allowing talent to shape and develop their own career paths
- Build a diverse workforce

FRENCH BANK:

- Innovation: leverage on data and AI
- Increasing mobile application features, leveraging on electronic signatures, client journey digitalization
- Expertise and innovation: serving the sophisticated needs of our clients is part of our DNA
- Creating new investment and structure finance solutions
- Developing innovative and high growth models beyond traditional banking
- Fully digitalising the bank for a better client experience
- Building growth models, tailored to the future of banking
- Taking full advantage of differentiating positioning in high growth potential regions
- Leader in responsible and innovative banking
- Acceleration impacting the strategy: client experience, trusted third parties, operations (technology and talent)
- Technology intensive company, growing investment in technology
- And accelerating: an open, agile and focused approach. Boosting disruptive innovation, grow the information system value, transform the delivery models and expertise
- Boosting disruptive innovation through: business units autonomy, internal innovative sandbox, adequate resources and expertise, environment and digital awareness, innovation Fund, socgen innovation fund (XX M EUR)
- A resolutely open innovation approach: open innovation strategy and inspiration: funds, investment in start ups, third places, external incubators, schools and universities
- Digital factory approach process digitalisation and automation: user satisfaction and user centric; risks and compliance by design; end to end approach; performance steering and continuous improvement (data driven decision making); real time process
- Agile developments (time to market): agile first
- Talents matter more than anything: make the company attractive, talent development (Mooc, elearning, ...), new ways of working (social networks, coaching, apps, chat box,..)
- Measuring innovation impact and pace: customer satisfaction (NPS – net promoting score), employee engagement and productivity (Cost to income); risk profile
- Open, agile and focus

GERMAN BANK:

- Newly established **Management Board responsibility** for technology, data & innovation coupled with €XXbn of investments into technology by 2022
- Take responsibility for our company. We **question what we do and experiment** to find better solutions
- This will also be a bank that embraces technology, a bank that invests in innovation, a bank where **agility** is more than a buzzword.
- Transform our bank into an organization that is **inspired by our clients** and continuously **designed by our staff**.
- 'One team' with clear accountability to **speed up decision making**
- **Drive streamlined communication and live 'one bank approach'**
- New management team delivering **faster decision** making and disciplined implementation
- New leadership team **embracing broader cultural change**
- Unleash **entrepreneurial and team spirit**
- Therefore, we have decided to reshape our management board. It will only include the central and regional functions going forward, and among these central functions, there is a newly created role of a dedicated management **board member for technology, data, and innovation**
- Invest in our leading businesses, further **improve our technology** and **control framework**
- Overhaul our front-to-back processes and infrastructure leading to **significant cost and workforce reductions**
- Focus on market leading businesses with **attractive growth and return profiles**
- Provide suitable **client solutions** based on innovation and investment excellence

This underpins the importance of efficiency and **innovation for our bank**, and Innovation head will bring a new skillset to this management team.

ITALIAN BANK:

- New Mobile Banking App across Western Europe, already successfully rolled out in Italy. Standardisation creates a consistent user experience and faster innovation time to market. New digital account opening process in Germany, with state-of-the-art customer experience, allowing opening of a current account in a few minutes via mobile and online
- Further improve customer focus, service and products
- Innovation: Further strengthen leadership position through further innovation and digital transformation
- Pragmatic plan targets:
 - i. Conservative assumptions with limited expected revenue growth
 - ii. Plan results dependent on cost/risk discipline levers under management control
 - iii. Progressive dividend policy to mitigate regulatory headwinds
- Change and people management:
 - i. People engagement and talent development
 - ii. HR platform to manage FTE relocation, skills requalification, training
 - iii. Investment in new capabilities and process automation
- Effectiveness and timing of transformation:
 - i. CEO/Executive Committee strict governance and performance management
 - ii. Steering managerial KPIs cascaded down to divisions
 - iii. Rigorous execution management (key projects, interdependency, monitoring)
- Quality of execution
 - i. Management long-term incentive scheme aligned to plan targets
 - ii. Transparency and full accountability on cost allocation
 - iii. Disciplined prioritization of investments to deliver plan ("no frills")
 - iv. Multidisciplinary teams between business and IT
- Investment to support business transformation
 - i. Technological revamp of core systems
 - ii. Digitalization initiatives –e.g. digital agenda, global e-banking
- Better customer experience –e.g. time to service delivery
 - i. Focus on client facing activities
 - ii. Standardization of products
- Strong steering Group Corporate Center; KPIs to drive performance and ensure accountability
- Leaner support functions and transparent cost allocation
- Operating model transformation to a sustainable lower cost structure
 - i. Further improve customer focus, service and products
 - ii. IT investments to support business transformation
 - iii. Digitalization as enabler
- Our positive overall financial performance proves our good progress in strengthening the Group through strategic business initiatives and a focus on digitalisation and process simplification, leveraging on best practices across the Group. This is already driving significant growth. As the banking industry continues to evolve, we will maintain our focus on changing customer needs, ensuring the future sustainability of our business. In UniCredit, building the bank of tomorrow means:
 - i. Constant focus on customer satisfaction and consistent service quality
 - ii. Continued review of processes to improve the customer experience and optimise cost, with a strong focus on risk management

iii. Further revenues growth

SCANDINAVIAN BANK:

