Universidad Ramon Llull

DOCTORAL THESIS

Title	The Great Age of Design: From Design Thinking to Mental Midwifery and to Design's Impact on Brands
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I am dedicating this thesis

to my dear parents:

Sebahat and Seyhan ILIPINAR,

and to my dear brother:

Aydemir ILIPINAR,

who have been there for me

whenever I needed their affection and support!

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Overarching Framework

“In most people’s vocabularies, design means veneer. But to me, nothing could be further from the meaning of design. Design is the fundamental soul of a manmade creation that ends up expressing itself in successive outer layers.”

(Steve Jobs, 2011)

Motivation for the Study

Late Steve Jobs, a visionary entrepreneur, pioneer and genius in the fields of business, marketing, innovation, and design, dropped-out of college, however, dropped in on creative classes, especially, a course on calligraphy (e.g. graphic design). At his Stanford University Commencement Speech (Jobs, 2005), Mr. Jobs later said, "If I had never dropped in on that single calligraphy course in college, the Mac would have never had multiple typefaces or proportionally spaced fonts". Steve Jobs was a true believer in the power of design. His biography's author Walter Isaacson (Isaacson, W., and Jobs, S., 2011) called Jonathan Ive, Apple´s Chief Design Officer, and Jobs as "soul mates". Jony had a special status, most people in Steve's life are replaceable, but not Jony." Jobs’ wife, Laurene Powell Jobs said (Lynly, 2011). According to Isaacson, W., and Jobs, S. (2011), “In Ive, Jobs met his soul mate in the quest for true rather than surface simplicity. Sitting in his design studio, Ive described his philosophy: Why do we assume that simple is good? Because with physical products, we have to feel we can dominate them. As you bring order to complexity, you find a way to make the product defer to you. Simplicity isn’t just a visual style. It’s not just minimalism or the absence of clutter. It involves digging through the depth of the complexity. To be truly simple, you have to go really deep.... The better way is to go deeper with the simplicity, to understand everything about it and how it’s manufactured. You have to deeply understand the essence of a product in order to be able to get rid of the parts that are not essential. That was the fundamental principle Jobs and Ive shared. Design was not just about what

a product looked like on the surface. It had to reflect the product's essence" (Isaacson, W., and Jobs, S., 2011).

Mr. Jobs understood the value of simplicity and design in building great brands and deployed design in many different domains such as graphic design (e.g. Apple's font types, printed ads), product design (Macbook Pro, iPod, iPhone, iPad), interaction design (e.g. touchscreens), experience design (e.g. on-line and Apple Store experience), webdesign (Apple.com) and interior design (Apple Store). His vision finally led Apple to the top of the list of Best Global Brands ending Coca Cola's 13-year reign as the world's most valuable brand (Interbrand, 2013).

Though, Steve Jobs understood and appreciated the value of design, there is still limited amount of academic and managerial research has been done on the strategic role of design.

This thesis is a personal journey about the vital role of design in our lives…

Thesis Framework

Organizations need a clear understanding of what *an innovation* is in order to evaluate their innovativeness (Quintane et al, 2011). According to Galunic and Rodan (1998), innovativeness is the capacity of an organization to produce innovations continuously (Galunic and Rodan, 1998). Innovativeness may create significant organizational outcomes. For example, innovations may lead to a dominant competitive position (Banbury and Mitchell, 1995; Bates and Flynn, 1995) and new product innovations may drive firm performance (Lee *et al*., 2003). In addition, several authors (Lengnick-Hall, 1992; Porter, 1990) recognize an organization's capacity to continuously generate innovations as a primary source of sustained competitive advantage (Quintane et al, 2011).

Innovation has been one of the essential features of industrial and economic development policies in Western economies since the beginning of the 21st century. In

most developed countries, the political agenda generally includes plans to improve innovation capabilities of companies in order to generate successfully differentiated products and services (Sanchez et al, 2011). Along these lines, EU Commission, the executive body of the European Union responsible for proposing legislation, implementing decisions, upholding the Union's treaties and day-to-day running of the EU, acknowledges that all forms of innovation need to be supported to ensure competitiveness, prosperity and well-being. The Commission recognizes design as a crucial discipline and activity to convey new ideas to the market, transforming them into user-friendly, pleasurable and engaging products and services (EU Commission, 2013).

Often associated with aesthetics, the application of design is more extensive. The Commission emphasizes that when systematically used as a tool for user-centered and market-driven innovation in all sectors of the economy, along with R&D, design would improve European competitiveness. Recent research indicates that companies (e.g. BMW, Apple, Samsung, Google, etc.) that strategically invest in design tend to be more profitable and grow faster (EU Commission, 2013).

Successful design is vital to many firms (Kotler and Rath, 1984). Well-managed, high-quality design brings the company several advantages. It can create distinctiveness in a marketplace cluttered with too many products, services and images. It can create personality for a newly introduced product or service so that it differs from its competitors. It can be used to increase product interest for products in the mature stage of its life cycle. It communicates value to the consumer, makes product choice easier, informs and amuses. Design can lead to higher visual impact, higher consumer satisfaction (1984), loyalty and brand equity.

Some firms are good at inventing new products but not necessarily good at innovating them for public use. On another extreme, some are good at innovating new products but not necessarily that great in managing innovation and relating these innovative products to their target customers. Through "design", customers can perceive the value of these new products and know how to interact with them. Hargadon and Douglas (2001), suggests that one cultural determinant of an innovation's value is how well the

public, as both individuals and organizations, comprehends what the new idea is and how to respond to it.

It is essential that we make a distinction between innovation and design as these two concepts are sometimes used interchangeably. To make things worse, there are other concepts floating around such as “innovative design”, “design innovation” or “innovation by design”. Our literature review indicates that there is a clear distinction between the two concepts.

Schumpeter (1961) considers the concept of innovation as new products, new methods of production and new markets and sources of supply. He considers these phenomena not timed to (in the sense of being caused by) the business cycle, but a cause of change outside the business cycle, which can then shape it. The author (1961) uses the metaphor "gales of creative destruction," when he speaks of innovation, because he thinks of innovation hitting the economy with the force of a hurricane. Innovations are the economic applications of inventions and discoveries which give the desire of change to the entire economy (Schumpeter, 1961). Development of commercially viable new products requires that technological and market possibilities are linked effectively in the product’s design. Innovators in large firms have persistent problems with such linking (Dougherty, 2001). With more countries opening up to free competition and major industries being deregulated, more companies are getting exposed to global competition and as a result looking into various ways to gain or maintain their competitive advantage. To be able to differentiate and reposition themselves, the companies are stressing the need for innovation. However, one of the few hopes companies have to “stand out from the crowd” is to produce superiorly designed products for their target markets (Kotler and Rath, 1984).

Harsh competition has led to increased emphasis on creativity and innovation as a crucial dimension in more recent strategy (Perks et al, 2005). However, Von Stamm (2008) suggests that designers are undertaking a leadership role in the product development process. According to Hargadon (2005), because anyone can now develop, manufacture, distribute, and sell new products within months, design has become the

last differentiating advantage available to firms, and designers have become the newest members of the corporate inner circle.

The pursuit of innovation increasingly drives organizations in rapidly changing environments, where risks are high and wrong moves have serious consequences (Brown and Eisenhardt, 1997 and Drucker, 1999). Introducing change into otherwise stable social systems is a risky endeavor, but this is exactly what entrepreneurs with potentially significant innovations must attempt to do. To be accepted, entrepreneurs must locate their ideas within the set of existing understandings and actions that constitute the institutional environment, yet set their innovations apart from what already exists. It is the concrete details of the innovation's design that provide the basis for this comprehension, as well as for new understandings and actions to emerge, which then, in turn, change the existing institutional context (Hargadon and Douglas, 2001).

Hargadon and Douglas (2001) emphasize the interplay between innovation and design by examining a prototypical example of innovation, Edison's development of his system of electric lighting, an innovative new technology that gained rapid and widespread acceptance and profoundly altered the institutional landscape. They select this case because it was not a simple story of one innovation's demonstrable technical and economic superiority over an incumbent rival. Rather, the evidence suggests that for its initial success, Edison's system of electric lighting depended on the concrete details of its design to invoke the public's familiarity with the technical artifacts and social structures of the existing gas and water utilities, telegraphy, and arc lighting. Although this familiarity provided the public with the means for quickly understanding the value of his new system and how to interact with it, Edison's system of lighting ultimately was able to displace many of those established institutions and become itself the model for successive ones. The authors further argue that the analysis of this case led them to focus on the nature of Edison's design, which exploited past understandings but also preserved the flexibility to evolve beyond them and build wholly new institutions (Hargadon and Douglas, 2001).

To elaborate on the distinction between innovation and design, Hargadon and Douglas (2001) emphasize that design grounds a particular novelty and displays the details that express an innovation in ways that build people's interpretations of novelty from bits of what are familiar to them (Hargadon and Douglas, 2001).

Unit of analysis and Structure of the Thesis

This thesis consists of four papers and focus-wise flows from general to specific, i.e. from organizations to individuals and methodology-wise from conceptual and qualitative to quantitative with theoretical and practical implications (Figure 1, Figure 2 and Figure 2a).

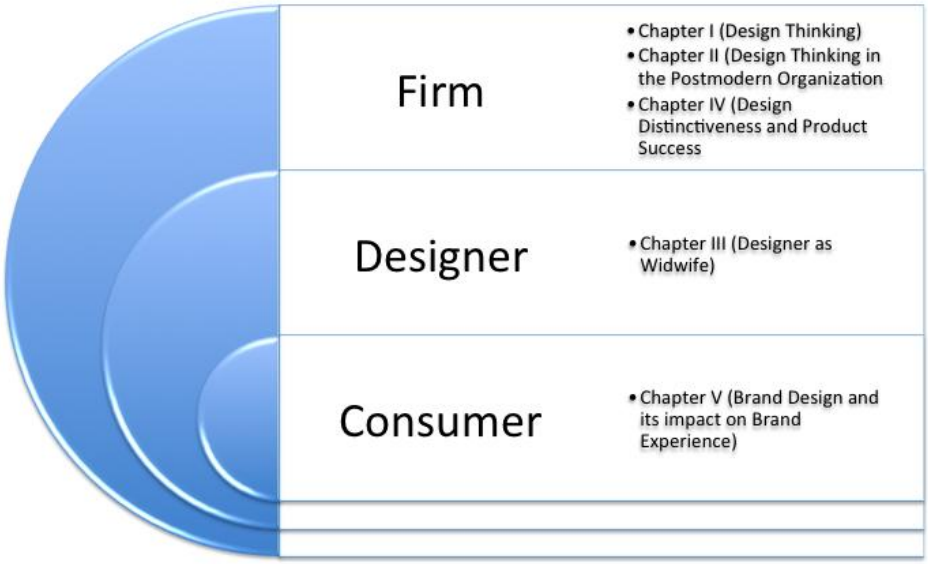

Figure 1. Unit of Analysis by Chapter

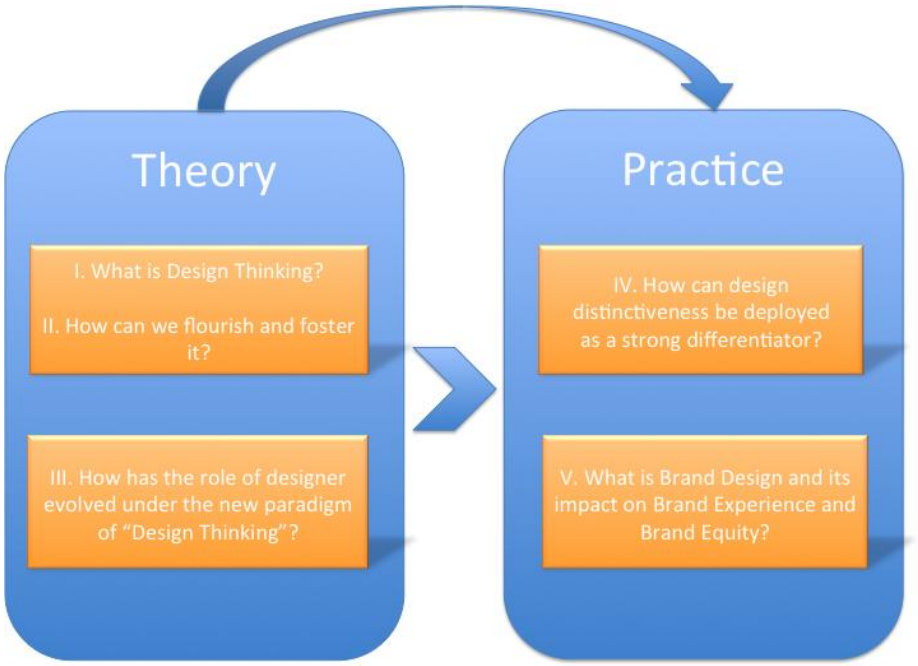

Figure 2. Structure of Thesis by Chapter

First article establishes and defines the concept of design thinking and asks for the kind of organizations we would need to flourish this new way of thinking to help them achieve sustainable competitive advantage.

Second conceptual study, highlights the urge for designers to understand the unarticulated needs of individuals and the meanings of these needs to them. As economic conjunctures, social trends, and environmental circumstances change, the individual's choice changes and designers may be challenged to add new roles and skills to their portfolios or grow the existing ones to adapt to these new conditions. As we extend the scope of design from industrial/product design to interaction/service/organizational design with a service dominant logic, we may be experiencing a move from designers as craftsmen to co-designers. This is a new attitude driven by a new mind set. This new move can be challenging for designers who have not been trained in the co-design space. How can educational institutions help design

students and practitioners to take on new challenges in terms of understanding their new role and develop and extend the skills around this emerging role?

Third study argues that although most companies still neglect to benefit from design distinctiveness, by creating unique and distinctive styles and features, product design can be employed as a strong differentiator of products in their markets.

Drawing on Day and Wensley's Source-Position-Performance model, this study presents a framework where design distinctiveness acts as a mediator between a firm's design orientation (i.e., firm culture based on creativity, innovativeness), and differentiation towards achieving higher new product success.

Fourth investigation attempts to fill the gap in design and brand literature by developing a new construct to establish the link between design and brand. The empirical study is presented in the following manner. First, we define brand design construct and its dimensions; then we draw from the research literature to define brand experience and its dimensions. This is followed by development of the relational linkage between brand design and brand experience constructs. Thus, we generate research hypotheses and develop the proposed framework that explains the relationship between brand design and brand experience. Second, we empirically test the developed hypotheses. Third, we discuss the practical and theoretical implications of the results. Finally, we conclude with limitations and future research.

	Theory	**Practice**
Firm	Study I, III	Study III, IV
Designer	Study II	Study III, IV
Consumer	Study II, IV	Study IV

Figure 2a. 3 X 2 Matrix Representation of Thesis Implications by Study

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Chapter I Introduction

There is no doubt that not all designs are the same (Garcia and Calantone, 2002). However, as we have not come across a clear classification of design types, we will adopt couple of different views to differentiate between designs from customer perspective. Within product development literature, Bruce and Cooper (1997) distinguish between incremental and radical development. Incremental development is defined as the gradual improvement of a product through a series of product variants. Radical development is defined as breakthrough innovation associated with significant jumps or changes in the product (Perks et al, 2005). Utterback (1996), by approaching innovation as "change", provides the following definition of a radical innovation (*which also captures design*): "By discontinuous change or radical innovation, we mean change that sweeps away much of a firm's existing investment in technical skills and knowledge, designs, production technique, plant and equipment" (Garcia and Calantone, 2002, p.200).

This definition may allow us to connect design with other theories of innovation. According to Verganti (2008), as we can see in Figure 3 below, innovation may concern a product´s functional utility, its meaning or both. Functional innovation may demonstrate an incremental or radical improvement in terms of technical performance, whereas semantic (i.e. meaning) dimension may present an innovation which can be incremental or radical.

As in the case of Swatch, innovation of meanings become radical when a product´s language delivers a message that implies a significant reinterpretation of meanings. Verganti (2008) calls the right hand side of the figure below, where the novelty of meaning and design language is radical as Design Driven Innovation.

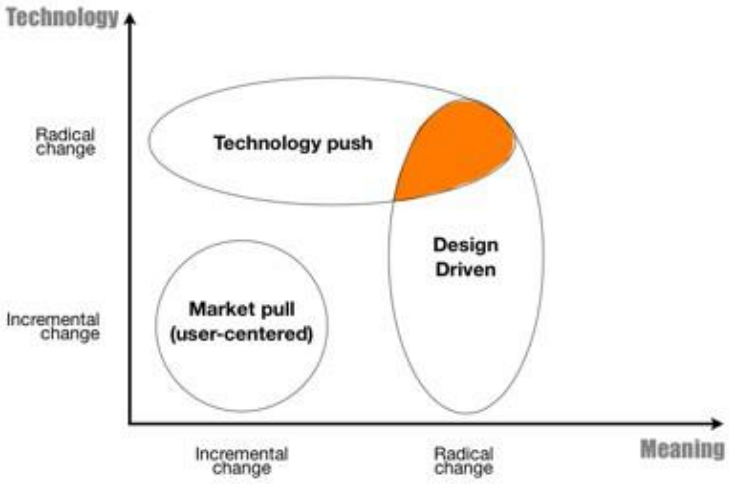

Figure 3. Innovation Strategies (Source: Verganti, 2008)

Ever since Herbert Simon (1969) introduced a broader definition of design, the term "design thinking" has attracted wide attention, particularly over the past decade in a wide variety of organizations and contexts beyond the traditional domain of design. The main idea behind this term is that the ways professional designers solve the design problems can be of value to firms to innovate and to public to solve complex, persistent and "wicked" problems.

There is still a debate on design thinking whether it is just another buzzword which will fade away in few years or not.

Design Thinking

In order to illustrate the state of the discipline, we investigated the literature and discuss below three recent articles on design thinking. First article by Johansson-Sköldberg et al, 2013; second by Lucy Kimbell, 2011; and the last one by Hassi and Laakso, 2011. In the following paragraphs, initially, we present the main themes of these three articles, then, at the conclusion section, we compare and contrast them with our own views and research.

Johansson-Sköldberg et al's (2013) literature review on design thinking discourse covers books (31), academic refereed papers (48), professional/practitioner articles (28), refereed conference papers (7), magazines and newspaper articles (39) and web blogs (15). In total, the research consists of 168 publications, of which more than 80 per cent published after year 2000 (Figure 4 below). Starting with Simon's (1969) seminal work about the nature of design, design theory publications begin to flourish in the 1980s, and they become more substantial around 1999, reaching a high point in 2009. Authors (2013) point out to management scholars' interest in links between business and design in the mid-1980s, followed by scholars in other disciplines. Design thinking begins to receive popular media attention around 2004 and peaks in 2009.

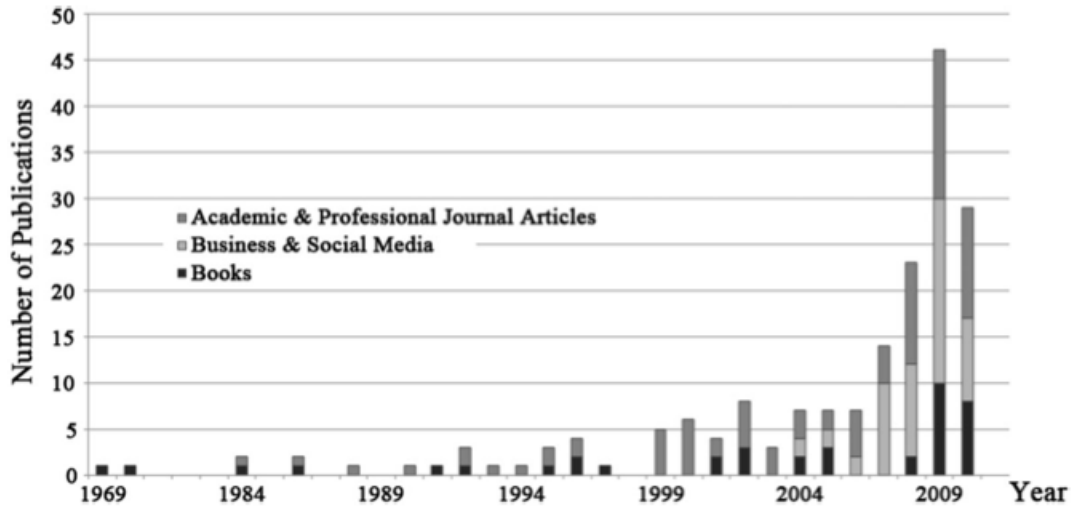

Figure 4. Distribution of the studies covered (Source: Johansson-Sköldberg et al, 2013)

Johansson-Sköldberg et al (2013) divide the discussion around design thinking into two distinct discourses: First one, 'designerly thinking', refers to professional designer's practice and competence and theoretical views around how to interpret and characterize the non-verbal skills of the designers. Designerly thinking bridges theory and practice from a design perspective, and is rooted in the academic field of design. The second discourse, 'design thinking', is where design practice and competence are used beyond the design context (including art and architecture), for and with people

without a scholarly background in design, particularly in management. The authors (2013) suggest that "design thinking" concept turns into a simplified version of "designerly thinking" or a way of describing a designer's methods that is incorporated into an academic or practical management discourse.

Johansson-Sköldberg et al (2013) claim that though design thinking might seem like a new concept for the business, design research around the characteristics of designers' work and practice have been in place for around 40 years. The management discourse of design thinking developed over the last decade only slightly touches the first discourse. The 'designerly thinking' part of the discourse establishes an academic stream, with contributions from both designers and related disciplines either to understand or to communicate such understanding to students. Johansson-Sköldberg et al's (2013) analysis show that 'designerly thinking' discourse generally precludes the consultancy style which is placed within the management literature.

Findings of Johansson-Sköldberg et al (2013) mention that the contributions to 'design thinking' discourse are less developed and robust than the contributions to the 'designerly thinking'. The authors (2013) attribute this to the fact that 'design thinking' is much younger than 'designerly thinking', though has grown more rapidly. Historically, in the 1970s, design management discipline was taught by designers to help management scholars and practitioners understand design and its relevance to management. Influenced by Michael Porter (Olson et al, 1998), these designers preferred to convey design in a managerial way, considering design as a metaphor (Leidtka, 2000), or through successful cases (e.g., McCullagh, 2006). According to Johansson-Sköldberg et al(2013), this approach could be understandable, however, they view the consequences as counterproductive as such positivistic descriptions deprived design of its constructionist and contextualized meanings.

Johansson-Sköldberg et al (2013) compare the two discourses as both discourses start with designers' way of thinking and invite managers to share designers' world (Cooper, Junginger and Lockwood, 2009), other authors point out the differences between the two views and suggest ways to bring them together (Martin, 2007a; Leidtka, 2010). In

recent years, we observe that 'design thinking' concept becomes a means for the design area to contribute to innovation, as design thinking enabled innovation overtakes strategic management as a way to cope with a complexity. Though design was mentioned as a strategic tool by Kotler and Rath in 1984, it took another 20 years to restart the discussion (Fraser, 2007; Junginger, 2007; Martin, 2007a) to solve wicked problems (Camillus, 2008) through design thinking (Brown, 2009; Holloway, 2009).

Johansson-Sköldberg et al (2013) assert that the academic research on innovation, mostly occupied with engineering, statistical relationships and rational models of innovation (Johansson and Woodilla, 2009), remained well behind the creativity literature. However, within the realm of practice, IDEO, the world's most prominent design firm, positioned itself as 'an innovation company' rather than a design company. Its business experience coupled with collaboration with Stanford University provided IDEO with academic qualifications. IDEO's efforts boosted a design interest in the innovation discourse (Bruce and Bessant, 2002; Feldman and Boult, 2005; Ward, Runcie and Morris, 2009; Stevens and Moultrie, 2011). Contributions from design practice made it almost impossible to talk about innovation without including design.

From innovation perspective, Johansson-Sköldberg et al (2013), suggest that 'design thinking' concept captures the essence of design practice and the way designers make sense of their work offers non-designers 'a way of thinking' or a source of inspiration (Johansson and Woodilla, 2009). This could be attributed to some of the reasons why design thinking concept became so popular. Based on the discussion above, Johansson-Sköldberg et al (2013), identify three different origins of the design thinking discourse within the management discipline:

1. Design thinking as design company *IDEO's way of working* with design and innovation (Kelley, 2001, 2005; Brown, 2008, 2009).
2. Design thinking as a way to approach indeterminate organizational problems, and a necessary skill for practising managers (Dunne and Martin, 2006; Martin, 2009).
3. Design thinking as *part of management theory* (Boland and Collopy, 2004a).

Table below compares the three discourses on design thinking within management literature.

Originator	Audience	Discourse Character	Academic Connections	Relation to Practice
IDEO design company (Tom Kelley & Tim Brown)	Company managers (potential customers)	IDEO success cases (written for managers)	Grounded in experience rather than research Connections to innovation research	Kelley: How 'we' (IDEO) do design thinking Brown: how anyone can use design thinking
Roger Martin	Educators (academics & consultants) Company managers	Success cases from production companies used to illustrate theory development (managerial thinking)	Grounded in cognitive science & management science Builds on planning theories ('wicked problems')	How successful production companies do design thinking How 'any' company (manager/individual) can do design thinking
Richard Boland & Fred Collopy	Academic researchers & educators	Short essays where established (management) scholars apply their theoretical perspective to the design area	Grounded in individual researchers' own theoretical perspectives Inspired by Gehry's architectural practice or contact with design	Design thinking as analogy & alternative

Table 1. Comparison of Three Management Discourses of Design Thinking

(Source: Johansson-Sköldberg et al, 2013)

The second article we analyzed is written by Lucy Kimbell. Kimbell (2011) reviews the origins of the term *design thinking* and its adoption by management educators. The author (2011) identifies three different ways to describe design thinking: design thinking as a cognitive style, as a general theory of design, and as a resource for organizations. Her paper mentions several issues that undermine the claims made for design thinking. The first is how many of these ways rely on a dualism between thinking and knowing, and acting in the world. Second, the idea of generalized design thinking ignores the diversity of designers' practices and institutions which are historically situated. The third is how design thinking rests on theories of design that privilege the designer as the main agent in designing.

Kimbell's study (2011) calls for attention to the contingent, embodied routines performed by design professionals and by those who are involved with design activities to offer a useful way to rethink design thinking (Kimbell, 2011).