- Transform and Develop - Become a provider of high value-added solutions and fully client-centric
- Deepen, differentiate, digitalize: Selected expertise to differentiate ourselves and deliver sustainable value creation
- Enhanced agility Adaptable to change
- Improve business efficiency Leverage data and AI for personalized client services. Digitalize customer journey and offering. Invest in new technologies (blockchain) and innovative business models (PayPlug, Dalenys, etc.)
- Launch of a company wide program to simplify employees day-to-day work, foster collaboration, empowerment and innovation:
 - i. Unified tools, mobile devices for all
 - ii. Flex office everywhere
- Foster innovation to create new sources of value
 - i. Explore and test new business opportunities
 - ii. Make our solutions available through APIs to enable new partners to distribute our offers
 - iii. Foster digital skills through training and sourcing
- Overhaul our operating model to step up further efficiency gains
 - i. Streamline and digitalize front-to-end processes by leveraging technologies (robotics, AI, bots, etc.)
 - ii. Pool transversal components across businesses (KYC tools, data management platforms, etc.)
 - iii. Pursue the roll-out of agile organizations (fewer layers of management and simplification)
- Criteria for new affiliates: entrepreneurial, performing, high-conviction active management style, and synergistic / complementary
- Sharing of knowledge and best practices across affiliates

SPANISH BANK:

- Soluciones innovadoras, sencillas y personalizadas
- Nuevos espacios colaborativos centrados en la experiencia de cliente y con mayores capacidades digitales
- Estamos avanzando en nuestra transformación digital, para extender los beneficios de la escala y el talento del Grupo a los negocios de pagos y digitales de mayor crecimiento, orientados a clientes particulares, comercios y pymes
- Acelerar la digitalización

SWISS BANK:

- Technology spend will be maintained at current levels with a focus on advanced technology to enable business **growth and innovation and create further efficiencies**
- Significant cost reductions in Corporate Center – Services were reinvested in technology and regulatory initiatives
- Business-aligned cost ownership: Business divisions own costs and investments for aligned areas
- Continued cost synergies: Corporate Center continues to drive cost synergies in shared services
- Joint development: **Co-located teams working with business experts**
- **Technology costs expected to remain stable, with investments shifting from regulatory to strategic business initiatives** with a **strong focus on innovation**
- Innovation priorities: ultimate client experience, superior product excellence and distribution, secure platform and efficient process
- Innovation through partnership:
 - i. Co-invest and partner to build a best-in-class banking utilities
 - ii. Accelerate time-to-market by enhancing partner's existing assets
 - iii. Reduces costs as services are maintained and enhanced to latest standards
- **Advanced technologies:**
 - i. Seamless front-to-back digitization of client journeys
 - ii. Cloud and IT core enhancements
 - iii. Automation from robotics to cognitive
 - iv. Utilities partnerships to mutualize infrastructure spend

Appendix 12 – Key concept definitions

APIs: application programming interfaces (please refer to Open Banking)

Absorptive capacity: conduit for knowledge from strategic leadership, competitive intelligence, technology support and management, and the necessary innovation processes themselves to flow through the entire organization affecting the decision making process of managers and lower workers alike to ultimately increase the likelihood of innovation success (Guimaraes, 2019).

Challenger Banks: Challenger banks are small, recently-created retail banks that compete directly with the longer-established banks or incumbent banks, sometimes by specializing in areas underserved by the larger banks. As well as new entrants to the market, some challenger banks were created following divestment from larger banking groups or wind-down of a failed large bank. Challenger Banks distinguish themselves from the historic banks by modern financial technology practices, such as online-only operations, that avoid the costs and complexities of traditional banking. In order to be defined as a "bank", the company must be authorized to accept retail deposits by the national regulators (i.e. National Banks, ECB or the Prudential Regulation Authority in UK). Challenger Banks embody the core principles of innovation that drive competitive advantage to the traditional Banks. Challenger embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand and are focused on customer needs. Because they are usually small, they can think big. But because they are small, scalability can be a challenge.