In the third article, building on Johansson and Woodilla's research (2009), Hassi and Laakso (2011) provide a historical timeline to show the origins of design thinking and the

key literature referred to by their ten interviewees from Finland, the Netherlands and USA.

Hassi and Laakso (2011) illustrate the roots of design thinking as:

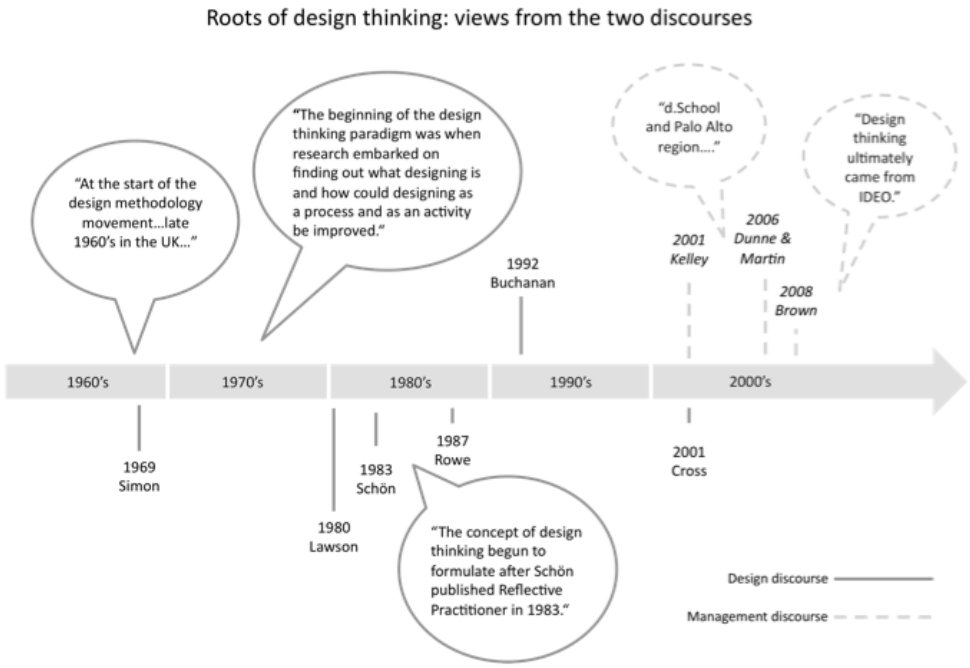

Figure 5. Roots of design thinking: views from the two discourses. References to the key literature mentioned by the respondents. (Source: Hassi and Laakso, 2011)

Hassi and Laakso (2011) propose a framework to illustrate the dimensions and related elements underlying the concept of design thinking (Table 2 below). Their framework consists of three dimensions: practices, thinking styles, and mentality. Each dimension consists of 'elements of design thinking' – approaches, methods, values, and concepts that continuously surfaced from existing literature. In their framework, they identify several recurring themes crossing the boundaries of the three groups. For instance, 'thinking by doing', which entails e.g. early prototyping, is represented in the practices, but it also shows itself in the mentality dimension as the explorative nature of design thinking. The authors (2011) point out that these elements together form an entity that may be called design thinking and further suggest that their approach of design thinking be seen as a bundle of certain elements that are interlinked and manifested through

practices, thinking and mentality. The authors (2011) conclude that concept of design thinking is not something that can be acquired by reading the books or from abstract illustrations, but rather it requires learning by doing (Hassi and Laakso, 2011).

PRACTICES	THINKING STYLES	MENTALITY
• **HUMAN-CENTERED APPROACH** E.g. People-based, user-centered, empathizing , ethnography, observation (e.g. Brown 2008; Holloway 2009; Ward et al. 2009)	• **ABDUCTIVE REASONING** E.g. The logic of "what could be", finding new opportunities, urge to create something new, challenge the norm (e.g. Fraser 2009; Lockwood 2009; Martin 2009)	• **EXPERIMENTAL & EXPLORATIVE** E.g. The license to explore possibilities, risking failure, failing fast (e.g. Brown 2008; Fraser 2007; Holloway 2009)
• **THINKING BY DOING** E.g. Early and fast prototyping, fast learning, rapid iterative development cycles (e.g. Boland & Collopy 2004; Lockwood 2010; Rylander 2009)	• **REFLECTIVE REFRAMING** E.g. Rephrasing the problem, going beyond what is obvious to see what lies behind the problem, challenge the given problem (e.g. Boland & Collopy 2004; Drews 2009; Zaccai in Lockwood 2010)	• **AMBIGUITY TOLERANT** E.g. Allowing for ambiguity , tolerance for ambiguity, comfortable with ambiguity, liquid and open process (e.g. Boland & Collopy 2004; Cooper et al. 2009; Dew 2007)
• **VISUALIZING** E.g. Visual approach, visualizing intangibles, visual thinking (e.g. Carr et al. 2010; Drews 2009; Ward et al. 2009)	• **HOLISTIC VIEW** E.g. Systems thinking, 360 degree view on the issue (e.g. Dunne & Martin 2006; Fraser 2009; Sato 2009)	• **OPTIMISTIC** E.g. Viewing constraints as positive, optimism attitude, enjoying problem solving (e.g. Brown 2008; Fraser 2007; Gloppen 2009)
• **COMBINATION OF DIVERGENT AND CONVERGENT APPROACHES** E.g. Ideation, pattern finding, creating multiple alternatives, (e.g. Boland & Collopy 2004; Drews 2009; Sato et al. 2010)	• **INTEGRATIVE THINKING** E.g. Harmonious balance, creative resolution of tension, finding balance between validity and reliability (e.g. Brown 2008; Fraser 2009; Martin 2010)	• **FUTURE-ORIENTED** E.g. Orientation towards the future, vision vs. status quo, intuition as a driving force (e.g. Drews 2009; Junginger 2007; Martin 2009)
• **COLLABORATIVE WORK STYLE** E.g. Multidisciplinary collaboration, involving many stakeholders, interdisciplinary teams (e.g. Dunne & Martin 2006; Gloppen 2009; Sato et al. 2010)		

Table 2. The common elements of design thinking in the management discourse

(Source: Hassi and Laakso, 2011)

Conclusion

Design thinking is an elusive concept and the three articles we reviewed (i.e. by Johansson-Sköldberg et al, 2013; Hassi and Laakso, 2011; and Kimbell, 2011) all contribute to shedding light on the notion of design thinking.

During our literature review, we noticed that three papers make considerable references to the works of Herbert Simon, Nigel Cross, Richard Buchanan, Roger Martin and IDEO (e.g. Tom Kelley and Tim Brown) especially around the discourse on design thinking vs. designerly way of thinking.

These three recent articles refrain from defining the concept as there is not a unique meaning of 'design thinking'. Instead they all look into where and how the concept is referred to in both theoretical and practical domains, and what meaning is attributed to the concept. On the one hand, we agree with their reluctance to defining this concept as clear-cut definition of design thinking could restrict the academic development of the term, on the other hand, assumptions which may appear in the form of statements or definitions, can play an important role for organizing our way of thinking, and stimulating the imagination of phenomena (Keitsch, 2013).

The three articles refer to design thinking as a thinking style where designers' professional way of thinking as a matter of dealing with 'wicked', complex, persistent and indeterminate problems without a single solution and where much creativity, instead of analytical thinking style, is needed to find solutions. However, we think that as design thinking research and practice gets more mature and established in the society, the distinction between design thinking and analytical thinking may blur and depending on the situation and the nature of the problem, people might deploy a blend of the two thinking styles.

Some designers and design researchers are not comfortable with 'design thinking' concept and they associate it with a distinction between thinking versus doing (Neumeier, 2005). On the other hand, as in the case of engineers who study Master of Business Administration (MBA) to orient their careers to management, management practitioners embrace the concept of 'design thinking' because it may provide them with

an opportunity to get the attention of senior managers who have a technical background.

The articles indicate that the contributions to 'design thinking' discourse as in the infant stages when compared with the contributions to the 'designerly thinking'. However, thanks to the push from powerful initiatives like OpenIDEO, and the toolkits such as IDEO Human Centered Design Toolkit and IDEO Design Thinking for Educators Toolkit, it seems like design thinking is catching up fast with 'designerly thinking'.

Based on our personal experience by working and collaborating with designers, it seems like design discipline may be getting too much credit. None of the authors mention that designers borrow many practices/techniques from other disciplines (ethnography from anthropology, empathy from psychology, service design from services marketing, fast prototyping from IT's as Rapid Application Development, etc.). The three studies do not question whether all designers naturally possess design thinking ability or not. Instead it seems like they take this for granted. Our experience indicate that there may be some designers who lack some of the common elements of design thinking such as empathy, ambiguity tolerance, observation skills or an orientation towards service concept.

We find the three articles generally descriptive in nature and they seem not to offer new ways design thinking could be implemented. For instance, prototyping is a vital stage of the design process and we believe that educators should encourage their students to submit prototypes as in the form of drafts to improve their assignments with several iterations.

Finally, the authors all strive for describing design thinking activities. We appreciate their contributions to the literature. However, they do not address the organizational culture for design thinking to appear and survive. We believe that it is the time to focus on the nature of organizational environment where creative and innovative spirit can flourish. Our next article (ilipinar et al, 2011) addresses the issue of what kind of organizational culture needed so that design thinking can foster.

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Chapter II Design Thinking in the Postmodern Organization[1]

Abstract

Design discipline has been relatively slow to recognize the impacts and existence of postmodernism as compared to sociology, political science, marketing and management disciplines, however, recently postmodernist implications have begun to be explored by design scholars. Yet our review of the literature led us to conclude that the relationship between postmodernism and design thinking have received little, if any attention from design management scholars. The objective of this paper, then, is to expand the discussion on the relationship between postmodern organization and design thinking, to suggest strategic implications for design managers and research opportunities for management scholars.

Key words: Design, Design Thinking, Postmodernism, Postmodernity.

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"*In the end, design is about shaping a context, rather than taking it as it is. When it comes to design, success arises not by emulating others, but by using organizational assets and integrative thinking to identify, build on, and leverage asymmetries, evolving unique models, products and experiences -- in short, creative business solutions*."

Roger Martin, The Design of Business, 2004

"Why do we find it congenial to speak of organizations as structures but not clouds, systems but not songs, weak or strong but not tender or passionate? Is it because organizations physically resemble one but not the other, that we somehow discern through the clamorous hurly burly something that is structural, but not cloudlike, systematic rather than rhapsodic, strong but not tender?"

Gergen, 1992

Introduction

There is a quiet revolution going on in the business world! One influential domain within which the debates have been held is entitled "modernism versus postmodernism".

Modern business practices and the academic concepts behind such practices are struggling to cope with constantly technology-driven and culturally significant deconstructions and reconfigurations of markets, organizations and consumers (Dholakia and Firat, 2006).

On the other hand, from the postmodern view of the organization, business is becoming the domain where all our adventures are experienced, acts are performed, creativity is flourished... "Yet in the public mind, business remains stubbornly linked to earning and spending, power and money. Can we redesign the businesses to reflect its [potentially] deeper reality being one of the most disruptive, free and creative forces of the postmodern world? Or is that a romantic pipe dream?" (Sauquet, 2008)

Even though we can observe its impacts on various aspects of life, postmodernism is still not well understood by many circles, and this often introduces tension and resistance (Firat, 1992). Despite its academic and popular opponents, postmodernist insights and ideas seem to be receiving growing attention and creating serious interest across many disciplines, including architecture, philosophy, literary criticism, women's studies, history, marketing (Firat and Venkatesh, 1993). For instance, some marketing scholars consider marketing to be the ultimate social practice of postmodernity, blending art and commerce and requiring the constant renewal of styles, forms and images. Once considered to be a fad by some members of many academic disciplines (Firat and Schultz, 1997), postmodernism could prove to be a serious candidate as a new perspective to view and appreciate design thinking.

Design discipline has been relatively slow to recognize the impacts and existence of postmodernism as compared to sociology, political science, marketing and management disciplines, however, recently postmodernist implications have begun to be explored by design scholars. Yet our review of the literature led us to conclude that the relationship between postmodernism and design thinking have received little, if any attention from design management scholars.

The objective of this paper, then, is to expand the discussion on the relationship between postmodern organization and design thinking, to suggest strategic implications for design managers and research opportunities for management scholars.

Postmodernism

It is difficult, to define this phenomenon precisely in just a few sentences, since it continues to evolve. Instead, it might be more important to focus on what it claims to avoid – the modernist project. Postmodernism was originally a reaction to modernism, which is identified with rationality, linearity (in time, in progress, in forms of thinking), and "purification" (Latour, 1993: 10-11). Largely influenced by the disillusionment induced by the Second World War, postmodernism tends to refer to a cultural,

intellectual, or artistic state lacking a clear central hierarchy, linearity or organizing principle and embodying and embracing extreme complexity, contradiction, ambiguity, diversity, and interconnectedness (Firat and Venkatesh, 1993).

Some consider the 1950s to be the period when postmodern conditions that were already present in modernity began to unfold, and the 1960s to be the period when they became more pronounced (Firat and Venkatesh, 1993). According to Lyotard " *postmodern* is probably a very bad term because it conveys the idea of a historical `periodization'. `Periodizing', however, is still a `classic' or `modern' ideal. `Postmodern' simply indicates a mood, or better a state of mind. (Lyotard, 1992).

Postmodernism, Social Constructivism and Design Thinking

Postmodern school of thought claims that human beings are more complex, beyond rationality, they have feelings and life has broader meanings. Social constructivism can be seen as a source of postmodern movement, and has been influential in the field of cultural studies because the concept of socially constructed reality stresses the on-going building of worldviews by individuals in dialectical interaction with society at any time. According to this view, the numerous realities so formed comprise the imagined worlds of human social existence and activity, gradually channeled by habit into institutions supported up by language conventions, given ongoing legitimacy by mythology, religion and philosophy, maintained by socialization, and subjectively internalized by upbringing and education to become part of the identity of social citizens.

According to Berger and Luckmann (1966), "habitualized actions, retain their meaningful character for the individual although the meanings involved become embedded as routines in his general stock of knowledge, taken for granted by him and at hand for his projects into the future". Habitualization provides individual with lesser amount of choices to process and this liberates the individual from the burden of "all those decisions," bringing a psychological relief that has its basis in man's "undirected instinctual structure". The authors (1966) suggest that habitualization gives the direction and the specialization of activity and relieves the accumulation of tensions that is a

consequence of undirected drives. The authors claim that appearance of a stable background in which individual may function with reduced amount of decisions to make would liberate energy and open up a platform for imagination, innovation and [*design thinking*] to burgeon. However, this may be difficult if the individual is embedded in a modern environment [as opposed to postmodern].

"Just imagine how good it feels to wake up every morning and really look forward to work. Imagine how good it feels to use your creativity, your skills, your talent to produce a film […] or to edit a magazine. […] Are you there? Does it feel good?"

Hesmondhalgh, D., & Baker, S. (2011)

Postmodern Organization

Understanding postmodernism and its implications is critical, especially for organizations since postmodernism has an influence on the culture within which these organizations have to operate (Firat and Schultz, 1997).

Contingency theory, resource-dependency theory, evolutionary theory, and institutional theory show us that organizations are dependent on, interrelated with, and continuously interacting with their surrounding environment. Organization's activities, structures, and processes are affected when the organization's environment becomes more turbulent, elusive, unpredictable, or complex (Styhre, 2001).

While modernity is characterized by the belief in the qualities of stability, homogeneity, predictability, and control, postmodern society is characterized by heterogeneity, change, ruptures, fluxes, breaks, bifurcations and turns (Best and Kellner, 1997, 2001). Styhre (2001) suggests that "the complexity theory underscores the differences between, on the one hand, the small and somewhat overrated realm of predictability

and control and, on the other hand, the vast domains of complex, chaotic, unpredictable, and elusive processes and changes (e.g. Brown and Eisenhardt, 1998; Anderson, 1999)". Complexity theory has refocused attention to qualities of reality that have been treated as substantially insignificant in the modernist epistemology (Prigogine and Stengers, 1984; Cillier, 1998). Reality is no longer the protected and well-organized domain wherein organizations provide a specific purpose, but reality turns into the combination of what is within the control of individual and what is still beyond full understanding and control (Serres, 1982/1995). This new approach to reality brings a need for a reconceptualization of our established view of organizations, leadership, careers, communication, and so forth (Styhre, 2001, Spender, 1998).

Instead of promoting stability and control, postmodern writers emphasize movement, change,elimination of boundaries between entities, and processes, and novelty. Postmodernity has introduced skepticism toward the meta-narratives of truth, progress, univocal understanding, and finality (Lyotard, 197911984; Best and Kellner, 1997). Feminists, postcolonial thinkers, and "anti-humanists" such as Foucault (1980), Heidegger and Nietzsche questioned the meta narratives of modernity. In addition, the rise of a complexity theory that adds insights from the sciences to the postmodern critique of modernity enables a radical critique of the notion of the organization. Best and Kellner (1997) wrote: "Postmodern science turns away from absolute certainty, rejects notions of fixed, immutable orders and absolute truths in favor of conceptions of evolving complexity and probability; it breaks away from mechanism and machine metaphors and affirms organism and biological models, and thus shifts from a self-contained and immutable universe to an open, self-organizing, dynamic cosmos that is constantly changing and evolving" ((Styhre, 2001; Best and Kellner, 1997: 224).

Initially, postmodern form of organization has been pronounced as an alternative to bureaucratic organization. Peter Drucker was the first to apply the term "postmodern" to organization, in his book titled, Landmarks of Tomorrow. To Drucker, postmodern meant a move away from the Cartesian universe of mechanical cause/effect (subject/object duality) to a new universe of pattern, purpose, and process. This kind of organizations is now described as "loosely coupled, fluid, organic, and adhocratic instead

of the static bureaucratic structures that traditional organization literature have covered"(Boje et al, 2001).

Characteristics of Postmodern Management

In their book, *Managing in the Postmodern World*, Boje and Dennehy (2000) mention five main characteristics of postmodern management: First, postmodernism encourages multidisciplinary research and enables linking management theorizing to general theories of cultural organization. It also creates basis for use of new and more advanced qualitative methods for data collection such as story analysis, ethnography, representation, namely methods which can complement present applications of qualitative research on management. Second, by emphasizing cultural knowledge, context and nature of social organization, postmodern reshapes the management and organization landscape. Postmodern moves research away from the organization or individual as a unit of analysis, examines organizations in their societal and cultural context. As such, postmodernism provides an integrative framework for understanding management and organization. According to Boje and Dennehy (2000), instead of specialized, tree-of-knowledge, divisions of knowledge, "postmodernism brings a rhizomatic approach (Chia, 1999), where a rhizome forms inter-connections among the roots of a tree, rather than the pattern of separated and specialized branches". Third, to critical postmodernists, organizations play important activist roles in the crises of advanced capitalist society. By adopting a postmodern view, individuals may engage in addressing organizationally based social problems which are not often addressed in a holistic manner in the management literatures. Fourth, postmodern management borrows perspectives from various areas outside the centre of traditional management research – sociology, psychology, industrial psychology, social anthropology, rhetoric, literary criticism, history, etc. Finally, a deeper understanding of postmodernism enables the development of theories of the management of social and organizational change. The "humanization" of the social landscape of organizations would help overcome or solve the critical problems faced by today's organizations.

“Design's power runs far deeper than aesthetics.... If you are mapping out a sales strategy, or streamlining a manufacturing operation, or crafting a new system for innovating you are engaged in the practice of design.”

Bill Breen, Masters of Design, 2004

Design

With limited available literature, there is not a set definition of design and the activities it involves. However, this is not surprising for an emerging field of investigation as “consensus among researchers can be reached only when theories converge into consolidated paradigms” (Calabretta, 2006; Kuhn, 1996). As a young field of research, the growing number of articles published in academic journals and discussed in conferences are promoting this discipline which has been confused with engineering over the years and the design research community is finally claiming its autonomy (Calabretta et al, 2006).

Herbert Simon, in the "Sciences of the Artificial" (MIT Press, 1969) refers to "design" as the "transformation of existing conditions into preferred ones" (p. 55).

In the domain of marketing, according to Kotler and Rath (1984), “Design [management] is the process of seeking to optimize consumer satisfaction and company profitability through the creative use of major design elements (performance, quality, durability, appearance, and cost) in connection with products, environments, information, and corporate identities”.

According to Industrial Design Society of America, Industrial design (ID) is the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer. Industrial designers develop these concepts and specifications through collection, analysis and synthesis of data guided by the special requirements of the client or manufacturer. They are trained to prepare clear and concise recommendations through drawings, models and verbal descriptions.

Industrial design services are often provided within the context of cooperative working relationships with other members of a development group. Typical groups include management, marketing, anthropologists, psychologists, engineering and manufacturing specialists. The industrial designer expresses concepts that embody all relevant design criteria determined by the group.

The designer's unique contribution places emphasis on those aspects of the product, service or system that relate most directly to human characteristics, needs and interests. This contribution requires specialized understanding of visual, tactile, safety and convenience criteria, with concern for the user. Education and experience in anticipating psychological, physiological and sociological factors that influence and are perceived by the user are essential industrial design resources.

*“What now matters is the design and delivery of value. That needs design thinking. That needs creative thinking. Judgment thinking alone is not going to be enough. Most people, in business and elsewhere, have done very well on judgment thinking. Such people are rarely aware of the need for 'design thinking'. They find it difficult to conceive that there is a whole other aspect of thinking that is different from judgment thinking. It is not that such people are complacent. It is simply that they do not know that there is another aspect to thinking”**. —Edward de Bono, 2003***

Design Thinking

As with design, there’s probably no one definition of design thinking everyone would agree on. What distinguishes designers is what Diego Rodriguez (2007) calls “design thinking” which is analytic thinking complemented with the unique way that designers think. Design thinking is evidence-driven, includes holistic thinking with an integrative view, emphasizes experimentation, and permits intuitive thinking and optimism (Rodriguez, 2007).

To David Burney (2007), design thinking is a term to define a way of thinking that produces transformative innovation. “While the term feels trendy, the way of thinking is hardly new. One can think of the cave painters in Lascaux 25,000 years ago as design thinkers-- they first began to collect data about the world they experienced, express that data by creating visual stories, document those stories in a way that could be shared into the future, and use that data to create new and innovative ways to solve their problems. The creation of alphabets thousands of years later is an example of design thinking”.

As such, design thinking can be attributed to an improved future. Unlike critical thinking, which is a process of analysis and is associated with the deconstruction of ideas, design thinking is a creative process based around the construction of ideas. Not allowing judgments, design thinking eliminates the fear of failure and encourages maximum input and participation. Non-routine, out-of-box ideas are welcome, since these often pave

the way for the most creative solutions. Every individual is designer, and design thinking is a process of applying design methodologies to miscellaneous life situations.

Roger Martin (2006) sees design thinking as the source of next competitive advantage. He distinguishes between **t**wo fundamental kinds of thinking which co-exist and often collide in business organizations: analytical thinking and design thinking.

Along the same lines, Cagan and Vogel (2002) make distinction between the way engineers and designers think. Their research findings indicate that for the designers, shape and aesthetics drive the design process whereas for the engineers, cost and complexity drive the process. The researchers (2002) call these differences in perception as “perceptual gaps”. Perceptual gaps are the differences in perspectives that team members have that stem-from discipline-specific thinking and prevent teams from developing an integrated interests-based conflict resolution process.

Cagan and Vogel’s (2002) research identifies several causes of perceptual gaps. One can be attributed to differences in education. “Engineers are trained to know what is “right”. They use physics and math to model, understand, and eventually control their environment. They recognize what can be done and what can’t be done, based on their understanding of how the world works. They think in terms of function where form is often secondary. They focus on performance, quality and manufacturing. Designers on the other hand, are primarily visual thinkers, trained to explore and think about what should be, not what is. They are limited only by their imagination and influenced by the human side of the world around them. They have a good understanding of manufacturing but are comfortable pushing the limits if doing so allows them to better express their forms. Their understanding of quality is about aesthetics, *playfulness*, being surprising and addressing to emotions.

Bearing in mind our project of locating design thinking in the postmodern organization, and considering all the complementary descriptions above, we define design thinking as a distinctive process of mind which manifests itself in shape, configuration or composition of pattern or color containing performance (functionality), image

(aesthetics, look, feel) and style (a manner of doing things, especially in a fashionable way) to produce a product, process, service, user experience, or an organic change.

Why Design Thinking Matters?

Herbert Simon (1960), the Nobel Prize winning economist who also had considerable contributions in the area of cognitive psychology, computer science and robotics, predicted that while routine factory and clerical work would be automated, new work world be created in the fields of management, innovation, and design. Robert Reich later emphasized the role of "symbolic analysts" who think and manipulate symbols for a living. (Florida, 2005)

A series of gradual changes in the US economy and society introduced a new system of working and living in recent decades. According to Florida (2005), "we are entering the creative age because it is the prime mover of US economy. More people than ever before are getting to do creative work for a living. The number of people in highly creative occupations – from architects to aesthetic workers, engineers and scientists to artists and writers, high-end managers, planners and analysts to healthcare- climbed dramatically in the twentieth century. In 1900, creative workers made up only about 10 percent of the U.S. workforce. By 1980, that figure had risen to nearly 20 percent. Today, almost 40 million workers-some 30 percent of the workforce-are employed in the creative sector…. However, US society is engaging only a small percentage of the potential creative capital by doing a relatively poor job of motivating this 30 percent of the workforce in the creative sector" (Florida, 2005).

The real issue is how much creativity employers actually tap in their organizations. Florida (2005) highlights that, "while more than three-quarters of high-tech elite workers said their jobs require a "lot of creativity", less than half said that their bosses were supportive of them being "creative on the job" (Florida, 2005). It almost sounds like organizations are designed to be not creative.

However, the distinctive nature of “design thinking” can be a significant differentiator among competing organizations, processes, products or services, though, so far, nobody has focused on the general question of how design thinking could be capable of generating sustainable competitive advantage. In other words, there are no academic studies analyzing what kind of managerial practices, values, and assumptions are more likely to be associated with an appropriate management of the design [thinking] (Calabretta and Montaña, 2006).

Research on design thinking indicate that there is lack of academic study on the general questions of what kind of firms is effectively able to develop a design function capable to generate sustainable competitive advantage and what kind of managerial practices, values, and assumptions are more likely to be associated with an appropriate management of design. The limited research which identifies culture as a major barrier to greater design [thinking], points out that the only way for overcoming this limitation is to have [design thinking] already integrated in corporate culture and to cultivate this “amalgamation” from the very start (Calabretta et al, 2006; Filson and Lewis, 2000; Beverland, 2005).