Source: Zhuplev, A. V. (2018) "Challenger Banks. Disruptive Technologies for Business Development and Strategic Advantage. IGI Global", p. 106.

Competitive advantage: A competitive advantage is an advantage over competitors gained by offering consumers greater value, either by means of lower prices or by providing greater benefits and service that justifies higher prices. Porter, 1995 suggested four "generic" business strategies that could be adopted in order to gain competitive advantage. The strategies relate to the extent to which the scope of a business' activities are narrow versus broad and the extent to which a business seeks to differentiate its products.

Source: Michael Porter (1998) "Competitive Advantage: creating and sustaining superior performance", page XVI, Free Press

Creativity: generation of new ideas that are both novel and useful (Amabile, 1996; Baer, 2012; Mumford and Gustafson, 1988)

Organizational Culture: defined by Deal ve Kennedy (1982) as "the way we do things around here" helps the employees to clearly understand and adopt to the basic assumptions, the pattern of human interactions, and the way of identifying and solving problems within the organizational boundaries (Schein, 2010). Hofstede (2010) defined culture is "the collective programming of the mind which distinguishes the members of one group or category of people from another".

Financial technology (Fintech): used to describe new tech that seeks to improve and automate the delivery and use of financial services. The word, is a combination of "financial technology". The term was initially applied to the technology employed at the back-end systems of established financial

institutions. Nowadays, there has been a shift to more consumer-oriented services and therefore a more consumer-oriented definition. Fintech now includes different sectors and industries such as education, retail banking, fundraising and nonprofit, and investment management to name a few. Fintech also includes the development and use of crypto-currencies such as bitcoin. That segment of fintech may see the most headlines, the big money still lies in the traditional global banking industry and its multi-trillion-dollar market capitalization.

Source: <https://www.investopedia.com/terms/f/fintech.asp>

Environmental turbulences: may be viewed as occurring along a continuum, with “clarity, certainty, and stability about environmental demand at one extreme and ambiguity and uncertainty at the other” (Friedman and Goes, 2000). For the most part, the innovation literature supports the idea that environmental turbulence facilitates innovation

GAFA (the big 4): an acronym for Google, Apple, Facebook and Amazon (the second and fourth companies are sometimes reversed in order). The acronym serves to identify the dominant companies as an entity -- effectively an oligopoly that controls much of the tech industry market. GAFAM, adding Microsoft to the list, is a common variation on the term. The term GAFA is more commonly seen in Europe, where it is often mentioned in the context of litigation or investigations. In the United States, Google, Apple, Facebook and Amazon are more often referred to as the Big Four tech companies (or the Big Five when Microsoft is included). Eric Schmidt, Phil Simon and Scott Galloway began referring to the companies as the Big Four as a reference to their disruptive effect on technology and culture, which is what makes them stand out from other large tech firms. In any case, the terms were chosen to identify the entity as a force to be reckoned with.

Source: <https://whatis.techtarget.com/definition/GAFA>

Innovation: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. The Oslo Manual for measuring innovation defines four types of innovation: product innovation, process innovation, marketing innovation and organizational innovation:

- Product innovation: a new or improved good or service that differs significantly from the firm’s previous goods or services and that has been introduced on the market. This includes significant improvements to one or more characteristics or performance specifications, such as quality, technical specifications, user friendliness, usability, among others.
- Business process innovation: a new or improved business process for one or more business functions that differs significantly from the firm’s previous business processes and that has been brought into use in the firm. This concerns the different functions of a firm, including production of goods or services, distribution and logistics, marketing and sales, information and communication systems, administration and management, and product and business process development.
- Marketing innovation: A new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.

- Organisational innovation: A new organisational method in business practices, workplace organisation or external relations.

Source: OECD (2005) "The Measurement of Scientific and Technological Activities: Guidelines for Collecting and Interpreting Innovation Data: Oslo Manual, Third Edition", OECD, Paris, p. 146.

West and Farr (1990) define innovation as "the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society".

Incremental innovations: are minor changes stemming from an orderly, natural progression in knowledge (Lawless and Anderson, 1996).

Innovation management: comprises the strategies and practices that decision makers use to achieve organizational benefits from innovation (Avlonitis et al, 2001, Alam, 2006b)

Innovation collaboration: Innovation is not only limited to internal sources of knowledge, and competencies but also those sources of information, knowledge and competencies coming from outside the boundaries of the organization. Some examples could be open innovation or customer onboarding into the innovation process.

Innovation rate/speed: Innovation speed is the elapsed time between initial development (including the conception and definition of an innovation) and ultimate commercialization of new products/services (Wang and Wang, 2012).