“Imagination is the living power and prime agent of all human perception.”

(Samuel Taylor Coleridge, 1984)

Postmodernity and Design Thinking

According to Albert Einstein, “imagination is more important than knowledge” (Calaprice, 2000). “Innovation does not come magically from an invisible hand, great advances have always sprung from ideas. Ideas don’t fall from the sky, they come from

people. People design the products, services, experiences" (Florida 2006), but people and their ideas cannot be abstracted from the environment they are in.

Design thinking, which pushes knowledge forward and creates new possibilities through imagination, needs the postmodern organization to flourish. Martin (2004) cautions that as organizations grow, analytical thinking often crowds out design thinking. He (2004) also suggests that to benefit from design thinking, an organization would need to understand how analytical thinking and design thinking differ, why and how they come into conflict, and how to create a culture which appreciates and encourages design thinking. Postmodern organizations which foster diversity/tolerance, promote creativity, cultivate imagination, encourage collaboration and reward intrinsic motivation may achieve creation of such a culture and would benefit from working with design think-tankers such as IDEO, a design consulting company which can be considered as 'postmodern'.

Managerial Implications

We agree with Kotler and Rath's (1984) assertion that, though, it has been more than 20 years, little academic and managerial research has been done on the strategic view of design. Traditionally companies have considered design as a complementary aspect of new product development, rather than as a strategic resource for generating competitive advantage. Consequently researchers have rarely devoted their attention to the role (Calabretta and Montaña, 2006). But now things are changing and ddesign is becoming a popular topic in the business world today as a source of competitive advantage. In 2006, World Economic Forum featured a roadmap of programs on new thinking about innovation and the value of design as a means of unlocking innovative ideas (Fraser, 2006).

Emerging developments in the use of design and design thinking can lead to innovation in services and customer experience. Well-managed design [thinking] has the power to build brand value, harness innovation, shape strategy, and attain customer satisfaction (Calabretta, 2006). As the intense competition urges firms to be closer to their

customers, design thinking becomes more important. “During this shift from the economics of scale to the economics of scope and choice and as mass markets fragment and brand loyalty disappears, corporations are more involved in improving ‘consumer experience’ ” (Nussbaum, 2004).

According to Fraser (2006), inspiration must be translated into implementation. Perhaps one of the best ways to understand how to convert design thinking into “design doing”, is to look into the industry practices by IDEO. As a design consulting company which we may consider as ‘postmodern’, IDEO has transferred its ability to create consumer products into designing consumer experiences in services, from shopping and banking to health care and wireless communication.

However, by showing global corporations how to change their organizations to focus on the consumer, over the years IDEO has transformed itself from a design company to innovation service provider. “IDEO showed us that we are designing human experiences, not buildings…Consulting firms usually come in, go away, and return with heavy binders that sit on the desk. With IDEO, we partner up and work side-by-side. We are internalizing their methodology to build our own culture of innovation.'' says Adam D. Nemer, medical operations services manager at Kaiser (Nussbaum, 2004).

While the business consultants tend to look at the corporate world through a cut and dry business-school perspective, by contrast, IDEO advises clients by teaching them about the consumer world through the eyes of anthropologists, sociologists, graphic designers, engineers, and psychologists. ``I haven't seen anything like them before,'' says Tom Wyatt, president of Warnaco's Intimate Apparel Group, who is turning to IDEO to help battle rival Victoria's Secret Ltd. ``They're creative and strategic, eclectic and passionate''. Some of IDEO clients understand the fact that the culture change is fundamental to design thinking. For instance Procter and gamble has teamed up with IDEO to create a more innovative culture. IDEO challenges the corporate culture using unusual techniques to energize corporate clients such as “bodystorming,”' “behavioral mapping,” “quick and dirty prototyping,” “deep dives,”' “`unfocus groups,”' “shadowing,'' and “be your customer'', or recruiting people with two or three advanced

degrees who climb mountains, go birding in the Amazon, and bike through the Alps. The head of the IDEO group that teaches companies how to innovate is a graduate of the U.S. Naval Academy with a BA in history and a master's degree in architecture (Nussbaum, 2004).

Some corporations send their top people to IDEO just to open their minds. “P&G CEO Lafley took all the people who report directly to him -- his entire Global Leadership Council of 40 business-unit heads -- to San Francisco for a one-day immersion. IDEO promptly sent them all out shopping. The goal was to have the execs understand consumer experiences so they could come up with innovations. Lafley's own team went to buy music, first at a small, funky music store, then at a large retail music store, and finally online. IDEO team members shopped alongside them to analyze each experience as it unfolded. Other P&G executives went shopping with poor people so they might better understand what it means for Third World consumers to buy the company's products” (Nussbaum, 2004).

Conclusion

Design thinking is a powerful tool which pushes knowledge forward and creates new possibilities through imagination. However, in order for design thinking to grow, it requires a corporate culture where the postmodern organization can bloom. During the transformation process, organizations should be very careful about what Martin (2004) warns as analytical thinking’s crowding out design thinking. In order to be able to handle this transformation challenge, an organization would need to understand how analytical thinking and design thinking differ, why and how they come into conflict, and how a culture which appreciates and encourages design thinking can be created. Postmodern organizations which nurture diversity and tolerance, promote creativity, cultivate imagination, encourage collaboration and reward intrinsic motivation may achieve creation of such a culture to embrace and deploy design thinking.

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Chapter III The Sprouting Role of Designers and Mayeutics[2]

Abstract

One of the biggest challenges in product/service design is to understand the unarticulated needs of individuals and the meanings of these needs to them. As economic conjunctures, social trends, and environmental circumstances change, the individual's choice changes and designers may be challenged to add new roles and skills to their portfolios or grow the existing ones to adapt to these new conditions. As we extend the scope of design from industrial/product design to interaction/service/organizational design with a service dominant logic, we may be experiencing a move from designers as craftsmen to co-designers. This is a new attitude driven by a new mind-set. This new move can be challenging for designers who have not been trained in the co-design space. How can design educators help design students and practitioners to take on new challenges in terms of understanding their new role and develop and extend the skills around this emerging role? This paper by no means undermines the technical skills of designers. It highlights the growing emphasis on facilitator role and facilitation skills of the designers (design thinkers) and how design educators can communicate this sprouting role and the skills to design thinkers by using metaphoric language.

Key Words: Design, Role of Designer, Metaphors, Mayeutics.

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"It has become increasingly evident that they are no longer satisfied with simply being "consumers." Everyday people want to be "creators" as well. This unmet need for creative experience tends not to be voiced in the open since it is a tacit need. It can, however, be seen and heard when we give people simple visual tools with which they can express their dreams and aspirations… End-users can and should be the most important players in the design process…*Designers will no longer only design for people, they will learn to design with people. This will require new forms of communication to support the collective creativity that arises between designers and everyday people."*

Elizabeth Sanders, 2006b

Introduction

John Heskett (2002) views the history of design as a process of layering, "in which new developments are added over time to what already exists. This layer, moreover, is not just a process of accumulation or aggregation, but a dynamic interaction in which each new innovative stage changes the role, significance, and function of what survives" (Tan, 2009; Heskett, 2002). As Heskett (2002) predicted, to adapt to changing economic, social and environmental conditions, designers are continually expanding the boundaries of the discipline by adding new layers (Tan, 2009). For instance, as a recent trend, boundaries of innovation and design is getting blurred with the introduction of the "design thinking" concept, design-specific cognitive activities that designers apply during the process of designing (Visser, 2006), whereas the designers may not even have to have a formal design education (Brown, 2008 and IDEO Shopping Cart video, 1999). According to David Kelley of IDEO (2008), designers are moving from thinking of themselves as designers to thinking of themselves as design thinkers (2008).

Sanders (2008) asserts that this recent move could be due to the fact that customers are no longer satisfied with simply being consumers and people also want to be creators since their hunger for creative experience is a tacit need. As Sanders (2008) has predicted, through co-design and co-creation initiatives, designers are no longer only designing for people, but also designing with people. Surely, this new approach is

requiring new forms of communication and distinctive skills (e.g. facilitation) to support the collective creativity (distributed cognition) that arises between designers and every-day people.

The assumption that metaphors can be especially fruitful for the development of theories and models has now reached the design community and is today promoted by various authors such as Coyne and Snodgrass (1995), and Waks (2001) who particularly highlight the productive strength of these clichés (Melles, 2000). In addition to definitional and descriptive explanations, metaphors provide a specific occasion for understanding and indoctrination, which can be more powerful than direct arguments.

Keitsch (2012) has observed that design researchers often have a specific connection with metaphors. The author (2012) shows Papanek's metaphors (1995) which often refer to the living being and the life-world. Metaphors may introduce new ways of understanding theory. Metaphor analysis may also enhance the learners' capability to grasp the theoretical fundamentals of a subject instead of learning on the road.

When used as threshold concepts, metaphors can contribute to understanding theories in design curricula (Keitsch, 2013). Throughout the paper, by deploying the "midwivery" metaphor, we examine the growing emphasis on facilitator role and facilitation skills of the designers (design thinkers) and how design educators can communicate this phenomenon to design thinkers via more "threshold concepts" such as metaphoric language.

Knowledge and Metaphors

Plato believed that human beings had knowledge through the "soul's" recollection. The concept of innate knowledge suggests that we are certain of some things even when we may not explain how we arrived at the idea (Al-Rodhan, 2009).

In his book, "Poetica" (2004), Aristotle defined metaphor as the translation of the name of a thing to another thing based on the similarity or analogy between things (Bonet,

2006). In Greek, metaphor means translation. It is an implicit comparison where it is not stated that it is a comparison. The audience is expected to understand what is meant. Metaphors have a distinct place in rhetoric (art of persuasion by evidence). They can help build stronger arguments (Bonet, 2006).

In the modern times, Rhetoric of Inquiry was firstly coined by D. McCloskey (1998) in her critics on the research methods of economics. She claims that economic arguments are based on metaphors (1998) and on narratives (1990). Her approach is influenced by the Aristotelian conception of classic rhetoric, which was updated in the New Rhetoric, by communication theories and by new views on science and scientific research (Bonet, 2006).

Metaphor is for most people a device of the poetic imagination and the rhetorical flourish – a matter of extraordinary rather than ordinary language. Moreover, metaphor is typically viewed as characteristic of language alone, a matter of words rather than thought for action. For this reason, most people think that they can get by perfectly well without metaphor (Lakoff and Johnson, 1980). However, the authors (1980) claim that metaphor is pervasive in everyday life, not just in language but in thought and action. "Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature"(Lakoff and Johnson, 1980). For example, Socrates did not see himself as a teacher but as a facilitator. He used "midwife" as a metaphor" to describe a person who helped others bring the knowledge out of them in the same way that a midwife helped pregnant women during the delivery process.

According to Lakoff and Johnson (1999), "our most important abstract concepts, from love to causation to morality, are conceptualized via multiple complex metaphors. Such metaphors are an essential part of those concepts, and without them the concepts are skeletal and bereft of nearly all conceptual and inferential structure" (1999). As psychological processes, metaphor and metonymy are the two fundamental modes of thinking and communicating meaning, and the basis for much of our understanding in everyday life (Jakobson et al, 1956; Lakoff and Johnson, 1980).

According to ilipinar (2011), in rhetoric, metonymy is the use of a word for a concept or object which is associated with the concept/object originally represented by the word. The types of associations that describe metonymy are cause or effect, totality or part associations. When contrasted with metaphor, both figures involve the substitution of one term for another. In metaphor, this substitution is based on similarity, while in metonymy, the substitution is based on association (ilipinar, 2011).

Metonymy can be found in cognitive processes underlying language. Objects that appear strongly in a single context develop as cognitive labels for the whole concept. E.g. stimulating linguistic labels such as "sweat" to refer to hard work that might produce it. Advertisers frequently use metonymy. They put a product in close proximity to something desirable in order to make an indirect association that would seem ridiculous if made with a direct comparison (ilipinar, 2011).

Metaphor and Methonymy in Design Language

Designers are very familiar with metaphor and methonymy concepts. Many industrial and product designers utilize metaphors to evoke curiosity and interest in the product (Figure 6 below). Mitumaru (2011) suggests that metaphors be used by considering the user's lifestyle.

Figure 6. Example of using metaphor: Kettle_design (Source: Richard Sapper (Mitumaru 2011)

Graphic designers heavily use methoymy to illustrate the message to be delivered. In the poster below, an Israeli flag and a Palestinian flag are tied together by a large knot. The flags are metonyms for the Israeli and Palestinian people, signifying their peaceful coexistence (Kopco, 2013).

Figure 7. Language as a model for graphic design - metonymy
(Source: http://www.paulkopco.com/a335/rhetoric/metonymy.html)

User Interface and Interaction designers also use metaphors. The metaphors' role in the user interface is to facilitate learning, orientation, and the forming and maintaining of the concept about the program i.e. the mental model. For example, if somebody has learned the use of the word processor program through the typewriter metaphor, then later he/she will be able to switch from the typewriter to the word processor and back.

An example of an interface metaphor is the folders and the file cabinet representation of the file system of an operating system. Another example is the tree view representation of a file system, as in a file manager that helps a user to use it (Szabo, 1995).

The emerging field of service design is young (Grocki, M., 2011) and hungry for recognition. The author (2011), suggests that “the closest metaphor for service design is to make the comparison to medicine. Instead of just focusing on the symptoms of a given illness, consideration for the patient as a whole; mental, spiritual, cultural, social etc. will be crucial in truly healing the patient. And in design, it's not just about designing

for one experience or site or app - it's about putting on a wider lens and seeing the bigger picture" (Grocki, 2011)

"Students often come to d.school to develop their creativity. Clients work with our design and innovation consultancy for the same reason. But along the way, we've learned that our job isn't to teach them creativity. It's to help them rediscover their creative confidence – the natural ability to come up with new ideas and the courage to try them out…"

Kelley, T. and Kelley, D., 2012

A specific metaphor: Mental Midwifery (Mayeutics)

Mayeutics (mental midwifery) is a type of research based on the idea that the truth resides in the mind of every human being due to his innate reason but has to be "given birth" by answering questions (or framing problems) intelligently proposed. The word is derived from the Greek "μαιευτικός," pertaining to midwifery.

It is thought that mayeutics was created by Socrates, because it is placed in the character of Socrates in the Theatetus of Plato. According to Plato, several traits in Socrates' activity make it resemble a midwife's art, while the main difference between them seems to be that a midwife operates with people and Socrates with ideas (Bonet, 2006).

Socrates claimed that he was not a teacher but was helping people to get the truth out of themselves in the same way that his mother, who was actually a midwife, helped pregnant women in their delivery process. For that reason he called his method "Mayeutics". Mayeutics is based on the belief that there is an innate stored knowledge in human beings by tradition and the experience of past generations (Bonet, 2006).

Therefore, Mayeutics invites the individual to discover the true that is latent in him and Mayeutics is addressed to those who know, but do not know that they know.

Mayeutics or “mental midwifery”, can be seen as the art of helping the others to help themselves; human beings 'implictly' already know the answers to questions. The question is how to get the ideas out. From the organizational studies perspective, it can be related to what is referred to as organization as a means to extract and harness the agency of its members. From design research view; design can help consumers express motivations or satisfy needs that they don’t know how to satisfy or express. The final design helps consumers in this regard. However, even at the very beginning of the design process, designers can help consumers express needs and desires that they are not even conscious about.

Although [mental midwifery] has not been elaborated through linguistic perspective, some researchers interested in language and discourse have demonstrated how organizational conversations, texts, accounts, narratives, and stories affect the ability of organizations to take action, achieve legitimacy, and manage their relationship with their environments, and stories. Researchers working from this perspective have recognized that language and actions are closely related, because language defines certain actions as “legitimate, necessary, and may be even . . . the only ’realistic’ option for a given situation” (Dunford and Palmer, 1996) and because people “do not use language primarily to make accurate representations of perceived objects, but, rather to accomplish things” (Alvesson and Kärreman, 2000; Rindova et al, 2004). For example owner of this website *(www.webmidwife.com),* exhibits his firm as “midwife”:

“You conceived the idea for a website, I can help you to birth it into reality! I am an SBI! Coach and seasoned website and graphic designer. If you are with SiteBuildIt! I can help you with any days of the Action Guide as well as design your website”.

Wittgenstein (1953) points out that metaphors are devices that extend the meaning of words (ilipinar, 2011). In Philosophical Investigations (1953), he claims that we must dismiss the idea of concepts and focus on meanings of name. A name usually has many meanings that cannot be defined by a set of necessary and sufficient conditions. They

only share a family resemblance. For example if we reflect on the meanings of the name "game", we find football, athletics, chess, poker, solitary card games, strategic games, love games, etc. The properties of physical or intellectual abilities, individual or team organizations and competition between people or teams do not apply to all of them (ilipinar, 2011; Wittgenstein, 1953).

The metaphor of "mental midwifery" has not been widely used by design scholars and practitioners to describe the role of design, however, we argue that this metaphor is substantive, in that the theoretical knowledge developed in the domain of medical science can be usefully transferred to the study of role of design.

In constructing the reality of a mental midwifery, however, designers can go beyond simply invoking the metaphor of midwife. They can use medical language to describe many aspects of their activities such as facilitation, mediation, giving birth to a new product service, facilitating the delivery of a new service/product, etc.

Wittgenstein considers language games as "language and the actions into which it is woven" (1953). He stresses that the term *language game* is meant to bring into prominence the fact that "the *speaking* of a language is a part of an activity, or a life form" (Wittgenstein, 1953: 10). By participating in a language game, social actors pragmatically coordinate their activities through the language they use (ilipinar, 2011; Shotter, 1997).

According to Lakoff and Johnson (1999), "truth is mediated by embodied understanding and imagination. That does not mean that truth is purely subjective or that there is no stable truth. Rather, our common embodiment allows for common, stable truths" (1999).

When we look into the design practice, the concept of a language game help us understand how language and action become interweaved in a way that the language of midwifery is not just a reminiscent metaphor and metonymy but a system of expected, prescribed, or justifiable actions associated with the words and the rules the game consists of. Through the midwifery language game, based on metaphorical language

(itself a language game, with which designers, advertising agency, customers, managers and other stakeholders have some direct or mediated experience), designers provide internal and external stakeholders with pragmatic indicators of expected and appropriate behaviors. The midwifery language may imply expectations that clients accept the idea of owning the knowledge and co-delivering on their creative abilities more readily or that they take actions that are expected as part of the ordinary course of design innovation.

In design discourse, we claim that the midwifery language is not simply a manipulation of words (ilipinar, 2011; Lakoff and Johnson, 1999). Instead, it entails processes through which language both creates and emerges from the design practices of firms. The metaphor of midwife acquires a reality-like status for the actors participating in the language game (2011). In other words, in the pursuit of "truth" (Lakoff and Johnson, 1999), participation in the language game leads organizational members and stakeholders to experience innovative design activities as [mental] midwifery practices in more real ways than non-participants in the language game would.

Within a midwife language game, language and action lead to changes in state-of-mind, attitude, training methods, rules of engagement with the customer, and ultimately, in resource allocations inside design firms and among external stakeholders. In this way, the language game underlies the processes of resource mobilization and allocation through which design innovation is created. A design activity is therefore better understood as a language game generating intensified creative activity.

Role and Philosophy of Midwifery

According to Wolfenberg (2008), human childbirth is a normal physiological process well designed by nature to bring babies into the world and midwifery is both an art and a science. She considers midwifery an art because midwifery involves sensitivity to the needs of women and families, and knowing when and how to intervene to ensure safety. It is grounded in scientific knowledge and the science of midwifery intersects with other disciplines such as medicine and nursing. (Wolfenberg, 2008)

Midwife means ‘with woman’. The author (2008) claims that this meaning gives shape to midwifery’s philosophy, work and relationships. The institution of “midwifery” is based on respect and empathy for women and on a strong belief in the value of women’s work of bearing and rearing each generation. It considers women in pregnancy, during childbirth and early parenting to be undertaking healthy processes that are profound and precious events in each woman’s life. These events are also seen as inherently important to society as a whole. She concludes that “midwifery is emancipatory because it protects and enhances the health and social status of women, which in turn protects and enhances the health and wellbeing of society as a whole” (Wolfenberg, 2008).

Designers as Midwives (e.g. Facilitators)

“The days of the celebrity solo designer are over. Complex systems are shaped by all the people who use them, and in this new era of collaborative innovation, designers are having to evolve from being the individual authors of objects, or buildings, to being the facilitators of changeamong large groups of people” (Thackara, 2005).

While we finally recognize the concern for cultural and social sustainability’s vitality to our survival and wellbeing, new design approaches are emerging that provide us with the tools to balance consumption and creativity. “What this means for design and design research is that people who are not educated in design are designing; the line between product and service is no longer clear; the boundaries between the design disciplines are blurring; the action now is in the fuzzy front end of the design development process with a focus on individual for experiential rather than physical or material concerns of each user” (Sanders, 2006a).

According to Sanders and Stappers (2008), the evolution from user-centered design to co-design has an impact on the roles of the participants in the design process. For example, in the traditional design process, the focus was on the designing of “products” where the design researcher served as a translator between the “users” and the designer. In co-designing, the focus is on designing for a “purpose” where the design

researcher (who may be a designer) takes on the role of a facilitator. The authors bring our attention to existence of different levels of creativity and emphasize the need to learn how to offer relevant experiences to facilitate people's expressions of creativity at all levels which means "leading, guiding, and providing guidelines/frameworks as well as clean slates to encourage people at all levels of creativity" (Sanders and Stappers, 2008).

Body et al (2010) view designer's facilitation activities as a distinct and emerging role for designers. The authors argue that role of the designer is extending from the sole expert designer (e.g. craftsman) to participatory inclusive designer (Body et al, 2010), Sanders, 2008, Thackara, 2005).

Body et al (2010) also suggest that facilitator role is emerging as business complexity and intense competition demands a need to facilitate conversations with the users to deal with the questions of desirability, possibility and viability. One mind does not have the answers to these questions.

The legal requirements, the customer's needs, the technological possibilities, and the drive for organization to remain viable over the long term are often competing. The authors (Body et al, 2010) maintain that "design facilitator has the daunting task to navigate through these perspectives while serving as a catalyst for the identification of new solutions and opportunities to align seemingly disparate interests. The design facilitator drives the engagement of people through the design process; which is fundamentally a constructive and optimistic process of searching for possibilities. The engagement of people becomes increasingly necessary as the complexity of the design challenge increases". The authors view the design facilitator as the broker of an extended conversation that seeks a design respecting complexity while being as simplistic as it can be (Body et al, 2010).

The facilitator role of the designer is not only limited to two way interaction between the designer and the individual. Designer can also facilitate the transfer of embedded knowledge of master craftsmen to a novice learner. For example, as a case study, Wood et al (2009), engaged master craftsmen, expert learners and novices to create and use a web-based learning resource. The results of the study demonstrated that (Figure 8

below) well-motivated learners, working in physical isolation but supported by an online community, could acquire difficult new skills and use them in creative ways (2009).

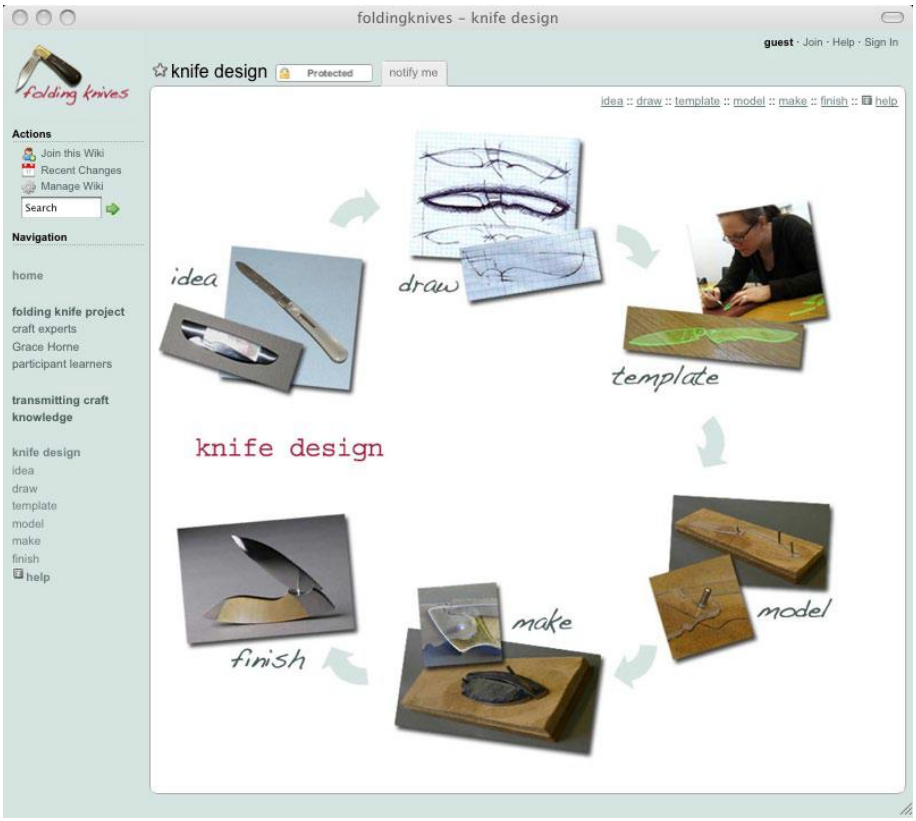

Figure 8. Sample screen shot from knife making wiki
Source: Wood et al, 2009).

As facilitators, designers help individuals and organizations “bring out” the creativity and design knowledge within them by tapping into their “innate design ability”. In search of a metaphor to illustrate the evolving role of the designer for design students and practitioners, this article highlights the similarity between the role of designer and midwife, i.e. a person who helps to produce or bring forth something. Designers facilitate new product/service delivery via deploying research methods such as depth-interviews, observations, videoethnography, user safaris, interpretative methods and, participatory research, towards “delivery of knowledge” in the form of designed products and services

Importance of this Research to the Design and Business Practice: A New State-of-Mind?

Kelley and Kelley (2012) discovered that their job was not to teach their clients creativity but to help them rediscover their creative confidence – the natural ability to come up with new ideas and the courage to try them out (2012). Some people call this as "design thinking" which may or not may be the right term. According to Tim Brown (2008), "contrary to popular opinion, you don't need weird shoes or a black turtleneck to be a "design thinker" nor are design thinkers necessarily created only by design schools….. Many people outside professional design have a "natural aptitude" for design thinking, which the right development and experiences can unlock" (Brown, T., 2008).

The move from user-centered design to co-design has an impact on the roles of the players in the design process. In the classical user-centered design process, the user is a passive object of study, and the researcher brings knowledge from theories and develops more knowledge through observation and interviews. The designer then passively receives this knowledge in the form of a report and adds an understanding of technology and the creative thinking needed to generate ideas, concepts, etc. (Sanders and Stappers, 2008).

In co-design, the person who will eventually be served through the design process is given the position of 'expert of his/her experience', and plays a large role in knowledge development, idea generation and concept development. In generating insights, the researcher supports the "expert of his/her experience" by providing tools for ideation and expression. The designer and the researcher collaborate on the tools for ideation because design skills are very important in the development of the tools. The designer plays a vital role in giving form to the ideas (Sanders, 2006).

Conclusion

As facilitators, designers help other human beings (and organizations) "deliver" the design knowledge within them by tapping into their "innate design ability". This research

emphasizes the similarity between the role of designers and midwives. Designers facilitate new product/service delivery via deploying research methods such as depth-interviews, observations, ethnography/netnography, interpretative methods and, participatory research, towards delivery of knowledge in the form of designed products and services e.g. health care delivery, social services delivery, etc. Given the evolving role of design, designers may add more value to the business with a new state-of-mind, like a "midwife", especially at the beginning stages of the new product/service development process. Their new role, which is less restraining and more emancipatory than participatory and co-design, would be crucial especially in order to release the innate creative abilities of their clients and not to constrain this knowledge already resides in them. The contribution of this research is the way to tackle this challenge via deployment of a new metaphor. Use of metaphors is critical in legitimizing roles. As mentioned earlier, claim that metaphor is omnipresent in everyday life, not just in language but in thought and action (Lakoff and Johnson (1980). The "mental midwifery" metaphor has not been widely used by design scholars and practitioners to describe the role of design, however, we argue that this metaphor can be very helpful in investigating the role of design. This paper aims at contributing to design research by discussing the usability of the Socrates's "midwife" metaphor to explain further the evolving role of designers as facilitators.

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Chapter IV Design Orientation and Product Success: Is Design Distinctiveness the Missing Link?[3]

Abstract

Most companies still neglect to benefit from design distinctiveness. This study argues that by creating unique and distinctive styles and features, product design can be employed as a strong differentiator of products in their markets. Drawing on Day and Wensley's Source-Position-Performance model, this study presents a framework where design distinctiveness acts as a mediator between a firm's design orientation (i.e., firm culture based on creativity, innovativeness), and differentiation towards achieving higher new product success.

Keywords: design orientation, design distinctiveness, new product development.

Introduction

Differentiation is considered as one of the core principles of marketing theory and practice (Romaniuk et al, 2007). Marketers should be evaluated by how well they differentiate their brands (Fulmer and Goodwin, 1988; Levitt, 1980; MacMillan and McGrath, 1997).

As one of the sources of differentiation, successful design is vital to many firms (Bloch, 2011). Well-managed, superior design can generate distinctiveness in a marketplace flooded by many products, and can create personality for a newly launched product so that it stands out from ordinary rivals (Kotler and Rath, 1984). The authors (1984) also

[3] Co-authored with Ian Parkman. Earlier version was presented at the 10th European Academy of Design Conference, April 17-19, 2013 in Gothenburg, Sweden

state that good design may bolster product interest for products in the maturity stage, "communicates value to the consumer, makes selection easier, informs and entertains. Management of design can lead to heightened visual impact, greater information efficiency, and considerable consumer satisfaction" (Kotler and Rath, 1984, p.17).

In the highly competitive business environment since the 1980s, the following figure confirms the quote below from Mr. Norio Ohga, former CEO and Chairman of Sony (Selke and Balke, 2011).

"At Sony, we assume that all products of our competitors have basically the same technology, price, performance, and features. Design is the only thing that differentiates one product from another in the marketplace".

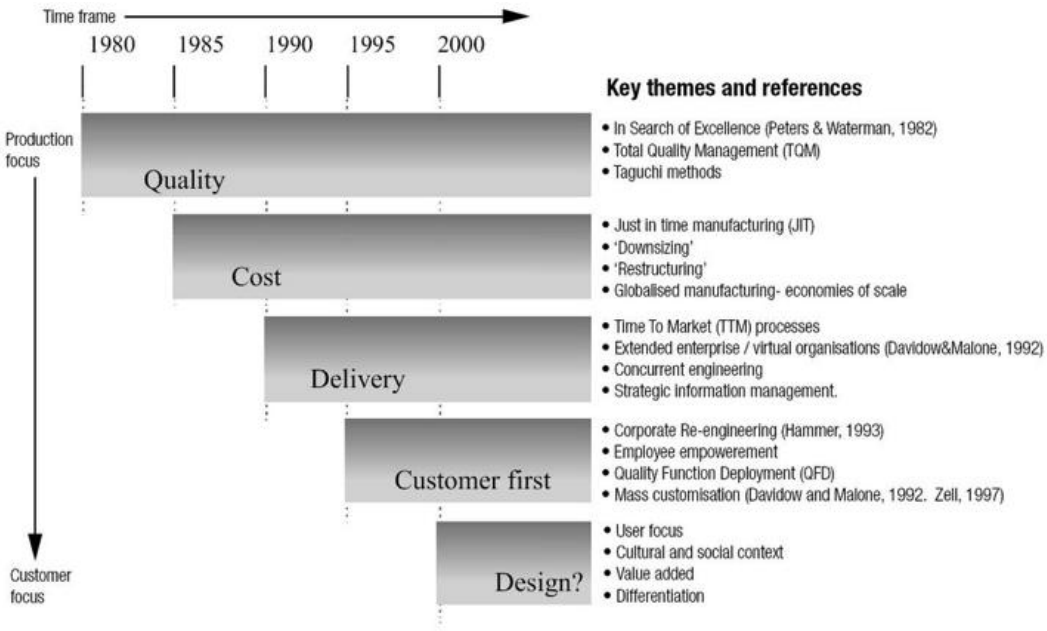


Figure 9. The Age of Design (Source: Les Wynn, DMI 2000)

As the trend in the figure above highlights, product design is an emerging topic of research in the field of management (Swan and Luchs, 2011; Bruce et al, 1995; Walsh et al, 1988; Ulrich and Pearson, 1998; Gemser and Leenders, 2001; Borja de Mozota, 2002; Hertenstein and Platt, 2001; Hertenstein et al, 2005; DiBenedetto, 2012).

Although product design can be employed as a strong differentiator by creating unique and distinctive product styles and features, most companies still do not leverage design distinctiveness. Based on Day and Wensley's Source-Position-Performance model, we present a framework (Figure 10, to be presented in the next section) where design distinctiveness acts as a mediator between a firm's design orientation (i.e., firm culture based on creativity, innovativeness. Please see Figure 11 below), and differentiation towards achieving higher new product success.

In our framework, design orientation refers to strategic approach by management to select design as a source of competitive advantage (Moll et al, 2007; Borja de Mozota 2002; Kotler and Rath 1984; Peters 1989; Porter 1980). Design oriented firm is an organization with the ability and will to creatively develop and use design in the development of new products and services. (Montaña et al, 2007).

Management literature, particularly spurred by the 2011 Special Issue of the Journal of Product Innovation Management (Swan and Luchs, 2011), has found broad evidence for a positive link between product design and firm performance. However, researchers have not reached consensus on what product design is, how to best conceptualize or operationalize the construct, what firm-level variables are important to its use, or clear understanding how design influences product development and firm success has yet to be established. Our study intends to contribute to the literature to fill this gap.

Design Distinctiveness

Design distinctiveness is a design's "contrastive value" in relation to other designs (Jacoby and Craik, 1979; Rosenkrans 2009). When a product or service has unique features that distinguish it from the rest of the visual field, it can be considered as distinctive (Phillips and Lee 2005).

There is some evidence provided by Whyte, Salter and Gann (2003), among others, who argue that investments in product design may lead to strategically significant intellectual assets. Roger Martin (2005) argues that, "In this turbulent, get-real economy, the advantage goes to those firms who can out-imagine and out-create their competitors". This can be taken as a call to action for research on the aspects of design that may lead to differentiation as successful design differentiates companies and makes their offerings stand out from competitors (Kotler and Rath 1984). In fact, as differentiation becomes more challenging in an ever increasing competitive marketplace, there is an accelerating focus on obtaining competitive advantage through creating distinctiveness (Visit Table 3 below).

Trade dress is the overall styling of something, but is limited to design elements that aren't functional and purely for… style's sake. Samsung argued that patent '893 was not protectable, but the jury ruled against this decision. However, Apple was only able to prove that trade dress of the iPhone 3G is protectable. All other iPhone models, and the iPad, do not have protectable trade dress, the jury ruled. The jury found that the Samsung Fascinate, Galaxy S i9000, Galaxy S 4G, Showcase, Mesmerize, and Vibrant all diluted the iPhone 3G trade dress.

Table 3. Apple vs. Samsung: Distinctiveness through Trade Dress
Source: http://www.digitaltrends.com/mobile/apple-vs-samsung-verdict/

However, even though the commercial value of styling manifests itself in the amount of copyright infringement lawsuits where companies have sued their competitors for illegally copying the style of their products (Jacoby and Morrin, 1998), most companies still struggle to benefit from the differentiation advantage provided by design (Person et al, 2007). This study argues that by creating unique and distinctive styles and features, product design can be employed as a strong differentiator of products.

Drawing on Day and Wensley's (1988) Source-Position-Performance model (Figure 10 below), this study presents a framework (Figure 11, on the next page) for conceptualizing and examining the influence of design through a model where design distinctiveness (i.e., tactical implementation of a firm's design orientation in pursuit of product differentiation) acts as a mediator between a firm's design orientation (i.e., firm culture based on creativity, innovativeness), and differentiation towards achieving higher new product success (Song and Parry, 1997; Im and Workman, 2004).

Figure 10. Conceptual Model based on Day and Wensley, 1988 (Source Author)

We have opted to deploy Day and Wensley (1988) model, because this simple model very well captures and explains the relationship we have already conceptualized.

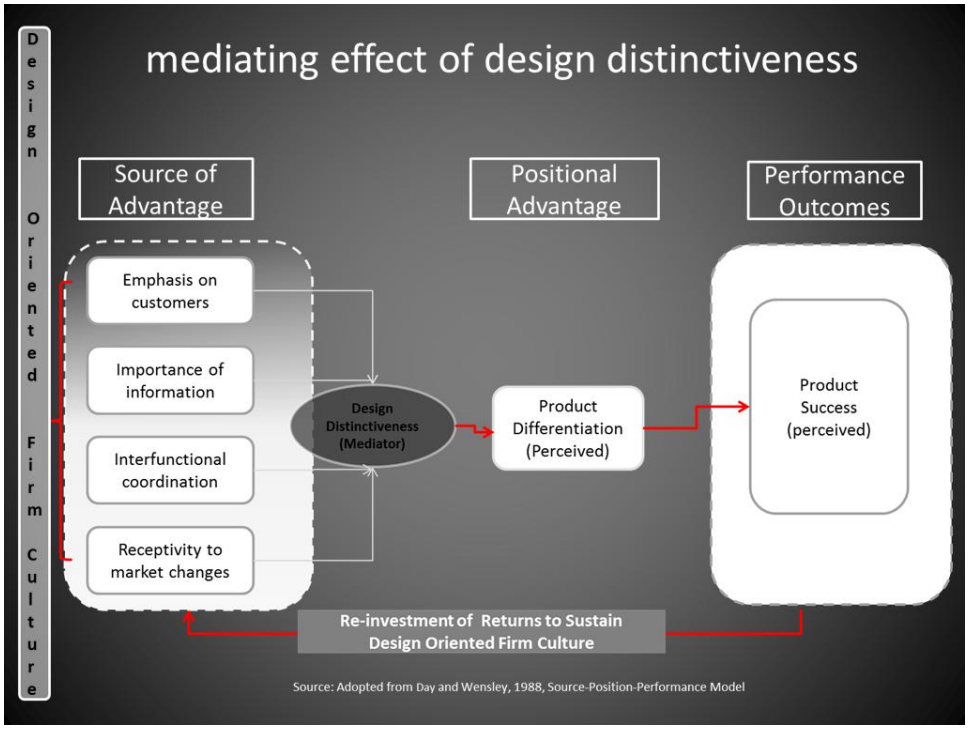


Figure 11. Mediating effect of Design Distinctiveness, Source: Author

In the marketing and strategy literature, there has been a clear emphasis on establishing the importance of various types of a firm´s strategic orientations, i.e., market, customer, technological, and competitive orientation. A firm's strategic orientation reflects the strategic directions implemented by a firm to create the proper behaviors for the continuous superior performance of the business (Narver and Slater, 1990). For example, Gatignon and Xuereb (1997) describe technological oriented firms as strongly R&D-oriented, proactive in acquiring new technologies, and focused on uses of sophisticated technologies in the development of their new products. While a great deal of research has focused on describing the variety of strategic orientations available to firms, market orientation in particular, these studies have inadequately accounted for those firms who pursue a differentiation strategy in incremental product markets (Fillis, 2010).

Consequently, the objectives of this study are to:

(1) explain what firm factors influence the creation of differentiated products to lead to successful commercialization and

(2) design a framework to conduct a future study in order to test the impact of a strategic orientation for product design on new product success.

Thereby, this study describes a design orientation as those firms who see design as a powerful source of strategic competitive advantage and fully incorporate design processes into their overall business strategy (Moll et al, 2007). This view provides firms with a greater depth of rare and inimitable knowledge (Zahra et al, 2000) which enhances their ability to conceive significant product differentiation vis a vis competitor offerings in the marketplace. De Brentani (2001) notes that, "as technological problems are solved and competition shifts to new combinations of price and usability, products that foster a sense of product personality, ergonomic usability and enhance technology embedded in a product will become more significant".

Sources of Advantage

Design Orientation

Design orientation means that a firm values and uses design knowledge to create distinctive products that meet the needs of consumers (Montaña et al, 2007). Although design has not been part of the strategic orientation literature, there is clear evidence that it is a key attribute of many product development firms (Swan and Luchs, 2011; Jacobs et al, 2011; Reid and De Brentani, 2004; Brown and Eisenhardt, 1995; Shane and Ulrich, 2004) and is a key competitive force in many industries (Kotler and Rath, 1984; Trueman and Jobber, 1998). Thus, per our model above, design distinctiveness is conceptualized as the instrumental outcome of a firm's design orientation, leading to product designs "perceived" as distinct from those of competitors. Investment in product design produces new or upgraded products that may lead to success. Innovative and well-designed product may pull production costs down, communicates quality and value, improves the overall user experience, and facilitates the selection process (ilipinar and Parkman, 2011; Kotler and Rath, 1984).

A design orientation describes a managerial approach focused on design as a source of competitive advantage (Moll et al, 2007; Porter 1980; Trueman and Jobber, 1998; Kotler and Rath, 1984; Borja de Mozota, 2002). Design orientation describes firms who view design as an integral function across many roles of the company, including packaging, graphic design, corporate image, brand communications, environmental design, interaction design, web design as well as product design. The term design management has been employed to describe the processes for integrating these disciplines within the firm (Javinen and Koskinen, 2001). Its aim is to coordinate the use of design and other areas of the firm to optimize the production of products, services and processes (Bruce and Whitehead, 1988). These goals broadly align with tenets of market orientation. Particularly, the synthesis developed by Lafferty and Hult (2001), which describes market oriented firms as those who place an emphasis on their clients, consider information to be important, promote inter-functional coordination and act according to changes in their environment. Moll et al. (2007) conceptualize design orientation with four dimensions: Emphasis on Customers, Importance of Information, Inter-functional Coordination, and Receptivity to Market Changes. These elements highlight the close relationship design oriented firms share with a market orientation as well as the centrality of information and knowledge to the use of design in an organization.

We will measure Design Orientation by using the following scale items developed by related literature (Moll et al, 2007).

Emphasis on customers 1. The current and future needs of customers are analyzed systematically 2. The customers' degree of satisfaction with our products is regularly measured 3. Customer suggestions are encouraged 4. Customer complaints are managed constructively 5. Marketing strategies are a priority with the company's strategic plan 6. Product projects are developed after a multidisciplinary group has proposed a number of different concepts	Inter-functional coordination 1. Product design information is systematically communicated to all company departments 2. Different departments participate in developing product design strategies 3. Meetings are organized with different departments to analyze product design information 4. Top management plays an important role in product design decisions 5. Marketing, design, sales and production departments work together to share information 6. Design and production departments work together so that product designs conform to the company's productive capabilities
Importance of information 1. We have a structured marketing research system in place 2. We study the environment, competition and consumer of our products 3. We travel constantly to get new product ideas 4. There is information available about potential problems in the socio-economic environment 5. We know a great deal about the design changes in our market 6. There is a system in place to track competitor design strategies 7. Our direct competitors' strengthens and weaknesses are systematically analyzed	Receptivity/Acting according to market changes 1. Market demand is the motor behind the development of new products 2. Our strategies for new product development can be defined as proactive 3. Companies in our environment are generally well aware of product design changes which impact market activity 4. We have identified key indicators to monitor relevant changes in our product market 5. Our competitors' best practices are analyzed to improve the quality of our own products 6. Our company quickly responds to a competitor's actions aimed at the end user 7. Our managers maintain personal contact with our distributors 8. Meetings are organized regularly to exchange information about product design characteristics

Table 4.Design Orientation (adapted from Moll, Montana, Guzman and Parellada, 2007)

(5-point scale, in which 5 = "strongly agree" and 1 = "strongly disagree" based on variables of market orientation proposed by Lafferty and Hult (2001)).

Examining design orientation as a firm-level concept is important because although design has been shown to improve a firm's performance overall, there is little understanding of the mechanisms that translate investment in design into measures of product success. In marketing theory, design is seen as a signal to help consumers relate products they see to other offerings that belong to the same era, life style segment or brand (ilipinar et al, 2011; Kreuzbauer and Malter, 2005). As such, some firms emphasize design and product styling as a brand element to aid consumers to relate to their products (McCormack, Cagan and Vogel, 2004). However, numerous studies have highlighted the difficulties firms have experienced in managing design as a resource (Bailetti and Litva, 1995). In this paper, the focus is on the tactical use of product design in new product development in order to achieve product success through differentiation.

Product Design

An investment in product design may produce new products that may help achieve success. Innovative designs appeal to new markets, clever design allows a product to reinvent itself in a mature market. Well-designed product lower production costs, communicates quality and value, and enhances the overall user experience, making selection easier (Kotler and Rath, 1984).

One of the major findings in the management literature in the last several decades is that radical innovation is one of the major sources of long-term competitive advantage (Verganti, 2008). One of the powerful ways to innovate is through design, and this kind of innovation is known as Design-Driven Innovation (Verganti, 2006).

Some organizations are good at innovating new products, but not necessarily at relating these innovative products to their target customers. Design helps customers perceive the value of new products and know how to interact with them (Chitturi, 2009; Schifferstein and Zwartkruis-Pelgrim, 2008). Hargadon and Douglas (2001) suggests that one cultural determinant of an innovation's value is how well the public, as both

individuals and organizations, comprehends what the new idea is and how to respond to it.

Little is known about the connections between marketing and design and product design is an emerging topic for marketing researchers (Bloch, 2011; DiBenedetto, 2012; Beverland, 2005; Veryzer, 2005). Researchers such as Olins (1989) suggest that design is the visual realization of marketing's strategic intentions by conveying brand intentions to consumers. Kotler and Rath (1984) define design's objective as "to create high satisfaction for target consumers and profits for the company". They were among the first to propose the term "design mix," consisting of performance, quality, durability, appearance and cost. For these researchers (1984), design is the effective use of these variables for a target market. Clearly, the implementation of these goals requires marketing expertise to uncover, understand and meet the needs of consumers. Recent literature has promoted an expanded view of design as encompassing more than simply an aid to marketing. Rather, design possesses an independent contribution to firm strategy and performance (Perks et al, 2005; Moll et al, 2007).

This paper surveys some of the relevant literature around the topic of firm's design orientation and then goes on to identify the construct of design distinctiveness which argues to be the tactical implementation of a firm's design orientation in pursuit of product differentiation.

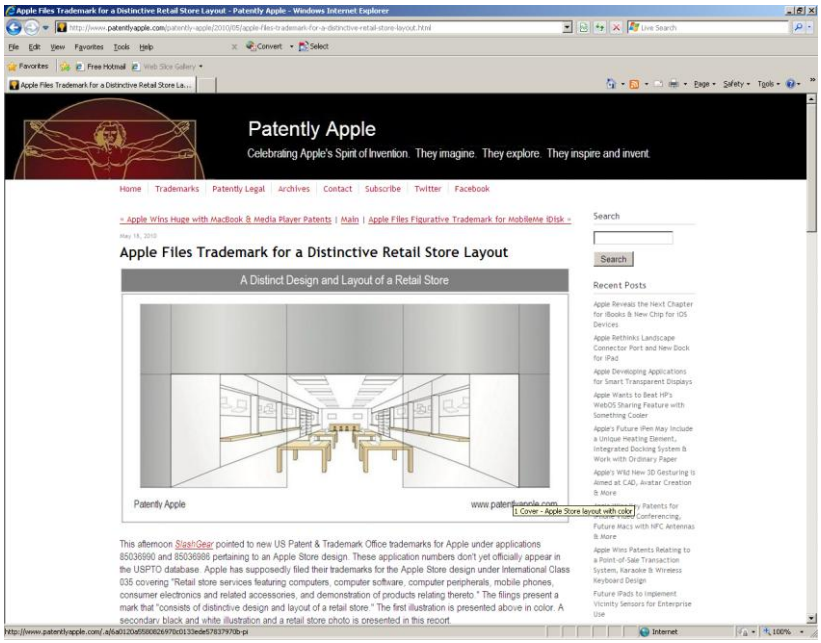
Position of Advantage

Product Differentiation and Mediating Role of Design Distinctiveness

According to Kapferer (2008), during the new product launch, one of the key considerations is perceived distinctiveness of the product from the existing competition. Though the branding may bring its own intangibles and image, a physical basis (i.e. design) for differentiation is needed (Kapferer, 2008).

While a variety of researchers have attempted to describe the role of design as a functional and strategic activity (e.g., Cross, 1993; Walsh et al., 1992; Potter et al., 1991; Gemser and Leenders, 2001), most of their research did not conceptualize the application of design as an aspect of firm strategy. This study addresses this gap by providing a model which argues that firms with greater depths in creative and innovative knowledge, especially knowledge that is rare and inimitable, would have an enhanced ability to conceive and realize significant product differentiation (Zahra et al. 2000). Specifically, firms with a design orientation have a propensity to acquire, disseminate and capitalize on design information (which has been shown to be particularly rare and inimitable) to create products with benefits distinct from those of competitors. For example, designers at companies such as Nokia and Volvo have focused years of learning on what constitutes feasible styling (Person and Karjalainen, 2007; Karjalainen 2004). Moreover, use of design information enhances a firm's ability to understand consumer needs, leading to more distinctive and competitive product designs. For example, Apple's consistent use of design themes based on glossy white plastic, e.g. iPod earphones (Figure 12), stainless steel and rounded edges and distinctive store design (Figure 13), create a strong brand identity seen as distinct in the electronic device and computer markets.

Figure 12. Apple Design Distinctiveness (Source: Apple billboard ads)



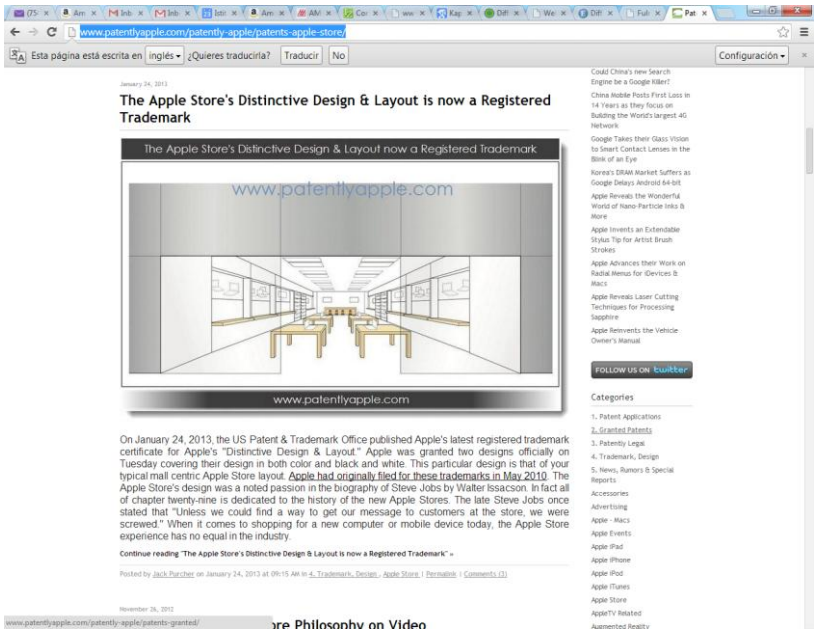


Figure 13. Apple Design Distinctiveness (Source: PatentlyApple.com)

Thus, this study proposes that design distinctiveness will show a positive effect on new product success for two reasons. First, product design plays a critical role differentiating offerings from those of competitors (Andews and Smith 1996; Kleinschmidt and Cooper 1991) and second, product design can be accumulated in a firm through a learning orientation, which may lead to a sustained competitive advantage via knowledge management systems (Hunt and Morgan 1995; Barney 1991). Thereby, distinctive product designs may result from a firm's design orientation and contribute to a sustained competitive advantage derived from differentiation.