Innovation orientation: According to Siguaw et al. (2006), the domain of innovation orientation is delineated as a multidimensional knowledge structure and a framework for understanding innovation orientation and its consequences in an organizational context are developed. The framework defines the innovation orientation knowledge structure as composed of a learning philosophy, strategic direction, and transfunctional beliefs within an organization that define and direct the organizational strategies and actions toward specific innovation-enabling competencies and processes. These innovation-oriented firm competencies are in the areas of resource allocation, technology, employees, operations, and markets. The framework then explains that these appropriately developed innovation-enabling competencies lead to innovation outcomes, specifically ideal innovation form, type, and rate that, in turn, affect firm performance.

- According to Norris and Ciesielska (2018) innovation orientation is defined as a sub-construct positioned within the wider field of innovation and relates to an innovation-based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organisation's competitive posture and strategic focus. It is a multifaceted construct that includes a range of core common variables innovation culture, competition-based understanding, organisational flexibility and specific capital and knowledge capabilities and is particular relevant for that managers and executives to understand how to manage innovation at the firm level.
- According to Callau (2021): innovation-based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organisation's competitive

posture and strategic focus. Innovation orientation is seen, as a multiple construct; with a focus on driving innovation-based practices and values throughout the organisation primarily through four core aspects considered as antecedents: culture, flexibility in structures, capital and knowledge capabilities and understanding environmental dynamics with the aim of driving positive organisational performance generated by the innovation orientation outcomes.

Learning philosophy: learning philosophy defined as a pervasive set of organization-wide understandings about learning, thinking, acquiring, transferring, and using knowledge in the firm to innovate.

National culture: Kluckhohn (1951, p. 86) provides the most prominent definition of national culture as “patterned ways of thinking, feeling, and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values.” The dimensions of national culture used most frequently in academic research are individualism, power distance, and uncertainty avoidance (Triandis, 2004). Individualism refers to the degree of “I” consciousness within a culture (Hofstede, 1984). In individualist cultures, each person is considered primarily as an individual, while collectivist cultures are “we” conscious, considering social groups primary and regarding each person as a member of a social group (Triandis, 1994). Power distance refers to “the extent to which less powerful members of organizations and institutions [...] accept and expect that power is distributed unequally” (Hofstede and Bond, 1988, p. 10). In high power-distance cultures, decision power typically lies only in the hands of leaders (Hofstede, 1984), while in low power-distance cultures, decisions are typically dispersed and delegated to lower hierarchical levels (Nakata and Sivakumar, 2001). Uncertainty avoidance refers to the degree of structure required for people to feel comfortable with a situation (Hofstede, 2001). In high uncertainty-avoidance cultures, people try to avoid uncertain situations because they perceive uncertainty as a threat (Luque and Javidan, 2004), whereas in low uncertainty-avoidance cultures people feel comfortable with uncertain situations and tend to see uncertainty as opportunity (Kemper et al., 2011).

Open banking: Open banking is also known as open bank data. Open banking is a banking practice that provides third-party financial service providers open access to consumer banking, transaction, and other financial data from banks and non-bank financial institutions through the use of application programming interfaces (APIs). Open banking allow the networking of accounts and data across institutions for use by consumers, financial institutions, and third-party service providers. Open banking is expected to become a major source of innovation and poised to reshape the banking industry.

Source: <https://www.investopedia.com/terms/o/open-banking.asp>

Open innovation: use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively (Chesbourg et al., 2006).

Organizational competencies: Organizational competencies, according to Siguaw et al., 2006, are the activities an organization is good at doing (Warren, 2002). A more innovation capable

organization is one that is able to build and deploy distinctive resources faster than the others (Winter, 2003), with this ability arising from the existence of a clearly identified learning philosophy, a strategic direction, and a transfunctional acclimation aimed at innovation. Firms possessing strong innovation orientations encourage the acquisition of competencies that facilitate innovation. The deliberate managerial actions, processes, procedures, and practices are honed to a set of innovation competencies because of the overarching innovation orientation that unifies and guides action.

Pioneer Bank: Banking institutions that through the interviews have provided enough evidence they are well in advance in the level of implementation of the innovation orientation framework. Those Banks would correspond to what Stock and Zacharias, 2011 described as “pro-active customer oriented innovators”. Pioneers, when compared to their peers, have greater top level support, higher investment in technology and talent, have less challenges with cultural issues, are more skilled at measuring results of efforts and are further along their digital transformation journey and are more committed to investing in the customer experience. Moreover, they have formalized a series of tools aiming at rationalizing the Bank’s innovation orientation: learning management systems, knowledge management systems, business intelligence processes, innovation projects portfolio management, and innovation related KPIs dashboards.