This paper employs the term 'design distinctiveness' to describe the functional outcome of a firm's design orientation in the New Product Development (NPD) process. Distinctive designs disrupt the established norms of a product type where the design departs radically from standard configurations in the marketplace at the time (e.g. Swatch). Thereby, a sufficiently "radical" design may disrupt and redefine the criteria of a product market. The use of distinctive designs in incremental product markets are especially important because external constraints have largely been already defined for the firm and product requirements are evolutionary and mostly unarticulated. Because all competitors largely know consumer demands the presence of established expectations constrain the space around possible product attributes. Embedded configurations are often related to existing technical codes and standards that largely define the product category (Van de Poel and Van Gorp, 2006). Thus, a distinctive design would appear markedly different from its competitors in the marketplace, and satisfies "the latent demand for product design variation" (Ilipinar and Parkman, 2011; Svengren, 1995). In this way, design distinctiveness may take the form of "radical" product designs in an incremental product market that results in a sustained competitive advantage based on differentiation. Inventor James Dyson describes this drive, noting, "if the product contains any new ideas then it is absolutely essential that the product be visually different" (ilipinar and Parkman, 2011, p.1; Roy, 1993, p. 429).

Distinctive product design is determined by the commercial value of product styling. Styling has been defined as "the creation of a distinct visual identity for a new product with aesthetic and/or symbolic implications" (ilipinar et al, 2011, p.13; Person et al, 2007). Design literature generally treats styling as a construct which carries the influence of design on New Product Development (e.g., Bloch, 1995; Crilly et al, 2004; Lorenz, 1990; Veryzer, 2005). Design research shows that product styling improves customer's evaluation and satisfaction with a new product (Berkowitz, 1987; Tractinsky et al, 2000). When a customer perceives a product as uniquely beautiful, appropriate or attractive then there is a higher probability that a customer would be willing to pay more for the product. This relationship is referred to as product differentiation (ilipinar and Parkman, 2011, Bloch, 1995; Page and Herr, 2002). Distinctive product designs are likely to capture and hold the attention of the customers which may result in better processing information derived from the product (ilipinar and Parkman, 2011; Schoormans and Robben, 1997). Several authors (Garber, 1995; Underwood et al, 2001) suggest that when a product's distinctive design receives attention of the customer, distinctiveness can be integrated to firm's differentiation strategy, especially during cut-throat competition.

Thus, we conceptualize design distinctiveness as the instrumental outcome of a firm's design orientation, leading to product designs perceived as distinct from those of competitors. We will measure Design Distinctiveness by using the following scale items developed by related literature (Yli-Renko et al, 2001).

1. Our product designs are better than competitors' designs.
2. Our firm uses innovative design in its new products.
3. Our new products are always at the state of the art of the design.
4. Our competitive advantage is based on our product design.
5. We invest very heavily in design.
6. We use style to define our products in their markets.
7. We use design elements to help customers relate one of our products to other things we sell.
8. We employ styling to draw attention to our products.
9. Our use of design creates symbolic meaning for customers.

Table 5. Design Distinctiveness Scale
(adapted from Yli-Renko, Autio and Sapienza, 2001; Bruce and Daly, 2007; Person, Snelders, Karjalainen and Schoormans, 2007; Gatignon and Xuereb, 1997)
(5-point scale, in which 5 = "strongly agree" and 1 = "strongly disagree").

We will measure Product Differentiation by using the following scale items developed by related literature (Song and Parry, 1997).

1. This product relied on technology never used in the industry before.
2. This product caused significant changes in the whole industry.
3. This product was one of the first of its kind introduced into the market.
4. This product was highly innovative—totally new to the market.
5. Compared to competitive products, this product offered some unique features or attributes to the customer.
6. This product was clearly superior to competing products in terms of meeting customers' needs.
7. This product permitted the customer to do a job or do something he [or she] could not presently do with with what was available.
8. This product was higher quality than competing products—tighter specifications, stronger, lasted longer, or more reliable.
9. This product had superior technical performance relative to than competing products.
10. We were the first into the market with this type of product.

Table 6. Product Differentiation Scale
(adapted from Song and Parry, 1997)
(5-point scale, in which 5 = "strongly agree" and 1 = "strongly disagree")

Performance Outcomes

Product Success

Product success will be measured at the firm- rather than project-level. This is appropriate for three reasons. First, the context of firms under investigation are likely to be relatively small, there is no reason to believe that substantial differences exist in New Product Development (NPD) performance among different units of the organization. Secondly, because smaller firms undertake fewer product development projects than larger organizations, less variation is expected among development projects. Lastly, no clear guide exists in the literature to definitively answer how to measure product success (Soderquist and Godener, 2004). Thus, this study follows accepted practice by

measuring product success as to what extent new products are perceived *by the firm* to meet their market share, sales and profitability objectives (Atuahene-Gima and Ko, 2001). A clear limitation of this perspective is that the scale items are subjective and perceptual. However, this perspective is well-accepted in the literature and several studies have demonstrated that perceptual measures are highly correlated with objective measures (e.g., Zahra, 1993; Zahra and Covin, 1993).
We will measure New Product Success by using the following scale items developed by related literature (Song and Parry, 1997; *Griffin and Page, 1993*).

1. How successful was this product from a return on investment standpoint? (0 = A great financial failure; 5 = A great financial success)
2. Relative to your firm's other new products, how successful was this product from a sales volume perspective? (0 = Far less than the sales of our other new products; 5 = Far exceeded the sales of our other new products)
3. Relative to your firm's other new products, how successful was this product from a profitability point of view? (0 = Far less than our other new products; 5 = Far exceeded our other new products)
4. Relative to your firm's objectives for this product, how successful was this product from a profitability standpoint? (0 = Far less than the objectives; 5 = Far exceeded the objectives)
5. Relative to your firm's objectives for this product, how successful was this product from a market share perspective? (0 = Far less than the objectives; 5 = Far exceeded the objectives)
6. Relative to your firm's objectives for this product, how successful was this product from a speed to market point of view? (0 = Far less than the objectives; 5 = Far exceeded the objectives)
7. Relative to your firm's objectives for this product, how successful was this product from a strategic fit standpoint? (0 = Far less than the objectives; 5 = Far exceeded the objectives)
8. Relative to your firm's objectives for this product, how successful was this product from an importance perspective? (0 = Not at all important to firm strategy; 5 = Very important to firm strategy).

Table 7. New Product Success Scale
(adapted from Song and Parry, 1997; Griffin and Page, 1993)
(5-point scale, in which 5 = "strongly agree" and 1 = "strongly disagree")

Methodology

The scope of our study, sampling approach, and measurement issues are discussed in this section. The research approach will incorporate a multiple response methodology to include numerous perspectives of organizational processes. Survey research using more than one respondent per organization is rare, but important. Numerous articles have noted the need for using multiple, instead of single, respondents in firm-level research (Gray et al., 1998; Dawes, 2000; Tsai, 2002).

The study will employ a non-probability snowball sampling technique. According to Churchill (1995) the snowball technique is a judgment approach that is useful for sampling special populations of respondents. The sampling process will begin by identifying and contacting board members of Industrial Design Society of America (IDSA) chapters along the east and west coast of the US and Canada. All chapters will be contacted via email. Each IDSA chapter is well connected within our target population. Our initial email solicitation to the IDSA Chapter Board members will ask them to review the survey instrument and then pass an online link to the questionnaire onto their member firms and then to outside members of their personal networks, targeting a specific scope of small and medium sized consumer-oriented product companies. Measures for design orientation, distinctiveness, product differentiation and new product success will be drawn from extant literature discussed in the earlier sections of the article.

In order to understand which measurement model would have the best fit for our data, we will deploy SEM (Structural Equation Modeling) analysis to conduct confirmatory factor analyses by using Stata software. SEM Confirmatory factor analysis will also help us observe the direction of the effect and its significance level. As recommended by Costello and Osborne (2011), we will by-pass principal components analysis and perform exploratory factor analysis as we already have an a priori idea about how the variables are related (Floyd and Widaman, 1995).

Hypothesis Development

We have developed six hypothesis based on the model introduced earlier (Figure 11):

According to Moll et al (2007), design oriented firms analyze the current and future needs of customers systematically, measure customers' degree of satisfaction with their products regularly, and encourage customer suggestions. These firms also manage customer complaints constructively, set the marketing strategies as a priority with the company's strategic plan and develop the product design projects after a multidisciplinary group has proposed a number of different concepts. Customer focus may enable the firm to create distinctive qualities to help the consumer to notice, recognize and recall the product as these qualities provide additional stimuli for processing. (Romaniuk et al, 2007). Understanding customers' needs may help the customer perceive a product's design as distinctive due its look and feel. Therefore, we hypothesize that:

H1: Emphasis on Customers positively influences Design Distinctiveness

A firm needs to have the flexibility and willingness to make adaptations as circumstances change. This represents the ability of a firm to incorporate new information or respond to changes in information in a product design project (ilipinar and Parkman, 2007). In their conceptual model discussed earlier, Moll et al (2007) suggest that design oriented firms have a structured marketing research system in place through which they study the environment, competition and consumers of their products; constantly travel to get new product ideas, and track the information available about potential problems in the socio-economic environment. The authors (2007) also propose that design oriented firms follow the design changes in their markets, track competitor design strategies and analyze competitors' strengths and weaknesses in a systematic manner (Moll et al,

2007). Distinctive product design [based on the information gathered from the market] captures and holds the attention of the customers which may result in better processing of the information derived from the product (ilipinar and Parkman, 2011; Schoormans and Robben, 1997).

Based on the discussion above, we expect that:

H2: Importance of Information positively influences Design Distinctiveness

According to Moll et al (2007), in a design oriented firm, product design information is systematically communicated to all company departments, different departments participate in developing product design strategies, and meetings are organized with different departments to analyze product design information. The authors (2007) suggest that top management plays an important role in product design decisions; marketing, design, sales and production departments work together to share information, and design and production departments work together so that product designs conform to company's productive capabilities (Moll et al, 2007). These norms provide the ability for the firm to control flow of information in a consistent manner. In turn, "this consistency culminates in a firm orientation for design, which results in the development of products seen as distinct from competing offerings" (ilipinar and Parkman, 2011, p.10).

Therefore, we expect that:

H3: Interfunctional coordination positively influences Design Distinctiveness

In our fast paced economic environment, change is constant. The faster firms are able to respond changing customer needs, the higher their chances of success. The firms with ability to respond and adapt quickly to market changes enjoy a competitive advantage to their rivals. In their conceptual model, Moll et al (2007) suggest that in design

oriented firms, market demand is the driver behind the development of new products, firm strategies for new product development are proactive, and competitors are generally well aware of product design changes which impact market activity. The authors (2007) also claim that these firms also identify key indicators to monitor relevant changes in their product market, they analyze their competitors' best practices to improve the quality of their own products and to quickly respond to a competitor's actions aimed at the end user. The managers of design oriented firms maintain personal contact with their distributors and organize regular meetings to exchange information about product design characteristics.

Therefore, we hypothesize:

H4: Receptivity to Market Changes positively influences Design Distinctiveness

The more a product diverges from existing offerings, the more consideration it will receive from consumers (Garber, 1995) and thereby the more likely a product is to be seen as differentiated from its competitors (ilipinar and Parkman, 2011). Design focus may create strategic advantage in terms of differentiation as it may be a prime determinant of product success in many markets (ilipinar and Parkman, 2011; Sashi and Stern, 1995). Design distinctiveness may influence differentiation because many products in a marketplace represent mainstream design, in the sense that both operational principles and normal configurations are largely similar across the products. Most products share similar attributes and concepts. Design distinctiveness, in contrast, avoids standard configurations based on aspects of a product's design. Van de Poel and Van Gorp (2006) argue that this means setting different criteria or changing the relative importance of criteria. As we have discussed in the earlier sections, as differentiation becomes more challenging in an ever increasing competitive marketplace (e.g. smart phones looking more similar), firms begin to shift their focus on obtaining competitive advantage through creating distinctiveness.

Based on the discussion above, we expect that:

H5: Design Distinctiveness enhances Product Differentiation

Several authors view product differentiation as the level of a new product's superiority in relation to competitive products in terms of uniqueness, quality, cost effectiveness, and technical performance (Cooper 1979; Song and Parry 1997a, b). Moreover, creativity that concentrates on differentiation provides a competitive advantage as differentiated product enhances the performance of a firm by improving its customer loyalty and satisfaction levels (e.g., Andrews and Smith 1996; Sethi, Smith, and Park 2001; Song and Montoya-Weiss 2001; Song and Parry 1997a, b, 1999). Extant research indicates that product differentiation is an important determinant of a firm's performance (Im and Workman, 2004; Andrews and Smith 1996; Song and Montoya-Weiss 2001; Song and Parry 1997a, 1999).

Therefore, we hypothesize that:

H6: Product Differentiation influences positively the Product Success

Conclusions

Design process refers to the planning and decision-making activities involved in giving form to a product (Bruce and Daly, 2007). Roper et al (2012) claim that though there is little agreement on the most appropriate or effective design strategy, investing in design indicates a potentially major role in new product development (NPD). But, firms differ in how they view design, invest in design, manage their design processes and apply design expertise. These differences pose significant consequences for firm strategy and performance (ilipinar and Parkman, 2011; Gemser and Leenders, 2001; Borja de Mozota, 2002).

Romaniuk et al (2007) suggest that differentiation has a less important function than conventionally believed and advocate an alternative strategy of developing distinctive qualities. The authors (2007) emphasize that by focusing on distinctiveness, firms should try to find unique identifying characteristics instead of solely trying to find unique selling propositions. As such, a number of recent studies (e.g., Bloch, 2011; DiBenedetto, 2012; Verganti, 2006) have argued that most firms do not adequately explore the possibility of utilizing design capabilities to fully exploit differences in tastes and demands in the consumer markets, nor do they develop a strategic vision for coherent design elements that may communicate the personality of a firm's products or invest in design as a strategic and functional resource. This suggests that greater research attention to the effective implementation and use of design during NPD is necessary. Indeed, if the high returns and increased consumer involvement associated with well-designed products was as simple and straight-forward as increased investments in design orientation, all firms would be organized to that end. However simply investing in design is not a panacea (ilipinar and Parkman, 2011). It is complex to isolate the effects of design in an organization.

Firm's orientation on design may enhance differentiation through distinctive product forms and contribute to a sustained competitive advantage in the marketplace. This complex mix of capabilities results in radical design which can help a firm's products stand out from those of its competitors (Moll et al, 2007). However, there is a dearth of

theoretic development and empirical studies to locate design as an integral ingredient of new product development. Our paper addresses some of these shortcomings and provides a fresh perspective on the topic incorporating the emerging impact of "distinctiveness". More specifically, our novel conceptualization of the role of design orientation as an antecedent of differentiation may shed new light on the firm-centric resources necessary to effectively employ design.

As differentiation becomes more challenging in an ever increasing competitive marketplace, there is an accelerating focus on obtaining competitive advantage through creating distinctiveness. Extant research has concentrated on describing various strategic orientations available to firms, however, these studies have rarely studied firms who pursue a differentiation strategy in incremental product markets (Fillis, 2010). Our study intends to fill this research gap.

A secondary, although important, contribution of this study is to address the present gap in literature on the creative industries noted by various scholars (e.g., Boyer and Verma, 2000; Boyer and Lewis, 2002) around the lack of empirical findings that incorporates more than a single respondent per organization.

Our research approach incorporates a multiple response methodology. Several authors stressed the need for using multiple, instead of single, respondents in firm-level research (Gray et al.,1998; Dawes, 2000; Tsai, 2002).

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Chapter V Brand Design:

The Construct, Research Propositions and Consequences[4]

Abstract

The purpose of this article is to study the direct and indirect relationship between design and brand experience. We propose a new construct named Brand Design and suggest that the relationship between Brand Design and Brand Experience is moderated by CVPA (aesthetic sensitivity). A survey-based quantitative approach is used to test the hypotheses based on the proposed theoretical model that sets the relationships between brand design, brand experience, and aesthetic sensitivity. The data were collected through online surveys and were analyzed using Structural Equations Modeling. The analysis suggests that aesthetic sensitivity moderates the relationship between brand design and brand experience for various product categories that were studied. The article extends the understanding of the brand experience construct by studying one of its potential antecedents and also by suggesting aesthetic sensitivity as a moderating variable. In our sample, the findings support that designing the brand influences brand experience through aesthetic sensitivity.

Key Words: Brand, Design, Brand Design, Brand Experience, Brand Equity, Structural Equation Modeling

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Introduction

Brands are one of the most valuable assets of many firms and they set the basis for sustainable competitiveness and profitability (Sahin et al, 2012). Branding is a central concept in marketing and in design management (Borja de Mozota, 2003). The particular importance of brand experience (Brakus et al 2009; Kent, 2003), and brand value has been highlighted by a number of design and management researchers (Karjalainen and Snelders, 2010; Aaker, 1996).

Over the recent years, design has emerged as a source of strategic advantage to create value for many companies (Calabretta et al, 2006) as consumers are increasingly expressing their emotions through products and services (Steinbock, 2005). Being one of the crucial tools through which an organization can communicate its core brand values (Karjalainen and Snelders, 2010), several authors (Orth and Malkewitz, 2008; Batra and Homer, 2004; Schmitt and Simonson, 1995; Aaker, 1991) consistently emphasize design as an instrument for conveying meaning and generating brand experience. Brakus et al (2009) mention design elements such as colors, shapes, typefaces as brand-related stimuli that evoke sensorial, emotional ((e.g., red for Coca-Cola) or intellectual experiences (e.g., when designs use complex patterns) (Brakus et al, 2009).

Montaña et al (2007) suggest that firms can use “design”, one of the brand elements, as a leverage to carry a brand's legacy into a new service or product offering while simultaneously conveying a unified message to influence the brand experience. In their “brand design management model”, however, Montaña et al (2007) do not conceptualize the construct of “brand design”. As such, our research objective is to conceptualize the “brand design” construct and demonstrate the relationship between brand design and brand experience by proposing a new model.

To conceptualize the brand design construct, we begin with a review of design and marketing literature, which examines how design affects consumer behavior. Next, we review the literature in branding, cognitive science, and applied management to distinguish brand design dimensions and develop a brand design scale. Then, by using standard scale validation procedures, we study the psychometric properties of the scale (Brakus et al, 2009). Finally, we test whether brand design affects brand experience.

Theoretical Background

Marketing's main focus has been on the physical aspects of products and services (Iglesias et al, 2011; Mascarenhas *et al* , 2006). However, recent studies indicate that consumers do not just purchase products or services (Morrison and Crane, 2007) but seek experiences such as touristic experience (San Eugenio Vela, 2013) where managing these experiences becomes the key question (Iglesias et al, 2011; Pine and Gilmore,1998 ; Schmitt, 1999 ; Berry *et al* , 2002). In fact, some academics propose that brands which provide a unique and distinctive experience by managing both the functional (logic) and emotional (magic) aspects of the products and services (Berry *et al*, 2002 ; Haeckel *et al*, 2003 ; Morrison and Crane, 2007) and achieving consistency in all touch points between the brand and its customers (Shaw and Ivens, 2002; Meyer and Schwager, 2007) can assure brand loyalty and even generate positive word of mouth (Iglesias et al, 2011).

Batey (2008) emphasizes the increasing importance of product and package design and claims that brands can fill the sensory deprivation gap caused by technology by offering the type of sensory stimulation which energizes humans. Brands represent the identity of the organization, and the identity of its customers, and the language of design language can bring this identity to life (Best, 2006). Montaña et al (2007) brings to our attention that as a source of differentiation, design has become a key element for branding. This conclusion can be reached for two main reasons: First, aesthetically

pleasing products and services better compete for consumers' shortening attention span (Berkowitz, 1987; Page and Herr, 2002), and design may serve as the unifying factor for elements that construct a brand experience (Montaña et al, 2007). Previous research indicates that design and brand management should integrate better (Beverland, 2005; Borja de Mozota, 2003; Kreuzbauer and Malter, 2005; Schmitt, 1999). Aaker (1996) suggests that brand value should be communicated in a synchronized way, so that consumers can better understand what a brand stands for and what it does for them when all of its brand elements are consistent (Aaker, 1996).

In their brand design management model, Montaña et al (2007) claim that one of the ways to reach consistent communication of brand value is through design. The authors (2007) suggest that brands should guide the design, and many authors point out that a better integration should exist between design and brand management (Beverland, 2005; Borja de Mozota, 2003; Kreuzbauer and Malter, 2005; Schmitt, 1999; Stompff, 2003; Svengren-Holm and Johansson, 2005).

White (2013) defines brand design as "…designing the customer's experience with the brand. That means from beginning to end, the customer gets an image of the company and products that is value oriented. With each exposure to the brand, the customers continually pick up on the brands benefits and features. This constitutes the brand's unique value" (White, S., 2013).

We define this construct as: "Brand-based design engenders features, look, feel, color, shape (including logo, symbol, emblem), interaction, and cues that are common across the platform, products or packaging… Overall, brand design provides the foundation for common (product-line) product/package design features (constrained design) which then enable product-specific creative (unconstrained) design. That is, whereas design is product-specific, brand design can result in a widely shared look and feel across the products under the brand or sub-brand's umbrella e.g., Apple iAnything."

Brakus et al (2009, p.53) conceptualize "Brand Experience" as "*sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a* ***brand's design*** *and identity, packaging, communications, and environments*". The

authors (2009) distinguish several experience dimensions and construct a brand experience scale which consists of four dimensions: sensory, affective, intellectual, and behavioral. Their study (2009) shows that their scale is distinct from other brand measures and, their findings suggest that brand experience affects consumer satisfaction and loyalty directly and affects these two constructs indirectly through brand personality associations.

Brakus et al (2009) focus on defining and measuring the Brand Experience construct along with its consequences, however, they do not address the antecedents of Brand Experience: Design being one of the possible antecedents (Montaña et al, 2007), *our study investigates the following research questions: What is brand design and how design features of the brand influence brand experiences?*

Hypothesis Development

Building experiences lies at the core of the brand building process (Iglesias et al, 2011; Schmitt, 1999; De Chernatony et al , 2006 ; Payne et al, 2009). According to Deming (2007, p. 10) 'branding is a process of creating authentic, unique, emotional experiences that yield evangelicals'. Brakus et al (2009, p. 52) refer to brand experience as 'subjective, internal consumer responses (sensations, feelings, and cognitions) and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments (Brakus et al, 2009). When led by the brand-centered vision, design may serve as the unifying factor for elements that construct a brand experience and create differentiation (Montaña et al, 2007). Our extensive literature review indicates that there is consensus among researchers that brand design might have an impact on brand experience ((Montaña et al, 2007; Bellizzi and Hite, 1992; Gorn et al, 1997; Meyers-Levy and Peracchio, 1995).

Based on the established literature (Orth and Malkewitz, 2008; Batra and Homer 2004; Schmitt and Simonson 1995; Aaker 1991), we propose that there may be a positive

relationship between well-designed brands and greater brand experiences. We therefore expect that:

H1: Brand Design affects Brand Experience Positively

In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. As a measure of how products and services supplied by a company meet or surpass customer expectations, customer satisfaction is a function of discrepancy between customer's prior expectations and his or her perceptions regarding the purchase (Iacobucci et al, 1995; Yi, 1990; Tse and Wilton, 1988).

Although the [market-oriented] firm aims at creating high customer satisfaction, this is not its ultimate goal. If the firm increases customer satisfaction dramatically by lowering its price or increasing its services, the result may be lower profits. So optimizing customer satisfaction and company profitability through the creative use of major design elements provides the firm with delivering a high level of customer satisfaction subject to delivering acceptable levels of satisfaction to the other stakeholders, including employees, dealers, suppliers and stockholders (Kotler and Keller, 2006).

Keller (2007) views designing and delivering a product that satisfies consumer needs and wants as a prerequisite whether the product is a tangible good, service, organization or person. Whether the customer is satisfied after purchase depends on the offer's performance in relation to the buyer's expectations (Kotler and Keller, 2006).

When design is well managed, it can have the power to build brand value, harness innovation, shape strategy, and attain customer satisfaction (Calabretta, 2006). When customers are satisfied with the design, firms can leverage design by sharing modular designs across products (e.g. Toyota Camry vs. Lexus), maximizing synergies within

product portfolio (e.g. iPod vs. iPad), concentrating on market-driven product designs and configurations (e.g. Lego) (Srivastava et al, 1998).

With an empirical study, Cyr (2008) establishes the relationship of website design to trust, satisfaction, and loyalty by conducting a cross-cultural study. This investigation (Cyr, 2008) indicates that three components of Web site design (information design, navigation design, and visual design) are considered for their impact on trust and satisfaction. In summary, the customer satisfaction matters greatly to firms, and design is one of the activities that a firm can do to impact upon customer satisfaction. Based on the discussion above, we expect that:

H2: Brand Design affects Customer Satisfaction positively.

Takamura (2007) investigates the correlation between product design and brand loyalty through a survey of branding theory and an ethnographic study of product attribute expectations of brand loyalists. The researcher's findings suggests that the overall brand loyalty may be endangered if the ties between the product attributes of form, color, material, and texture and the other key elements of the brand within the user's mind are not strong (Takamura, 2007). Lin and Lee's investigation (2012) indicates that website environment design and interactivity may improve brand loyalty through an increase in brand affect and brand trust.

Garrett (2006) emphasizes the importance of managing design to build customer loyalty especially in terms of user experience design (Garrett, 2006). Brakus et al (2009) and Iglesias et al (2011) suggest that brand experience lead to brand loyalty. Furthermore, an experience may facilitate more elaborative information processing and inference making that may trigger brand-related associations [design being one of them] (Brakus et al, 2009). In turn, these associations may affect loyalty. Therefore we expect that:

H3: Brand Design affects Consumer Loyalty positively.

According to Aaker (1997), a brand's personality may be inferred from people associated with the brand (e.g. users, company representatives, endorsers), product attributes (e.g. design), category associations, brand name, or communications. A trait judgment about a brand's sincerity, excitement, competence, sophistication, or ruggedness can be enabled when the consumer is exposed to a design element of the brand. For example, to assign a personality to the clothing brand, such as Levi's, as "rugged" (Aaker 1996), a consumer may base her judgment on the brand's design (e.g. colors, shape, look and feel, etc.)

Boudreaux and Palmer's (2007) study indicates the independent and interdependent effects of three elements of wine label design – imagery, layout, and color – on consumer perceptions of brand personality, defined as "the set of human characteristics associated with the brand" (Aaker 1997, p. 347). Bianca, Giese and Parkman (2013) prove that the type font used to represent a brand name (such as in logos or packaging) influences consumers' perceptions of the brand's personality (Bianca et al, 2013). Based on the literature, we expect that:

H4: Brand Design affects Brand Personality positively.

Keller (2007) claims that the strength of a brand resides in what customers have learned, felt, seen and heard about the brand and defines customer-based brand equity as the differential effect that brand knowledge has on consumer response to the marketing of that brand. A brand would have positive customer-based brand equity when consumers react more favorably to a product and the way it is marketed when the brand is identified than when it is not.

In his Brand Equity model), Aaker (1997) identifies five brand equity components: (1) brand loyalty, (2) brand awareness, (3) perceived quality, (4) brand associations and (5) other proprietary assets. Aaker defines brand equity as the set of brand assets and liabilities linked to the brand - its name and symbols - that add value to, or subtract value from, a product or service. These assets include brand loyalty, name awareness,

perceived quality and associations. As our construct Brand Design involves the design of the brand around loyalty, familiarity, associations, meanings and distinctiveness (details will be discussed in the following section), we are interested in investigating any possible relationship between our construct, i.e. Brand Design and Brand Equity. Therefore we expect that:

H5: Brand Design affects Brand Equity positively.

Branding professionals must connect with consumers by displaying holistic brand experiences (Sahin et al, 2012; Schmitt 1999; Pine and Gilmore, 1999). Consumer experience plays a critical role in a company's bottom line or brand equity (Takamura, 2007). Cagan and Vogel (2002) view brand as communicated through a value proposition. Carbone (2004) refers to total experience as the customer value proposition.

The marketing activities associated with the brand, have an influence on the consumers' "mindset" with respect to the brand-what they know and feel about the brand. Keller (1993) asserts that "The power of a brand lies in what resides in the minds of customers". This creates a challenge for building a strong brand to ensure that customers have *the right type of experiences* with products and services so that the desired thoughts, feelings, images, beliefs, perceptions and opinions become linked to the brand (Keller, 1993). Brand equity is derived from differences in consumer response and these differences in response are a result of consumers' knowledge and experience of the brand (Keller, 2007).

Aaker (2010) points out to the need for ways "to apply and adapt the brand experience" and Brakus et al. (2009, p.53) conceptualize brand experience as 'subjective, internal consumer responses (sensations, feelings, cognitions) and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environment'.

Based on the literature, we believe that there could be a direct relationship between Brand Experience and Brand Equity. Therefore we hypothesize:

H6: Brand Experience affects Brand Equity Positively

Some consumers prefer visual over verbal processing, and highly visual individuals pay greater attention to design factors in making product evaluations than do less visual processors (Childers, Houston, and Heckler, 1985; Holbrook, 1986). Centrality of Visual Product Aesthetics (CVPA) is a construct which reflects the individual ability to recognize, categorize, and evaluate product designs (Bloch, 1995; Csikszentmihalyi and Robinson, 1990). High-CVPA individuals are more aware of the range and intensity of the enjoyable experiences available to them through the sense of vision. As they have superior ability of aesthetic evaluation (Bloch, Brunel, and Arnold 2003), they should arrive at different evaluations of attractiveness than low- CVPA individuals. Provided that low-CVPA individuals would have a lesser ability of aesthetic evaluation (Bloch, Brunel, and Arnold 2003), they may not consider design at all, may not recognize them, or may simply deem them unimportant. Low-CVPA individuals may further have some interest in product appearance but they may not utilize design factors to obtain quality judgments. Consumers with high levels of CVPA, in contrast, would not only use visual appearance in comparing products but would also base quality judgments on design factors. To the extent that CVPA reflects individual differences in the ability to recognize and appreciate design, it may enhance the influence of brand design factors on brand experience dimensions. Based on the discussion above, we expect that:

Hypothesis 7: CVPA enhances the influence of Brand Design factors on Brand Experience.

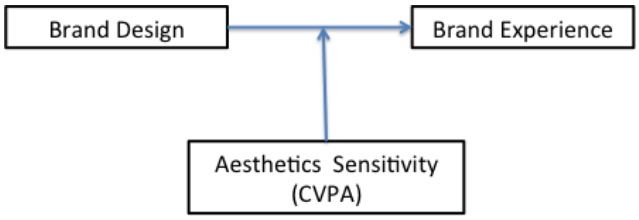

Figure 14. The basic relationship between Brand Design and Brand Experience

Data Collection and Sample

We performed three different studies:

In Study I, after our semi-structured interviews with 12 informers (6 academics and 6 post-graduate students), we conducted an extensive literature review, generated 60 preliminary survey items along the six originally proposed dimensions (to be discussed below), and asked experts and consumers to screen these items. After their feedback, we decided to eliminate 10 items.

In Study II, we contacted our academic colleagues, and other contacts through Facebook and Linkedin. We collected data using Qualtrics survey software from 94 respondents representing 23 countries. Mean age of the sample is 30 years old. 57% of the sample is males and 43% females. 39% of the respondents have Masters and 38% have PhD degree. 67% of the respondents are non-students. Their average income is $46,000. We asked the respondents to think about a brand with which they had some experience, and later the product they selected from that particular brand. Then we asked them to evaluate their experience with the brand in terms of its design, Brand Experience, Brand Equity, Aesthetics (CVPA), Brand Personality, Customer Satisfaction and Customer Loyalty. The questions were totally randomized automatically for each respondent by using Qualtrics tool feature to prevent question order bias.

In Study III, we asked our academic colleagues at ESADE Business School, IESE (Spain), Aalto University (Finland) Copenhagen Business School (Denmark), University of Oregon (USA), University of Technology (Sydney) to forward our survey link to their students and colleagues. Due to budgetary constraints, we also contacted other people (who have not taken our survey before) we know through Facebook and Linkedin. We used a dataset of 900 respondents. However, after checking for missing data, we were able collect 530 responses representing 38 countries. Mean age of the sample is 32 years old. 51% of the sample is females and 49% males. 50% of the respondents have Masters and 14% have PhD degree. 64% of the respondents are non-students. Their average income is $49,000. As we did in Study II, we asked the respondents to think about a brand with which they had some experience, and later the product they selected from that particular brand. Then we asked them to evaluate their experience with the brand in terms of the same variables e.g. its design, Brand Experience, Aesthetics (CVPA), Brand Equity, Brand Personality, Customer Satisfaction and Customer Loyalty. For the sake of consistency with Study II, we used the same tool to be able to randomize the survey automatically for each respondent to prevent question order bias.

As discussed in the earlier section, based on past research (Montaña et al, 2007, Diller et al, 2005; Yoo and Donthu, 2001; Aaker, 1991) and our preliminary semi-structured interviews with 12 informers (6 academics and 6 post-graduate students), to conceptualize brand design, we have developed a new measure as Brand Design (BD).

Our research on branding literature (Yoo and Donthu, 2001; Keller, 2007 and Aaker, 1991) and design literature (Ilipinar and Parkman, 2013 and Montaña et al, 2007), our interviews with 12 informers mentioned above show that Brand Design could encompass six related dimensions or dimensions.

In the next section, we introduce and describe these dimensions of the Brand Design construct.

Dimensions of Brand Design Construct

Dimension 1: Perceived Brand Design Quality

Perceived quality is “the consumer's judgment about a product's overall excellence or superiority” (Yoo and Donthu, 2001; Zeithaml, 1988). It therefore is based on consumers’ or users (i.e., not managers’ or experts’) subjective evaluations of product quality.

However, Keller (2007) claims that consumers of some products may lack the knowledge or experience to be able to judge product quality. Yet, consumer of less complicated products may still lack the ability to judge quality. Keller (2001) suggests that without prior experience, exposure and expertise, judging the quality is often difficult whereas design may have an influence on the customer perceptions by communicating the quality to make a sound decision.

Results of the study by Page and Herr (2002) suggest that quality judgments takes longer to process, and involves the integration of design and brand information. For example, Maybach, a high-luxury Daimler brand positioned to compete with Rolls-Royce and Bentley stopped its production in 2013 after 11 years and quality consultant Roffey (2012) suggests that the design and detailing issues with the car were significant contributors to the brand's failure. Roffey (2012) further comments that “The Maybach's appearance received significant criticism when launched, not because it looked particularly unattractive but because it was bland, and so similar to the significantly cheaper Mercedes-Benz S-Class, the product on which it was based. This was a flawed strategy for Maybach to take; in this segment, anything less than premium, distinctive design simply doesn't cut it”. As such, people may associate the quality of the design with the quality of the brand.

Dimension 2: Brand Design Loyalty

Common characteristic of great brands is that consumers feel great loyalty towards them. Some brands stay at the top for years despite significant changes in both consumer attitudes and competitive activity over time (Keller, 2001). Brand loyalty is often measured through the number of repeat purchases. When faced with a fierce competitor with compelling reasons to switch, consumers' ties to the brand may be challenged for the first time (Keller, 2007).

According to Batey (2008), brand relationship is important and brands may survive or vanish based on the strength of that relationship. Modifying the packaging of a product may have an effect on the consumer's relationship with the brand (Batey, 2008). Loureriro and Hoschk's study (2014) proposes a model that examines the effect of the atmospheric cues, graphics design and information design on positive emotions and loyalty intentions. The model is compared across offline and online brands and regards the consumers' age as moderator. Their results indicate that in the online context, there is a strong effect of graphics design on loyalty (Loureriro and Hoschk, 2014). Some consumers repeat-purchase the brands mainly based on design features of the brand (the perception of the way that it looks or feels, etc.). Apple mantra reflects this view: "Our stores are designed to create owners of Apple products and build loyalty" Gallo, 2011, p. 206).

Dimension 3: Brand Design Associations

According to Keller (2001) brand knowledge is crucial to creating brand equity as it creates the "differential effect" that drives brand equity. Then marketers need an insightful way to represent how brand knowledge exists in consumer memory. An

influential model of memory developed by psychologists, t*he associative network memory mode,* views memory as a network of nodes and links, in which nodes represent stored information or concepts and links represent the strength of association between this information or concepts. Keller (2007) claims that any type of information can be stored in the memory network, including information that is verbal, visual (i.e. design), abstract or contextual in nature.

Batey (2008) suggests that the foundations of a brand are made of people's intangible mental associations about the brand. The stronger and more resilient the consumer's mental associations about the brand are, the stronger, is the complex relationship between the brand and its consumer. Batey (2008) also mentions that colors may have both positive and negative associations and provides an example where green color on packaging indicates naturalness and organic nature of products whereas with its associations of purity, white on packaging suggests low-fat or additive-free products. (Batey, 2008).

Psychologists acknowledge that our ambiance influences our moods, thoughts and behaviors. Sensory [design] elements such as light, color, texture and scent interact with our cultural associations and personal beliefs, allowing us to make sense of our ambiance (Weir, 2013). As such, consumers may experience stronger mind associations through brand's design attributes.

Dimension 4: Brand Design Familiarity

Familiarity is defined as "the state of being familiar, the state of having knowledge on something, knowledge gained by personal experience (http://www.merriam-webster.com/dictionary/familiarity).

Established literature in social cognitive psychology indicates that people generally project their own characteristics, beliefs, and attitudes onto others (Schreier et al, 2012; Holmes 1968; Kawada et al. 2004; see also Ross, Greene, and House 1977).

Accordingly, consumers who are familiar with a particular brand's design are likely to project their beliefs and attitudes about a particular design onto others when faced with a brand pursuing common design features.

Consumers' ability to identify and distinguish the brand under various conditions (Keller, 2007) through design features may help the brand better differentiate itself from the competing brands. As such, consumers' familiarity with the distinct visual and graphic language of the brand may be a central aspect of distinguishing the brand from the other brands.

Dimension 5: Brand Design Distinctiveness

Design distinctiveness is a design's "contrastive value" in relation to other designs (Jacoby and Craik, 1979; Rosenkrans 2009). When a product or service has unique features that distinguish it from the rest of the visual field, it can be considered as distinctive (Phillips and Lee 2005). The more different a design is from others, the more distinctive that design is. Distinctiveness can induce various emotions. For instance, in the advertisement world, ads with distinctive designs evoke a sense of surprise and unexpectedness (Jackson and Messick, 1965), which help overcome viewers' resistance to the ads (Kover, 1995). Unique ad designs draw more attention and stimulate viewers' focus on the ads. For example, in an experiment that used eye-tracking technology, viewers paid more attention to ads that are more unique and distinct (Pieters et al., 2002). Hence, distinctive ad designs are likely to be more effective in attracting viewers' attention and clicks.

Consumers increasingly make brand choices based on aesthetic value and distinctiveness of visual design as today most brands tend to do what they promise. (Block et al, 2003; Schmitt and Simonson, 1995). Distinctive brand´s designs would seem likely to capture and hold the attention of customers so they are better able to process information derived by the brand (Schoormans and Robben, 1997). Indeed, attention drawing [brand] designs can become a powerful driver of a differentiation

strategy, especially in highly competitive markets (Garber, 1995; Underwood et al, 2001).

Dimension 6: Meaning Driven Brand Design

Firms create brand identities, however, consumers create brand meaning (Batey, 2008). The meaning of a brand resides in the power of the brand image formed in the mind of the consumer (Best, 2006). Neumeier (2005), claims that meaning is the new currency of business and according to Verganti (2008) consumers do not purchase products but meanings. Verganti (2008) emphasizes that consumers buy objects for deeper emotional, psychological, and socio-cultural motives as well as utilitarian reasons; and his research concludes that every business and consumer oriented product and service has a meaning. Norman and Verganti (2011), draws our attention to meaning-driven innovation, and suggest that the design research should address essential questions of new meanings and their interpretation. Verganti (2008) recommends that firms should primarily focus on understanding the real meanings users give to objects instead of just concentrating on features, functions and performance.

As we see in Swatch's case, over the past two decades, the role of the brands evolved from being a product identifier to becoming companies' strategic platforms for interacting with their customers (Urde 1999), and in turn brands became a "portfolio of meanings" where design can play an important role in creating consistency within the portfolio of meanings for a meaningful brand experience (Montaña et al, 2007). According to Salzer-Morling and Strannegard (2004) brands have become symbolic signs that focus on the creation of influences and experiences and Kent (2003) claims that design serves as a means to evoke intense, integrated brand experiences. Many other researchers (e.g., Orth and Malkewitz, 2008; Borja de Mozota, 2003; Henderson and Cote, 1998) recognize that design features should evoke the same intended meaning across consumers.

Moderating Variable:

Centrality of Visual Product Aesthetics (CVPA)

In our study, we are interested in finding out whether there is a meaningful relationship between the various dimensions of Brand Design, and Brand Experience. Orth et al (2011) propose that consumers who are more aesthetically involved experience brands differently than those who are less aesthetically involved (Orth et al, 2011). Hence, we deploy CVPA as a moderating variable because some consumer segments are more design sensitive than others (Bloch et al, 2003; Loewy, 1951).

The authors (2003) conceptualize and develop a scale to measure individual differences in the centrality of visual product aesthetics (CVPA). They (2003) define CVPA as 'the level of significance that visual aesthetics hold for a particular consumer in his/her relationship with products [or service] (Bloch et al, 2003). The CVPA is a continuous individual difference variable which may range from near zero to very high levels where visual aesthetics dominate a consumer's acquisition and usage of goods. As a general consumer trait, consumers exhibiting higher CVPA are expected to have greater than average concern for visual aesthetics independent of product category or setting (Bloch et al, 2003).

Orth et al (2011) cautions that CVPA would capture the general importance of visual product aesthetics rather than preferences for a particular design style. Then, CVPA could influence how attractive individuals find a brand's design, their quality judgment, and ultimately the price they expect for the offer (Orth et al, 2011).

Our Preliminary Conceptual Model to Test

Under the guidance of all these variables we obtained through our semi-structured interviews and literature review (Bloch et al, 2001; Keller, 2007; Yoo and Donthu, 2001;

Montaña et al, 2007; Brakus et al, 2009), we built a preliminary model which would cover many different variables already established in the field of branding.

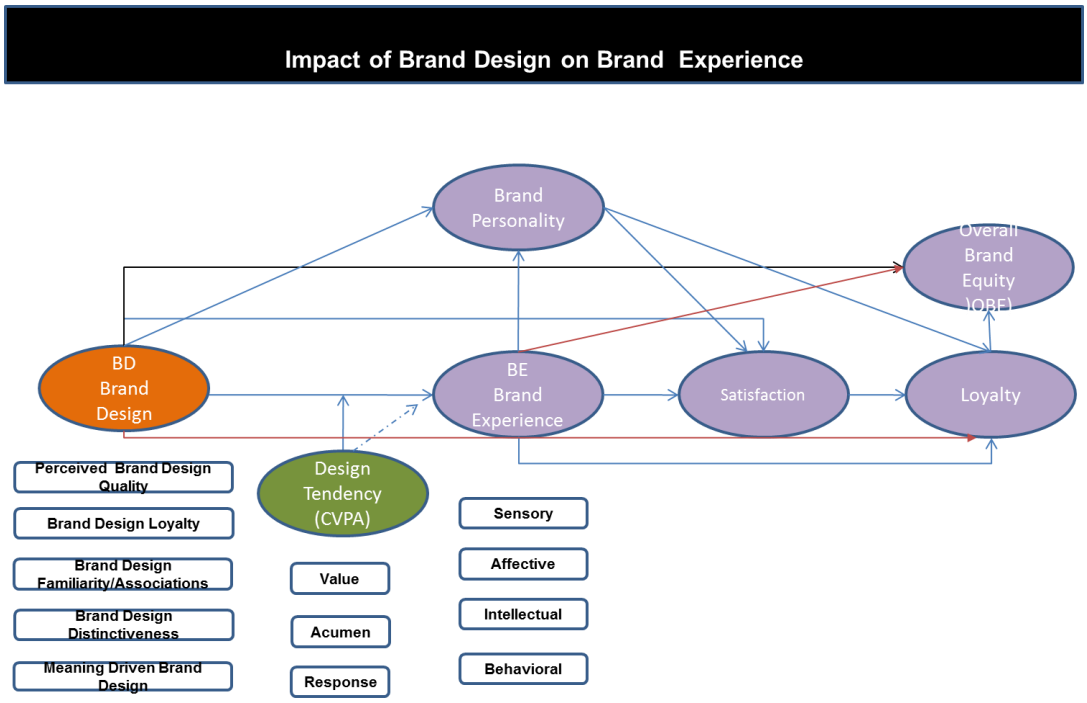

Figure 15. Preliminary Conceptual Model (Source: Author)

Analysis and Results

Study I:

We followed the procedure of Brakus et al's (2009) research design and conducted Study I to generate specific items for the proposed dimensions of brand design and to select the items that have face validity in terms of describing design elements of a brand. To generate the items, we had interviews with experts and consumers and conducted extensive literature search and review which focused on concepts related to the six dimensions of brand design. (For details please see "dimensions" section above). We started with 60 items and after the expert and consumer feedback, eliminated 10 items.

Study II: Further Item Reduction

During Study II, we reduced the number of scale items further and conducted exploratory factor analyses. To test the stability of the scale, we employed a new sample
of respondents. We used this dataset to decide which items are relevant for each of the dimensions we used. Then, we proceeded to explain the scales used and the process of developing the dimensions and subscales.

As recommended by Costello and Osborne (2011), we by-passed principal components analysis and performed exploratory factor analysis as we have already had an a priori idea about how the variables are related (Floyd and Widaman, 1995).

Initially, our construct had 6 dimensions:

1. **MDBD** (Meaning Driven Brand Design),
2. **PBDQ** (Perceived Brand Design Quality),
3. **BDDI** (Brand Design Distinctiveness),
4. **BDAS** (Brand Design Associations),
5. **BDFA** (Brand Design Familiarity), and
6. **BDLO** (Brand Design Loyalty).

We tried to look at each of the constructs separately, explained how we developed each subscale, and after the first study, which items and for which reasons we decided

not to include in the next steps of the scale development process. We applied a varimax orthogonal rotation, with principal component analysis to decide which items to keep and which items to be dropped.

MDBD (Meaning Driven Brand Design): we started with 18 items, and we performed an exploratory factor analysis.

We have decided to maintain two factors, as items group around the idea of meaning due to "Spirituality" or meaning due to "Materiality". The final loadings and uniqueness for the 18 items and the two factors are shown in Table 1. The items in red are the ones with uniqueness greater than 0.45 or that do not load clearly in one of the two factors, and that we propose to drop. The final proposed scale has 9 items (5 for Spirituality and 4 for Materiality), and explains with the two factors proposed a 71% of the total variance. The alpha of Cronbach for the Spirituality subscale is 0.886, for the Materiality subscale is 0.8629. And for the total dimension MDBD is 0.9037.

Norms	ITEMS	Spirituality	Materiality	Uniqueness
MDBD1	This brand design creates experiences that bring meaning to my life.	**0.6636**		0.3954
MDBD2*	This brand's design goes beyond simply meeting my needs.			0.5460
MDBD3	This brand design stimulates a deeper personal underlying motivation.	**0.7745**		0.3209
MDBD4	This brand's design fits into my existing values.	**0.6634**		0.3860
MDBD5	I care deeply for this brand's design features and I identify myself as someone that derives meaning from it.	**0.6687**		0.3348
MDBD6*	This brand's design is consistent with my lifestyle.			0.5727
MDBD7	The designers of this brand understand what is meaningful to their consumers and then explore how they might design the brand accordingly.		**0.7348**	0.4357
MDBD8*	Design details of this brand focus on the truly important perspectives of lifestyle, value and meaning.			0.3789
MDBD9	This brand's design builds value based on a deep understanding of customers' needs.		**0.8871**	0.1549
MDBD10	This brand has been designed by considering the purpose of experience it creates.		**0.6755**	0.4483
MDBD11	Some features of this brand's design allow me to feel that I experience something new and original.		**0.6546**	0.4377
MDBD12*	This brand's design details inspire me to be more creative.			0.5540
MDBD13	The design's details of this brand bring harmony to my life.	**0.7837**		0.3468
MDBD14*	This brand's design allows me to feel a sense of unity with myself and my life.			0.3937
MDBD15*	This brand's design makes me recognize myself as a respected individual.			0.5083
MDBD16*	This brand's design makes me feel connected to my family and friends.			0.4382
MDBD17*	This brand's design details create symbolic meaning for me.			0.5358
MDBD18*	This brand's design fits into my desire for belonging.			0.4378

**These are the ones dropped because of having uniqueness greater than 0.45 or do not clearly load on one of the two factors. We only show the loadings for the ones we keep.*

Table 8. Factor loadings for the Meaning Driven Brand Design Subscale (N = 94)

PBDQ (Perceived Brand Design Quality): we started with 7 items. We performed an exploratory factor analysis, and looked at the uniqueness of the items. For this dimension there is clearly a one-factor structure. We decided to keep the items that load on the factor clearly and with a uniqueness greater than 0.43. We started with 7 items and we ended with 4. We can see the loadings and the uniqueness on Table 9. The Cronbach alpha for the remaining 4 items is 0.8858. This factor and items explain a total variance of 71%.

Norms	**ITEMS**	**PBDQ**	**Uniqueness**
PBDQ1*	This brand's design has always been of high quality.		0.4221
PBDQ2*	New versions of this brand have state-of-the-art design features.		0.4260
PBDQ3	This brand innovates with reliable design features.	**0.8470**	0.2827
PBDQ4	The likelihood that this brand would be well-designed is very high.	**0.8463**	0.2838
PBDQ5*	I can expect consistency of this brand's design quality for its new products.		0.4303
PBDQ6	I think this brand invests very heavily in design.	**0.8420**	0.2910
PBDQ7	This brand deploys high-quality design elements such as color, form, look and feel.	**0.8554**	0.2682

**These are the ones dropped because of having uniqueness greater than 0.45 or do not clearly load on one of the two factors. We only show the loadings for the ones we keep.*

Table 9. Factor loadings for the Perceived Brand Design Quality Subscale (N = 94)

BDDI (Brand Design Distinctiveness): we started with 10 items. We performed an exploratory factor analysis, and look at the uniqueness of the items. For this dimension there is clearly a one-factor structure. We decided to keep the items that load on the factor clearly and with a uniqueness greater than 0.45. We started with 10 items and we ended with 5. We can see the loadings and the uniqueness on Table 10. The Cronbach alpha for the remaining 5 items is 0.9065. This factor explains a 73% of the total variance.

Norms	ITEMS	BDDI	Uniqueness
BDDI1	This brand's design features are better than those of competitors'.	**0.7796**	0.3922
BDDI2*	I search for this brand's distinctive design features when I shop around.		0.6089
BDDI3	This brand heavily employs design to draw attention to itself.	**0.8425**	0.2901
BDDI4*	I always look for this brand's distinctive design features when I consider buying competitive brands.		0.6127
BDDI5*	This brand uses innovative elements in its new designs.		0.4745
BDDI6	This brand's competitiveness must be based on its design.	**0.7617**	0.4198
BDDI7	This brand uses design to distinguish itself in the market.	**0.8119**	0.3408
BDDI8*	This brand uses design elements to help customers relate one product/service to another.		0.5778
BDDI9	What makes this brand distinctive is its design.	**0.7848**	0.3841
BDDI10*	This brand makes beautiful and sleek designs.		0.4494

**These are the ones dropped because of having uniqueness greater than 0.45 or do not clearly load on one of the two factors. We only show the loadings for the ones we keep.*

Table 10. Brand Design Distinctiveness Subscale (N = 94)

BDFA (Brand Design Familiarity + Association): We started the analysis with 8 items, formed from two different scales (5 items from a scale derived as Familiarity, and 3 derived from Associations). We performed an exploratory factor analysis, and looked at the uniqueness of the items. For this dimension there is clearly a one-factor structure, so we decided to collapse the two previous subscales in a single one. We decided to keep the items that load on the factor clearly and with a uniqueness greater than 0.45. We started with 8 items and we ended with 6. We can see the loadings and the uniqueness on Table 11. The Cronbach alpha for the remaining 6 items is 0.9243. This factor explains a 73% of the total variance.

Norms	**ITEMS**	**BDAS**	**Uniqueness**
BDFA1	I am familiar with this brand's design features.	0.7923	0.3723
BDFA2*	I can recognize this brand's design details among other competing brands.		0.6408
BDFA3	I know how design characteristics of this brand look like.	0.7728	0.4027
BDFA4	I can identify this brand through its design.	0.8509	0.2759
BDFA5	I can recognize this brand as its design features are very familiar to me	0.7803	0.3911
BDAS1*	Some design characteristics of this brand come to my mind quickly.		0.4063
BDAS2	I can quickly recall the design details of this brand.	0.8790	0.2273
BDAS3	It is easy to remember this brand's design.	0.8320	0.3077

**These are the ones dropped because of having uniqueness greater than 0.45 or do not clearly load on one of the two factors. We only show the loadings for the ones we keep.*

Table 11. Brand Design Familiarity/Association Subscale (N = 94)

BDLO (Brand Design Loyalty): We started with 5 items. We performed an exploratory factor analysis, and looked at the uniqueness of the items. For this dimension there was clearly a one-factor structure. We decided to keep the items that load on the factor clearly and with a uniqueness greater than 0.45. We started with 5 items and we ended with 4. We can see the loadings and the uniqueness on 12. The Cronbach alpha for the remaining 4 items is 0.83. This factor explains a 67% of the total variance.