The rest of Banks are considered as mainstream Banks.

Payment Services Directive 2 (PSD2): Updated version of the first Payment Services Directive (or PSD1 of 2007), which aimed to create a single market for payments in the European Union. The goal was to help promote competition, innovation and efficiency. In short, it sought to generate a change in the relationship between money and new technologies. In 2015 a new Payment Services Directive was approved. The new directive, aimed at both consumers and businesses, fosters the development of a single, more integrated and efficient payment market, increasing the role of both actors by guaranteeing easier and, above all, more secure electronic payments by be the only owners of the destination of your money and data. It obliges financial institutions to give access to information from their clients’ accounts (always with their prior authorization) to services providers, always guaranteeing the security of the data.

Radical innovation: redefine the market and cause disruptive change within the organization (e.g., Fairlough, 1994; Lawless and Anderson, 1996).

Strategic direction: According to Siguaw et al., 2006, innovation-oriented firms possess the inclusion of a future-oriented concept of the business, captured in the strategic beliefs and understandings that define the mission of the company and how the activities of the organization are assembled to ensure that innovation happens in a timely fashion. This is what the authors define as the strategic direction.

Strategic types (Miles et al.,1978):

Prospector: Often changes its product and services to be first within the market. It tends to specialize in innovation and flexibility to retort quickly to market changes;

Analyzer: Has comparatively stable product and services because it by choice is moving into new areas. An analyzer tends to emphasis on formal designing processes and tries to balance price containment and efficiency through taking risks and innovate;

Defender: Offers a comparatively stable set of services to outlined markets by concentrating on doing the most effective possible in its experience space. It emphasizes on a tight control and operational efficiencies to decrease prices;

Reactor: Basically does not compatible strategy. Its strategy has characteristics of the previous mentioned strategies adopted in several time phases and is troublesome to categorize it clearly.

Services (tacit/explicit):

Tacit experiential services require an interaction between the service provider and the customer; and in some circumstances interaction amongst customers as well. Industries that rely heavily on service employees to produce and deliver services exhibit features such as inseparability due to simultaneous production and consumption of the service, and heterogeneity due to inconsistency in human performance (Dotzel et al., 2013). In these industries, one of the main factors behind service innovation performance is the quality of the service experience (Storey and Hull, 2010).

In contrast, service offerings in explicit service industries are often centrally produced, separable, homogeneous or consistent due to standardized, scalable, processes where explicit knowledge is embedded into objects such as self-service delivery systems (Hipp and Grupp, 2005; Storey and Kahn, 2010). Here, service failures are primarily associated with the lack of proficient operations and delivery systems (Dotzel et al., 2013), which explains why operational capabilities have a greater impact for explicit services compared to tacit services (Storey and Hull, 2010). However, technological sophistication has a larger impact for tacit services than explicit services. It appears that in today's experiential economy, technology is important in enabling service staff to spontaneously delight customers, to recover from service failures, and to customize service offerings (Bitner et al., 2000).

Service innovation: innovation taking place in the various contexts of services, including the introduction of new services or incremental improvements of existing services. Whilst service innovation can take place in the service sector, it does not necessarily need to. New and improved services can also be provided by non-services sectors, such as by manufacturing firms that aim at enlarging their supply portfolio with value adding services. Similarly, service innovation is intrinsically different from a "product", as it usually lacks the tangible nature of product innovations. Services may be highly tailored according to the client/customer needs, and include many different stakeholders. Especially, in the knowledge-intensive sector, where service innovation plays an important role, the concept of service innovation is likely to differ radically from that of a product innovation. For instance, the focus on technological advancements and the concentration of the innovation activities around the R&D departments does not describe service innovation adequately (e.g., Miles, 2008; Sundbo, 2009).

Transfunctional acclimation: Typically, a unique set of structures and guiding principles that determine activities and behaviors are embedded in each functional area of a company. The various functional areas of an innovation-oriented company should be guided by a unique, embedded knowledge structure, the so called transfunctional acclimation.

Types of innovations: in products (i.e., markets), processes, and administrative innovations. Process innovations are changes in ways of doing business or producing products and services: anything that alters the way the work gets done, the way the jobs get designed, or the way the execution occurs (Smeds, 2001). “Administrative innovations involve organizational structure and administrative process; they are indirectly related to the basic work activities of an organization”(Damanpour, 1991, p. 560) and may include downsizing layers of the organization and creating a flatter organizational structure. An innovation orientation should increase innovations in processes, administrative innovations, products, and beyond. Innovation orientation means making innovation the focus of the whole organization.

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