Norms	**ITEMS**	**BDLO**	**Uniqueness**
BDLO1	I have always been a big fan of this brand 's design features.	0.7611	0.4208
BDLO2	I consider myself to be loyal to this brand due to its design features.	0.8750	0.2344
BDLO3*	This brand would be my first choice only because of its design features.		0.4870
BDLO4	Due to its design features, I will wait until the brand is again available if this brand is not available.	0.7573	0.4265
BDLO5	Even if I find that another brand has superior functionality, I would be loyal to this brand because of its design.	0.8102	0.3436

**This is the one dropped because of having uniqueness greater than 0.45 or does not clearly load on one of the two factors. We only show the loadings for the ones we keep.*

Table 12. Brand Design Loyalty Subscale (N = 94)

Study III:

In order to understand which measurement model would have the best fit for our data, we deployed SEM (Structural Equation Modeling) analysis to conduct confirmatory factor analyses by using Stata software.

Initially, we decided to test the following backbone (Sub-model1) part of the preliminary model:

Sub-model 1:

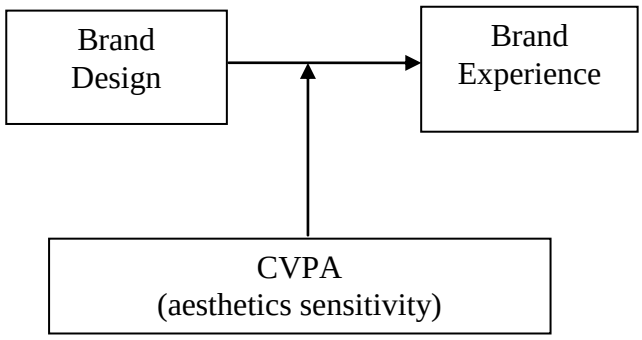

Figure 16. Sub-model 1: CVPA as moderator between Brand Design and Brand Experience

As discussed earlier, after collapsing two sub-dimensions (brand design associations and familiarity) under Brand design Familiarity (BDFA), we measured our preliminary Brand Design scale through 5 subscales, namely, Perceived Brand Design Quality, Brand Design Loyalty, Brand Design Familiarity, Brand Design Distinctiveness and Meaning Driven Brand Design.

First, we tested each subscale separately, and then tested the whole construct. Brand Experience is a construct of 12 items. Below, we used the full set of items to see how this worked in our dataset. CVPA (aesthetics sensitivity) is a scale with three subscales being value, acumen and response. Below, we tested each part of the subscale separately and then the whole construct.

Finally we tested the Sub- model 1, and each of the hypotheses associated with it.

Cronbach alpha associated to the constructs implied in Sub-model 1:

Scale	Subscale	Number of Items	Cronbach Alpha
Brand Design			0.96
	Perceived Brand Design Quality	4	0.86
	Brand Design Loyalty	4	0.82
	Brand Design Familiarity	6	0.92
	Brand Design Distinctiveness	5	0.86
	Meaning Driven Brand Design	9	0.90
CVPA		11	0.89
Brand Experience		14*	0.93

Table 13. Brand Design Subscale, Number of items, Cronbach Alpha

List of the hypotheses:

H1: Brand Design affects Brand Experience Positively

First, in order not to have lower reliability and misspecification errors for Brand Experience measure, we followed the recommendation from previous research (Iglesias et al, 2011; Holbrook et al, 2000), and we reworded the scale items within each dimension of brand experience that has reverse polarity.

**In Study II, we used a 12-item Brand Experience Scale (Brakus et al, 2009). However, in Study III, based on the feedback from respondents for the two items (B8 and B9 below) which were difficult to understand to some respondents, and also problematic in the Iglesias et 2011 paper, we added these two items below (BE13 and BE14) to test with these two new items (BE 13 and BE14). Please see Appendix E for mean value comparison.*

BE8 This brand results in bodily experiences.

BE9 This brand is action oriented.

BE13 This brand induces action.
BE14 When I use this brand, my body experiences physical sensations evoked by the external world.

We performed statistical analysis and compared both scales, the original one and the one substituting the items BE8 and BE9 with BE13 and BE14. We obtained the following results:

Original scale (12 items with BE8 and BE9):
RMSEA=0.052 TLI=0.971 CFI=0,979

Updated scale with new items (but still 12 items) Substituting BE8 and BE9 with BE13 and BE14:
RMSEA=0.044 TLI=0.980 CFI=0,985

Our analysis indicated that 14-item scale item has worse indices in comparison to any of the 12 items scale:
RMSEA=0,067 TLI=0.948 CFI=0.959

So our analysis indicated that by replacing the two problematic items i.e. BE8 and BE9 with BE 13 and BE14, the scale improved, even though slightly.

To test the hypothesis we tested the model in which Brand Design is proposed as a 5 factor scale. The structural model is significant so Brand Design (BD) predicts each of the subscales, and Brand Design also predicts Brand Experience, with a standardized coefficient of 0.91, that is significant (p>0.001). The full model has RMSEA=0.071, CFI=0.865 and TLI=0.856.

In this case, we ignored the CVPA moderation effect as we needed to create variables out of items (we looked at alpha values), and then found the moderator and see if the effect was significant and positive.

So, first, we tested the model with the main effect. As you will see in Appendix A for the performed tests, the results were significant.

Sub-model 2:

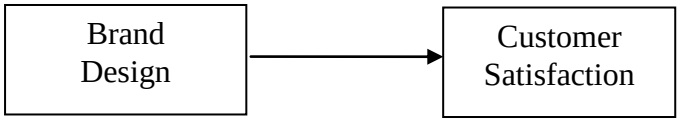

Figure 17. Sub-model 2: Effect of Brand Design on Customer Satisfaction

H2: Brand Design affects Customer Satisfaction positively

Consumer Satisfaction is a 5 item construct, with no considered subscales. The Cronbach alpha is 0.86. The effect is positive and significant ($p<0.001$), the adjusted R^2 is 0.5.

Source |	SS	df	MS	Number of obs =	547	
				F(1, 545) =	537.09	
Model |	335.454813	1	335.454813	Prob > F =	0.0000	
Residual |	340.396025	545	.624579862	R-squared =	0.4963	
				Adj R-squared =	0.4954	
Total |	675.850838	546	1.23782205	Root MSE =	.7903	
cs_var |	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
bd_var |	.7393696	.0319035	23.18	0.000	.6767007	.8020385
_cons |	1.695641	.1683634	10.07	0.000	1.36492	2.026362

Table 14. Adjusted R^2 - Brand Design affects Customer Satisfaction positively

Sub-model 3:

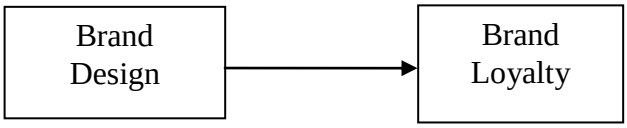

Figure 18. Sub-model 3: Effect of Brand Design on Brand Loyalty

H3: Brand Design affects Consumer Loyalty positively

Loyalty for the brand is a construct based on the scale of Consumer Loyalty that is composed of 5 items. The Cronbach alpha is 0.88. The effect is significant and positive ($p<0.001$), and the R^2 adjusted is 0.46.

Source |	SS	df	MS	Number of obs =	547
				F(1, 545) =	473.96
Model |	404.694472	1	404.694472	Prob > F =	0.0000
Residual |	465.351019	545	.853855081	R-squared =	0.4651
				Adj R-squared =	0.4642
Total |	870.045492	546	1.59348991	Root MSE =	.92404
cl_var |	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
bd_var |	.8120976	.0373024	21.77	0.000	.7388235 .8853716
_cons |	1.053466	.1968547	5.35	0.000	.6667795 1.440153

Table 15. Adjusted R^2 - Brand Design affects Customer Loyalty positively

Sub-model 4:

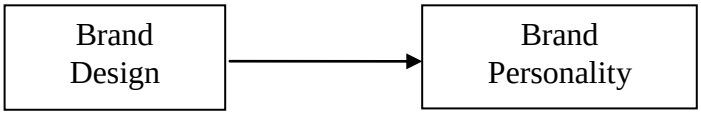

Figure 19. Sub-model 4: Effect of Brand Design on Brand Personality

H4: Brand Design affects Brand Personality positively

In order to understand the direction of the effect and its significance level, we conducted SEM (Structural Equation Modeling) Confirmatory factor analysis. We used the full measurement model of the Brand Personality construct. The overall Cronbach alpha of these 29 items scale is 0.93. The hypothesis is supported with a positive effect that is significant (p>0.001) and an adjusted R square of 0.43.

Source |	SS	df	MS		Number of obs =	529
					F(1, 527) =	400.64
Model |	224.877058	1	224.877058		Prob > F =	0.0000
Residual |	295.798936	527	.561288304		R-squared =	0.4319
					Adj R-squared =	0.4308
Total |	520.675994	528	.986128777		Root MSE =	.74919
bprs_var |	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
bd_var |	.6114379	.0305473	20.02	0.000	.5514285	.6714473
_cons |	1.631467	.161189	10.12	0.000	1.314815	1.948119

Table 16. Adjusted R^2 - Brand Design affects Brand Personality positively

Sub-model 5:

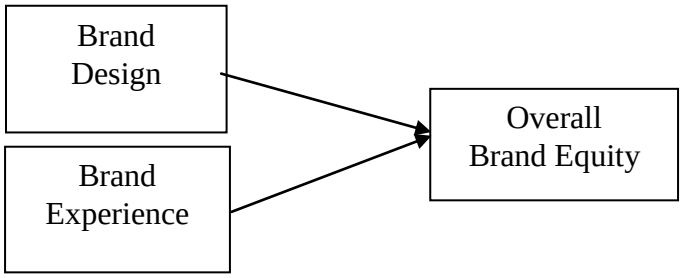

Figure 20. Sub-model 5: Effects of Brand Design and Brand Experience on Overall Brand Equity

H5: Brand Design affects Overall Brand Equity positively

H6: Brand Experience affects Brand Equity positively

Overall Brand Equity is a 4-item scale with a Cronbach alpha of 0.87. Both effects from H5 and H6 are positive and significant (p<0.001). The model has a R^2 adjusted of 0.36.

Source |	SS	df	MS		Number of obs =	547
					F(2, 544) =	157.01
Model |	371.174412	2	185.587206		Prob > F =	0.0000
Residual |	643.003376	544	1.1819915		R-squared =	0.3660

					Adj R-squared =	0.3637
Total |	1014.17779	546	1.85746848		Root MSE =	1.0872
obe_var |	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
be_var |	.2524112	.0704045	3.59	0.000	.1141131	.3907092
bd_var |	.5358132	.0767751	6.98	0.000	.3850012	.6866252
_cons |	1.233936	.2317671	5.32	0.000	.778668	1.689204

Table 17. Adjusted R^2: Brand Design affects Overall Brand Equity positively and Brand Experience affects Brand Equity positively

H7: CVPA (moderating variable) enhances the influence of Brand Design factors on Brand Experience

As we have commented earlier, some people are more sensitive to design aesthetics than the others (Block et al, 2003) and this may impact customer's experience with the brand. To test this hypothesis, we used an interaction term: CVPA-Centrality of Visual Product Aesthetics (Block et al, 2003) so that we could observe the significance of the moderation effect. First, we created the variables out of the items, using the mean values of the items associated which made all latent variables observed. For the Brand Design construct we performed this procedure considering the whole scale formed by the 5 subscales.

Source |	SS	df	MS		Number of obs =	547
					F(3, 543) =	393.13
Model |	499.662315	3	166.554105		Prob > F =	0.0000
Residual |	230.04767	543	.423660535		R-squared =	0.6847
					Adj R-squared =	0.6830
Total |	729.709985	546	1.33646517		Root MSE =	.65089
be_var |	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
bd_var |	.6398139	.0962807	6.65	0.000	.4506855	.8289422
cvpa_var |	-.0387423	.0898881	-0.43	0.667	-.2153132	.1378287
int_cvpa_bd |	.037029	.0183624	2.02	0.044	.000959	.073099
_cons |	.6361505	.430734	1.48	0.140	-.2099584	1.48226

Table 18. CVPA (moderating variable) enhances the influence of Brand Design factors on Brand Experience

The interaction term is significant and positive, with very little p value ($p<0.05$). The overall R^2 adjusted is 0.68.

Full model with all the effects

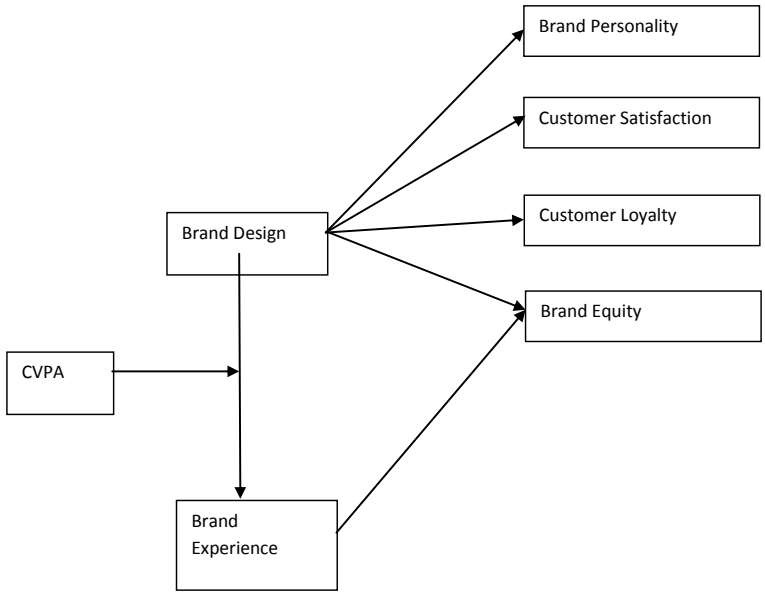

Figure 21. Testing the full model joining all the effects: the original model with existing hypos (source: Author)

Testing the whole model is having a structural model with all the variables at the same time. This gave us an opportunity to test all the hypothesis at the same time. For some hypothesis the R^2 was not so good and this appeared in the final RMSEA (Root mean squared error of approximation) of the model as 0.227. Please see the detailed results in Appendix B.

In order to fix this problem with RMSEA , we referred to the model of Brakus et al, 2009, and introduced relationships between the constructs (e.g. Customer Satisfaction affects Loyalty and Loyalty affects Brand Equity). Thanks to these relationships, our model found an acceptable index of fit.

In Figure 22 below, we added two arrows (marked red): According to this insertion, consumer satisfaction predicts customer loyalty, and customer loyalty also creates brand equity. Per Brakus et al (2009), these two effects are already established and now our overall model fits better.

Alternative model adding two more arrows (Figure 22 below)

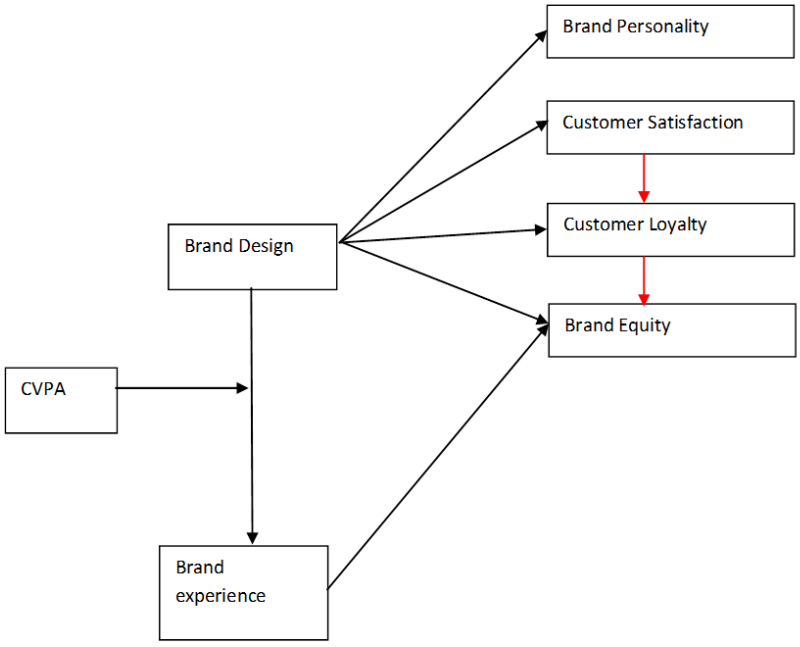

Figure 22. Alternative Model (Source: Author)

Discriminant validity of BDDI and PBDQ in Relation to Brand Experience

Design distinctiveness, by itself, may not be sufficient to catch customer's attention in order to create a brand experience. When a distinctive product or service is not

perceived as high quality due to its poor design, this product may not create the desired brand experience. There is a higher chance that customers would have deeper experiences with the brand designs that are distinctive *and* well-designed.

Under this insight, when we were testing our new scale, first we wanted to validate if our respondents perceived BDDI (Brand Design Distinctiveness) and PBDQ (Perceived Brand Design Quality) dimensions as different. We identified a discriminant validity issue between PBDQ and BDDI factors. That means our respondents did not perceive BDDI and PBDQ dimensions as different. This finding could be due to the fact that though firms prefer to elaborate separately on quality and distinctiveness when they design their brands to differentiate their products/services, the consumers may perceive distinctiveness as part of the brand design quality.

To cope with the discriminant validity issue between PBDQ and BDDI, we have tried an alternative Confirmatory Factor Analysis to be compared with the previous test. The model goodness of fit did not improve that much, but it was still ok. Correlations between latent factors of the scale were less than 0.85. Then we tested the differential effects of BDDI's effect on Brand Experience and then PBDQ's effect on Brand Experience to analyze the discriminant validity issue better. Our results indicate that PBDQ predicts Brand Experience whereas BDDI does not predict Brand Experience. The details of this analysis can be found in Appendix D.

Discussion, implications and limitations

After Apple's phenomenal comeback with amazingly designed products, many firms have begun to recognize the strategic power of design in the last decade. The senior management teams of the firms, such as, Dell, Nokia, Sony, Bang & Olufsen and Blackberry thought that adding more designers to their teams, and more colors and features to their product offerings would solve their problems. However, they were wrong and they paid this misunderstanding heavily with declining brand values (Interbrand, 2013).

In an intensifying global competitive landscape, many brands are struggling to face fierce competition, having more difficulty in protecting their market position and keeping their wallet share. In such a turbulent business environment, the ability of differentiating brands depends largely on their ability to deliver outstanding consumer experiences that could engage consumers for a long-lasting relationship. Creating brand experiences needs the magic touch of design thinking in such a way that designed brand experiences enhance the brand equity and business (shareholder) value. However, this is a difficult task as these two different ways of thinking (design thinking vs. business thinking) do not seem to mix easily. Proactively designing the brand experience has been one of the biggest challenges brand and design managers currently face (Montaña et al, 2007).

In more details, our research makes three main contributions: Firstly, we defined Brand Design construct along with its dimensions, and we developed the preliminary Brand Design Scale. Our findings are relevant because even though previous literature suggests that a better integration should exist between design and brand management (Beverland 2005; Borja de Mozota 2003; Kreuzbauer and Malter 2005;), and that design may be one of the integrating factors for elements of a brand experience (Brakus et al, 2009; Montaña et al, 2007), little conceptual and empirical research has been done on Brand Design which is of high importance for practitioners. This study

advances academic knowledge and suggests Brand Design as one of the possible antecedents of Brand Experience construct.

Secondly, from the recent research literature, we introduced brand experience and its dimensions proposed by Brakus *et al* (2009) into our conceptual model. We generated 7 research hypotheses and developed the proposed framework to explain the relationship between the dimensions of Brand Design, Brand Experience and Brand Equity. Lastly, we empirically tested these 7 hypotheses. All our hypotheses are significant and relationships are positive. One of our findings suggest that brand design distinctiveness, by itself, may not be enough to attract customer's attention in order to create an experience with the brand whereas coupled with brand design quality, they could jointly affect the brand experience, brand personality, satisfaction, loyalty, and brand equity. Consumers are more likely to have more meaningful and deeper experiences with the brand designs that are distinctive and well designed.

Finally, although design has to do with many important considerations ranging from the product component specifications and functional concerns, to the external and aesthetic aspects of the product/packaging providing brand-consumer touch points, many previous studies on brand and design do not address the individual differences in aesthetic sensitivity of the consumers' touch points (Orth et al, 2006, Veryzer, 1999). Whereas most literature treats consumers with equal sensitivity towards aesthetics, Bloch et al (2003) define Product Aesthetics (CVPA) as a construct which reflects the individual ability to recognize, categorize, and evaluate product designs. Having this insight, we established the relational linkage between brand design and brand experience constructs after we checked for any moderation effects, especially coming from aesthetics sensitivity (CVPA) of our respondents. Once the link is established, we investigated the relationship between, Brand Design, Brand Experience and Brand Equity through Brand Personality, Customer Satisfaction and Customer Loyalty constructs. Our findings indicate that CVPA, as the interaction term, is significant and positive.

Overall, the results of our study pose very important managerial implications because they suggest that if brands want to create sustainable brand equity in the hearts and

minds of their customers through positive brand experiences, they need to incorporate design elements. When the design of the brand cuts across the organization through various touch points, it gets too important to leave it only to marketing department to design the brand to create strong, unique and favorable brand experiences. We recommend that firms consider a Total Brand Management approach (Edelman et al, 1993) and/or create a new executive position with a title of Chief Branding Officer (Neumeier, 2005) which also involves design in the process.

Regarding the limitations of present research, as a first limitation, most respondents answered the questions by thinking about the brands through the physical (tangible) products (e.g. laptops, smart phones, cars, sun-glasses, etc.). For future studies, researchers should collect responses on the services brands so that academics could observe the impact of service brand design on brand experience.

Second limitation of the study is that the Brand Experience scale that we adapted from Brakus et al (2009) does not measure whether an experience is positive or negative. Further research is needed to build positively worded and negatively worded versions of the scale and understand the effect of our Brand Design construct on creating positive and negative experiences.

Third, though it is not the critical variable for our research, Aaker's Brand Personality scales (Aaker, 1997 and Aaker et al, 2001) are problematic around concept validity and items, e.g. competence, masculine vs. feminine, etc. (Azoulay and Kapferer, 2003). In our research, we tried to combine the scales built for Spanish, American and Japanese societies (Aaker, 2001). However, for future work, researchers should be cautious about using this scale based on the flaws identified by Azoulay and Kapferer (2003).

As for further future research, it would be essential to examine whether the scale can predict specific experiential outcomes. Based on our theorizing, we would expect that the perceived brand design quality dimension to have an influence on sensory experience. It would be also interesting to observe whether meaning driven brand

design dimension would have a significant influence on affective experience and brand design loyalty would influence behavioral experience when interacting with a brand.

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Chapter VI Overall Conclusions, Recommendations for Further Research and Managerial Implications

Based on the conceptual and empirical contributions presented in the research articles of this dissertation, this last chapter summarizes the relationship among the four studies, discusses the general conclusions, contributions, suggested future areas for research and managerial implications.

The four articles featured in this doctoral dissertation on the link between design and branding are related to each other as follows:

First article sets the background by defining the concept of design thinking and investigates the kind of organizational environment to prosper this new way of thinking so that firms can gain sustainable competitive advantage. One of the most important assets of the organizations are human resources and educational institutions have great responsibility and privilege in designing the curriculum to address the changing needs of the society and organizations. Following this rationale, the second study, highlights the urge for institutions to help design students and practitioners to take on new challenges in terms of understanding their new role as co-designers and develop and extend the skills around this emerging role. Though many organizations acknowledge the value of design, especially after the overwhelming success of design-oriented companies such as Apple, IKEA, BMW, many firms still struggle to use design as a driver for innovation. Third study builds on the first two articles and claims that with a design-oriented organizational culture where design thinking can bloom and flourish, firms can benefit from design distinctiveness to create unique and distinctive styles and features so that product design can be employed as a strong differentiator. One of the most valuable intangible assets of companies are brands. In an experiential world, unless design driven innovation is used strategically to create authentic brand experiences, it may not create sustainable competitive

advantage in the marketplace. Bearing this in mind, our fourth investigation develops a new construct to establish the link between brand design and brand experience.

As a final reflection, the section above highlights how these four papers featured in this doctoral dissertation relate to each other and they help us cover the aim of the thesis to set the relationship between the domains of design and branding.

In the following paragraphs the most relevant findings are discussed by relating them to the research questions and to the research gaps, defining future research lines that have been detected in the existing literature on design, design thinking, firm performance, and branding.

i. Design Thinking in the Postmodern Organization

Regarding this topic, one of the central ideas of this doctoral thesis is to contribute to a better understanding of how design and design thinking could be used in different domains.

This article defines the concept of design thinking and introduces a new way of thinking that could help organizations achieve sustainable competitive advantage. And different from existing literature, our focus is important because the extant literature is more concentrated on describing design thinking activities. However, most researchers take the organizational culture for design thinking to appear and survive as granted. Without such an organizational culture, firm competitive advantage will not be sustainable.

The paper focuses on Design Thinking, a powerful tool which pushes innovation forward and creates new possibilities through a robust process. However, in order for design thinking to grow, it requires a corporate culture where the postmodern organization can bloom. Postmodern organizations which cultivate diversity and tolerance, encourage creativity, foster imagination and collaboration and reward intrinsic motivation may prompt the foundation of a culture to deploy design thinking to its fullest.

While this paper has been greatly influenced by the conceptual phenomena of design thinking, we hope that our findings, combined with current research in the field will stimulate a number of interesting paths for future research (e.g. Appendices G, H, and I).

ii. The Sprouting Role of Designers and Mayeutics

Corresponding to the third article of the thesis, we contributed to design research by discussing the usability of the Socrates's "midwife" metaphor to explain further the evolving role of designers as facilitators and included a case study from the literature as a showcase. As design field expanded itself from industrial/product design to interaction, service, organizational, and even government services design, we began to observe a move from designers as craftsmen to co-designers. This article, emphasized the new context we are in and called for designers to understand the unarticulated needs of individuals and the meanings of these needs to them.

Metaphors are critical in legitimizing roles. In this article, we argue that "mental midwifery" metaphor could be very useful in investigating the role of design and designers. When economic conjunctures, social trends, technology and environmental circumstances change, the individual's choice changes. Designers are constantly being challenged to add new roles and skills to their portfolios or grow the existing ones to adapt to these new conditions. Our research explored how educational institutions could help design students and practitioners understand their new role and develop and extend their skills accordingly.

iii. Design Orientation and Product Success: Is Design Distinctiveness the Missing Link?

This study suggests that creating unique and distinctive styles and features, product design could be employed as a strong differentiator of products in their markets. Design oriented firms may enhance differentiation through distinctive product forms and contribute to a sustained competitive advantage in the marketplace. These capabilities results in radical design which can help a firm's products be perceived as different vis-à-vis that of the competitors. For instance, we conducted an mini-experiment during the 11th Nordcode Seminar & Workshop and IDBM Research Seminar and showed a picture of a smartphone without showing the brand name and logo to 30 attendees and asked them to guess the brand. The responses varied from iPhone, Nokia, HTC, Huewei to Samsung whereas the correct answer was Huewei. This may indicate the difficulty of differentiating the smartphones as confirmed by many articles on this topic (e.g. http://www.bbc.com/future/story/20120305-why-do-phones-all-look-the-same). These findings may suggest that creating differentiation through design distinctiveness will gain more importance for marketing, product development, R&D, and brand managers.

This article accommodated some of the shortcomings in the literature and provided a fresh perspective on the emerging impact of "distinctiveness". We generated six research hypotheses and developed the proposed framework to explain the relationship between design-oriented corporate culture, distinctiveness, product differentiation and product success. As discussed in the previous paragraph, we believe that our conceptualization of the role of design orientation as an antecedent of differentiation where design distinctiveness is the mediator, may bring new perspectives on the organization-specific resources necessary to effectively employ design.

iv. Brand Design: The Construct, Research Propositions and Consequences

During our investigation, we observed that successful companies not only design products and , services but actually they design their brands by deploying various types of design such as product, graphic, web, user experience, interaction, fashion, communication, interior design, etc. This investigation developed a new construct to establish the link between design and brand. The empirical study defined Brand Design construct along with its dimensions, and we developed the preliminary Brand Design Scale. Little conceptual and empirical research has been done on Brand Design which is of high importance for practitioners and our findings were significant and relevant.

In this article, we defined Brand Design construct along with its dimensions, and we developed the preliminary Brand Design scale. Even though previous literature suggests that a better integration should exist between design and brand management and that design may be one of the integrating factors for elements of a brand experience, little conceptual and empirical research has been done on Brand Design. This is of high importance for practitioners. Our study advanced scientific knowledge and suggested Brand Design as one of the possible antecedents of Brand Experience construct. Furthermore, our Brand Design study contributed to academic knowledge and proposed Brand Design as one of the possible antecedents of Brand Experience construct. We introduced brand experience and its dimensions from the literature into our conceptual model. We generated seven research hypotheses and developed the proposed framework to explain the relationship between the dimensions of Brand Design, Brand Experience and Brand Equity. Lastly, we empirically tested these seven hypotheses. All our hypotheses were significant and relationships were positive. We have found out that brand design distinctiveness may not be enough to attract customer's attention in order to create an experience with the brand. However, with brand design quality, they could jointly affect the brand experience, brand personality, satisfaction, loyalty, and brand equity variables. Our study results indicated that

consumers are more likely to have more meaningful and deeper experiences with the brand designs that are distinctive and well designed.

The main objective of this dissertation has been to shed light on the concept of design, design thinking, emerging role of designers, design's role in firm performance, and, at the same time to contribute to the general understanding of interplay between design and branding.

More specifically, in this doctoral thesis, we show how the following questions could be answered:

What is design thinking? How can we flourish and foster it? How has the role of designer evolved under the new paradigm of design thinking? How can design distinctiveness can be deployed as a strong differentiator for sustainable returns? What is Brand Design and how does it impact Brand Experience and Brand Equity?

We must highlight that over the last decade the focus on the terms 'design management', 'design-driven organization", "design-led organization", and 'design thinking' has become more intense, used in designing businesses and social innovations, new experiences, services, business models, brands and they are often referenced heavily by academics, practitioners and policy makers.

Our approach to this study of design innovation encompasses conceptual and empirical analysis of organizations, designers and consumers ranging from descriptive to explicative studies.

Regarding recommendations for further research and managerial implications, throughout the dissertation, the research contributions presented not only provides new scholarly theoretical contributions but, most importantly, brings light on new possibilities for future studies and potential research strategies to cover these areas. As such, this effort allows us to continuously discover new avenues for future research and provide a cohesive theoretical framework for scholars on design and branding related research.

As one of the few studies which examine design thinking from an organizational perspective, our study is relevant and has future implications to the managers and academic institutions (Please visit Appendices G, H, and I). According to Beuker (2011), the more abstract the thinking, the higher its impact on organizations. Over the past decade, design thinking has been embraced initially within design agencies (IDEO, Smart Design, Frog Design, etc.) in business matters, mostly from a microeconomic perspective. Now with a macroeconomic perspective, it is being implemented within the public (e.g. educational institutions) and third sector (i.e. non-governmental, non-profit and not-for-profit organizations). There is an indirect claim that Design Thinking, as a methodology, solves many problems – including the social issues like crime and poverty. Blythe and Kimbell (2011) bring our attention to shifts to the wicked problems (messy and complex world of social issues) and to the potential of design thinking to propose solutions. The authors (2011) make a distinction between the personal issues of individuals and social problems, and they argue that for design thinking to work within social problems, it needs to expand its conceptual toolbox (Blythe and Kimbell, 2011). We agree with the authors that future research should focus not only on coming up with solutions but also to designing the definition of social problems.

As we shift emphasis from industrial/product to interaction/service/organizational design with a service dominant logic, we may be experiencing a move from designers as craftsmen to co-designers, with a heavier emphasis on facilitation skills which we illustrate with "midwifery" metaphor. This new move can be challenging for designers who have not been trained in the co-design space. It not only requires new tools and methods and a new language for designing but also "demands for the acceptance of new design partners and a new attitude about the inherent creativity of everyday people" (Sanders, 2006a). For future research around our study on the sprouting roles of designers, we need more empirical cases studies to support our conclusions around facilitation skills of designers. In terms of the new role of designers, based on our observation from Service Design Network Conference (November 2013, Cardiff, UK), the facilitation skills are being emphasized more frequently in comparison to previous years. We foresee that in the coming years, this new role of the designers will be more prominent. As a

managerial implication, this new role may help their transition from designers as craftsmen to co-designers with the users/consumers.

General political agreement in European Union underlines that all forms of innovation need to be supported and nurtured to ensure competitiveness, prosperity and welfare. Along these lines, EU Commission Staff Working Document (2013) states that "Design is increasingly recognized as a key discipline and activity to bring ideas to the market, transforming them into user-friendly and appealing products or services. Though still often associated solely with aesthetics, the application of design is much broader. A more systematic use of design as a tool for user-centered and market-driven innovation in all sectors of the economy, complementary to R&D, would improve European competitiveness. Analysis of the contribution of design show that companies that strategically invest in design tend to be more profitable and grow faster" (2013). This statement poses broad implications for the firm and the managers. As far as this thesis is concerned our findings have the following opportunities for research and implications for the managers:

As the firms struggle to compete better, there is an overwhelming emphasis on creating sustainable returns through design. To better understand how design leads to returns, Motiv Strategies, and the Design Management Institute created an index. As the recent HBR Blog Network article by Rae (2014) on this index suggests (see Appendix J for the whole article), 15 rigorously-selected companies that the author (2014) believes institutionally understand the value of design, beat the S&P by 228% over the last 10 years. Their index suggests that companies that deploy design strategically grow faster and have higher margins than their competitors. High growth rates and margins make these companies very attractive to shareholders by increasing their stock prices. However, we question the sample size (15), the origin of the sample (all US companies), and the sustainability of these returns unless the design is integrated to the organizational culture of these firms.

For future research, it would be interesting to test their six criteria (i.e. publicly traded in the U.S. for 10+ years; deployment of design as an integrated function across the entire enterprise; evidence that design investments and influence are increasing; clear reporting structure and operating model for design; experienced design executives at the helm directing design activities; and tangible senior leadership-level commitment for design) to observe if it would apply to European firms with a bigger sample size. Within the light of this study, in search of more sustainable returns, we expect a shift in research towards Design Oriented Corporate Culture. This will allow more effective and sustainable innovation where many different types of innovation will be a natural result driven by design oriented organizational culture. More specifically, future research on firm's orientation on design may enable differentiation through distinctive product forms and contribute to a sustained competitive advantage in the marketplace. The findings of a study on design orientation may persuade managers invest in developing design capabilities to create radical design which can help a firm's products/services stand out from those of its rivals and eventually, help improve firm performance.

In our Brand Design scale development study, most respondents answered the survey questions by imagining their experiences with the brands through the physical (tangible) products. However, about 70% of aggregate production and employment in OECD economies comes from service sector and it continues to grow (Wöfl, 2005). In order to assist marketing, R&D, brand and design managers of services firms, we suggest that future studies collect data on services brands to allow researchers observe the effect of service brand design on brand experience and brand equity.

Bearing in mind that the Brand Experience scale that we adapted from the literature measures an experience exists or not but not necessarily measures whether an experience is positive or negative, further study is needed to build positively worded and negatively worded versions of the scale and understand the effect of our Brand Design construct on creating positive and negative experiences. Future research

should examine whether our scale can predict specific experiential outcomes. For instance, we think that the perceived brand design quality dimension might have an influence on sensory experience. We would also expect to observe whether meaning driven brand design dimension would have a significant influence on affective experience and brand design loyalty would influence behavioral experience when interacting with a brand. The results of this research would provide managers with a tool for more accurate decision making.

Our consumer research study on Brand Design was general in scope without taking into account any peculiarities in different industries. However, it would be interesting to observe if our model, in terms of the impact of brand design on brand experience and brand equity, could predict the consumer behavior in multiple industries. To see if there are any differences, future research is needed to test our model in industries such as automotive, domestic appliances, electronic devices, furniture, fast moving consumer goods, etc. with a larger sample size by using Multi-regression and Structural Equation Modeling tools.

To conclude this chapter, we have to remark that, this thesis suggests scientific findings, upon which future studies on design thinking, role of designers, design orientation, design distinctiveness, firm performance, and brand design can construct. This is highlighted in the next Appendices, where it is reflected the interest and implication of academic and non-academic institutions to the studies conducted in this thesis.

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Appendices

Appendix A: Results corresponding to the entire model test

Endogenous variables

Measurement: pbdq3 pbdq4 pbdq6 pbdq7 bdlo1 bdlo2 bdlo4 bdlo5 bdfa1 bdfa3 bdfa4 bdfa5 bdas2 bdas3 bddi1 bddi3 bddi6 bddi7 bddi9 mdbd1 mdbd3
mdbd4 mdbd5 mdbd7 mdbd10 mdbd11 mdbd13 be1 be2 be3 be4 be5 be6 be7 be8 be9 be10 be11 be12 be13 be14
Latent: PBDQ BDLO BDFA BDDI MDBD BE

Exogenous variables

Latent: BD

Structural equation model Number of obs = 547
Estimation method = ml
Log likelihood = -34702.914

(1) [pbdq3]PBDQ = 1
(2) [bdlo1]BDLO = 1
(3) [bdfa1]BDFA = 1
(4) [bddi1]BDDI = 1
(5) [mdbd1]MDBD = 1
(6) [be1]BE = 1
(7) [PBDQ]BD = 1

| OIM
Standardized | Coef. Std. Err. z P>|z| [95% Conf. Interval]
---|---|---|---|---|---|---
Structural |
PBDQ <- |
BD | .8700203 .0170852 50.92 0.000 .8365339 .9035067
BDLO <- |
BD | .8762809 .0171 51.24 0.000 .8427656 .9097963
BDFA <- |
BD | .7783444 .0206876 37.62 0.000 .7377975 .8188914
BDDI <- |
BD | .8699563 .0180149 48.29 0.000 .8346477 .9052648
MDBD <- |
BD | .9832025 .0088001 111.73 0.000 .9659547 1.00045
BE <- |
BD | .9190417 .0112462 81.72 0.000 .8969996 .9410838
Measurement |

```
pbdq3 <-   |
    PBDQ |   .7413504   .0221174    33.52   0.000     .698001    .7846997
   _cons |   3.630028   .1177838    30.82   0.000    3.399175     3.86088
----------+----------------------------------------------------------------
pbdq4 <-   |
    PBDQ |   .8273374    .016858    49.08   0.000    .7942963    .8603785
   _cons |   4.158939   .1328109    31.31   0.000    3.898635    4.419244
----------+----------------------------------------------------------------
pbdq6 <-   |
    PBDQ |   .8152256   .0176935    46.07   0.000     .780547    .8499042
   _cons |   3.503803   .1142363    30.67   0.000    3.279904    3.727702
----------+----------------------------------------------------------------
pbdq7 <-   |
    PBDQ |    .750984   .0215471    34.85   0.000    .7087524    .7932156
   _cons |   4.111514   .1314542    31.28   0.000    3.853868    4.369159
----------+----------------------------------------------------------------
bdlo1 <-   |
    BDLO |   .7011389   .0251909    27.83   0.000    .6517656    .7505122
   _cons |    2.95659   .0990883    29.84   0.000     2.76238    3.150799
----------+----------------------------------------------------------------
bdlo2 <-   |
    BDLO |   .8080736   .0191519    42.19   0.000    .7705365    .8456107
   _cons |   2.748873   .0934623    29.41   0.000     2.56569    2.932055
----------+----------------------------------------------------------------
bdlo4 <-   |
    BDLO |    .694719   .0257082    27.02   0.000    .6443319     .745106
   _cons |   2.485264   .0864522    28.75   0.000    2.315821    2.654707
----------+----------------------------------------------------------------
bdlo5 <-   |
    BDLO |   .7155223    .024712    28.95   0.000    .6670877    .7639568
   _cons |   2.184756   .0786841    27.77   0.000    2.030538    2.338974
----------+----------------------------------------------------------------
bdfa1 <-   |
    BDFA |   .8125624   .0164192    49.49   0.000    .7803812    .8447435
   _cons |    4.40755   .1399481    31.49   0.000    4.133257    4.681844
----------+----------------------------------------------------------------
bdfa3 <-   |
    BDFA |   .8125154   .0164337    49.44   0.000    .7803059    .8447249
   _cons |   4.201509   .1340301    31.35   0.000    3.938815    4.464203
----------+----------------------------------------------------------------
bdfa4 <-   |
    BDFA |   .8413153   .0144892    58.07   0.000    .8129171    .8697136
   _cons |   4.297865   .1367942    31.42   0.000    4.029753    4.565976
----------+----------------------------------------------------------------
bdfa5 <-   |
    BDFA |   .8228709   .0157045    52.40   0.000    .7920907    .8536512
   _cons |   4.099506   .1311109    31.27   0.000    3.842533    4.356478
----------+----------------------------------------------------------------
bdas2 <-   |
    BDFA |    .813594   .0163539    49.75   0.000    .7815409    .8456472
   _cons |   4.147255   .1324765    31.31   0.000    3.887605    4.406904
----------+----------------------------------------------------------------
bdas3 <-   |
    BDFA |   .8293728   .0152846    54.26   0.000    .7994155    .8593302
   _cons |   4.203246   .1340798    31.35   0.000    3.940454    4.466037
----------+----------------------------------------------------------------
bddi1 <-   |
    BDDI |    .666179   .0270105    24.66   0.000    .6132394    .7191186
   _cons |   3.574814    .11623    30.76   0.000    3.347007     3.80262
----------+----------------------------------------------------------------
bddi3 <-   |
```

```
    BDDI |   .7733739   .0202386    38.21   0.000     .733707    .8130407
   _cons |   3.458697   .1129729    30.62   0.000     3.237274     3.68012
----------+-----------------------------------------------------------------
bddi6 <-  |
    BDDI |   .7412202    .022339    33.18   0.000    .6974364    .7850039
   _cons |   3.025176   .1009629    29.96   0.000     2.827292    3.223059
----------+-----------------------------------------------------------------
bddi7 <-  |
    BDDI |   .7614446    .020921    36.40   0.000    .7204402     .802449
   _cons |   3.747647   .1211042    30.95   0.000     3.510287    3.985007
----------+-----------------------------------------------------------------
bddi9 <-  |
    BDDI |   .7906105   .0194756    40.59   0.000     .752439    .8287819
   _cons |   3.234113   .1067189    30.30   0.000     3.024948    3.443279
----------+-----------------------------------------------------------------
mdbd1 <-  |
    MDBD |   .7078314   .0231574    30.57   0.000    .6624437     .753219
   _cons |   2.420043    .084744    28.56   0.000     2.253948    2.586138
----------+-----------------------------------------------------------------
mdbd3 <-  |
    MDBD |   .7567721   .0199512    37.93   0.000    .7176685    .7958757
   _cons |   2.866277   .0966323    29.66   0.000     2.676881    3.055673
----------+-----------------------------------------------------------------
mdbd4 <-  |
    MDBD |   .6655708   .0252196    26.39   0.000    .6161412    .7150004
   _cons |   3.699254   .1197365    30.89   0.000     3.464575    3.933933
----------+-----------------------------------------------------------------
mdbd5 <-  |
    MDBD |   .7690278   .0190398    40.39   0.000    .7317105    .8063451
   _cons |   2.613789    .08985    29.09   0.000     2.437686    2.789892
----------+-----------------------------------------------------------------
mdbd7 <-  |
    MDBD |   .6687465   .0251344    26.61   0.000     .619484     .718009
   _cons |   4.103998   .1312393    31.27   0.000     3.846773    4.361222
----------+-----------------------------------------------------------------
mdbd10 <- |
    MDBD |   .7018551   .0232308    30.21   0.000    .6563236    .7473865
   _cons |   4.012982   .1286408    31.20   0.000     3.76085    4.265113
----------+-----------------------------------------------------------------
mdbd11 <- |
    MDBD |   .7547447   .0198954    37.94   0.000    .7157503     .793739
   _cons |   3.183761   .1053259    30.23   0.000     2.977326    3.390196
----------+-----------------------------------------------------------------
mdbd13 <- |
    MDBD |   .7247648   .0219801    32.97   0.000    .6816847     .767845
   _cons |   2.761873   .0938119    29.44   0.000     2.578005     2.94574
----------+-----------------------------------------------------------------
be1 <-    |
     BE |   .7682932   .0189657    40.51   0.000    .7311212    .8054652
   _cons |   3.497912   .1140712    30.66   0.000     3.274336    3.721487
----------+-----------------------------------------------------------------
be2 <-    |
     BE |   .7534595   .0198166    38.02   0.000    .7146197    .7922992
   _cons |   3.537016   .1151681    30.71   0.000     3.311291    3.762741
----------+-----------------------------------------------------------------
be3 <-    |
     BE |   .7716332   .0186853    41.30   0.000    .7350107    .8082557
   _cons |   3.523956   .1148016    30.70   0.000     3.298949    3.748963
----------+-----------------------------------------------------------------
be4 <-    |
     BE |   .7854023   .0177743    44.19   0.000    .7505652    .8202393
   _cons |   3.115295   .1034375    30.12   0.000     2.912561    3.318029
```

```
-----------+----------------------------------------------------------------
be5 <-     |
        BE |   .7516166   .0199253    37.72   0.000     .7125638    .7906694
     _cons |   3.002826   .1003511    29.92   0.000     2.806141     3.19951
-----------+----------------------------------------------------------------
be6 <-     |
        BE |   .7323138   .0211403    34.64   0.000     .6908797     .773748
     _cons |   2.751686   .0935379    29.42   0.000     2.568355    2.935017
-----------+----------------------------------------------------------------
be7 <-     |
        BE |   .6203345    .027628    22.45   0.000     .5661846    .6744844
     _cons |   2.807433   .0950401    29.54   0.000     2.621158    2.993708
-----------+----------------------------------------------------------------
be8 <-     |
        BE |   .6495899   .0260913    24.90   0.000     .5984519    .7007279
     _cons |   2.804419   .0949587    29.53   0.000     2.618303    2.990534
-----------+----------------------------------------------------------------
be9 <-     |
        BE |   .6438153   .0263348    24.45   0.000     .5922001    .6954305
     _cons |   3.032801   .1011717    29.98   0.000     2.834508    3.231094
-----------+----------------------------------------------------------------
be10 <-    |
        BE |   .6140193   .0279743    21.95   0.000     .5591908    .6688478
     _cons |   2.744271   .0933386    29.40   0.000     2.561331    2.927211
-----------+----------------------------------------------------------------
be11 <-    |
        BE |   .6612766   .0254273    26.01   0.000      .61144    .7111132
     _cons |   2.790653   .0945872    29.50   0.000     2.605265     2.97604
-----------+----------------------------------------------------------------
be12 <-    |
        BE |   .6377397   .0266973    23.89   0.000     .5854139    .6900655
     _cons |   2.580471   .0889654    29.01   0.000     2.406102     2.75484
-----------+----------------------------------------------------------------
be13 <-    |
        BE |   .7087877   .0225971    31.37   0.000     .6644982    .7530773
     _cons |   3.211078   .1060812    30.27   0.000     3.003163    3.418993
-----------+----------------------------------------------------------------
be14 <-    |
        BE |   .6645642   .0252532    26.32   0.000     .615069    .7140595
     _cons |   2.496195   .0867396    28.78   0.000     2.326188    2.666201



-------------+----------------------------------------------------------------
Variance     |
   e.pbdq3 |   .4503996   .0327935                .3905011    .519486
   e.pbdq4 |   .3155128   .0278946                .2653152   .3752079
   e.pbdq6 |   .3354073   .0288484                .2833744   .3969943
   e.pbdq7 |   .4360231   .0323631                .3769905   .5042994
   e.bdlo1 |   .5084042   .0353247                .4436765   .5825751
   e.bdlo2 |    .347017   .0309523                .2913583   .4133083
   e.bdlo4 |   .5173656   .0357199                .4518861   .5923332
   e.bdlo5 |   .4880279   .0353639                .4234129   .5625034
   e.bdfa1 |   .3397424   .0266833                .2912705   .3962808
   e.bdfa3 |   .3398187   .0267053                 .291309   .3964064
   e.bdfa4 |   .2921885   .0243799                .2481074   .3441014
   e.bdfa5 |   .3228834   .0258455                .2760009   .3777296
   e.bdas2 |   .3380648   .0266109                .2897325   .3944597
   e.bdas3 |   .3121407   .0253533                .2662027   .3660062
   e.bddi1 |   .5562056   .0359876                .4899603   .6314076
   e.bddi3 |   .4018929    .031304                .3449921   .4681785
```

```
   e.bddi6 |   .4505927   .0331163                .3901441    .520407
   e.bddi7 |   .4202021   .0318603                .3621754    .4875258
   e.bddi9 |   .3749351   .0307952                .3191853    .4404223
   e.mdbd1 |   .4989748   .0327831                 .4386861    .5675488
   e.mdbd3 |    .427296    .030197                .3720269    .4907759
   e.mdbd4 |   .5570155   .0335709                 .4949554    .6268571
   e.mdbd5 |   .4085962   .0292842                 .3550491    .4702191
   e.mdbd7 |   .5527782   .0336171                 .4906652     .622754
  e.mdbd10 |   .5073995   .0326093                  .447348    .5755122
  e.mdbd11 |   .4303605   .0300319                 .3753468    .4934373
  e.mdbd13 |   .4747159   .0318608                 .4162028    .5414553
    e.be1 |   .4097256   .0291424                .3564101    .4710165
    e.be2 |   .4322988    .029862                .3775596    .4949743
    e.be3 |   .4045822   .0288364                 .351834    .4652386
    e.be4 |   .3831433    .02792                .3321493    .4419662
    e.be5 |   .4350725   .0299523                 .3801553     .497923
    e.be6 |   .4637165   .0309626                 .4068341     .528552
    e.be7 |   .6151852   .0342772                 .5515414    .6861729
    e.be8 |    .578033   .0338973                .5152714     .648439
    e.be9 |   .5855019   .0339095                 .5226738    .6558821
   e.be10 |   .6229803   .0343535                 .5591597    .6940851
   e.be11 |   .5627133    .033629                .5005154    .6326402
   e.be12 |   .5932881   .0340519                 .5301646    .6639273
   e.be13 |    .49762   .0320331                .4386354    .5645364
   e.be14 |   .5583544   .0335647                 .4962964    .6281722
   e.PBDQ |   .2430646    .029729                 .1912548    .3089095
   e.BDLO |   .2321318   .0299688                  .1802364    .2989694
   e.BDFA |    .39418   .0322041                .3358552    .4626334
   e.BDDI |   .2431761   .0313443                 .1888882    .3130668
   e.MDBD |   .0333127   .0173045                  .0120351    .0922087
    e.BE |   .1553624   .0206714                .1196992    .2016512
      BD |         1          .                          .          .
------------------------------------------------------------------------------
LR test of model vs. saturated: chi2(773) =   2876.00, Prob > chi2 = 0.0000
```

Appendix B: Initial Model

Endogenous variables

Observed: bprs_var cs_var cl_var obe_var be_var

Exogenous variables

Observed: bd_var cvpa_var int_cvpa_bd

Fitting target model:

Iteration 0: log likelihood = -5693.1365
Iteration 1: log likelihood = -5693.1365 (backed up)

Structural equation model Number of obs = 529
Estimation method = ml
Log likelihood = -5693.1365

| OIM
Standardized | Coef. Std. Err. z P>\|z\| [95% Conf. Interval]

Structural |
obe_var <- |
be_var | .2168935 .060324 3.60 0.000 .0986606 .3351263
bd_var | .4116046 .058555 7.03 0.000 .2968389 .5263704
_cons | .9058293 .1909222 4.74 0.000 .5316286 1.28003
bprs_var <- |
bd_var | .6571867 .0218713 30.05 0.000 .6143199 .7000536
_cons | 1.644456 .1990631 8.26 0.000 1.2543 2.034613
cs_var <- |
bd_var | .7059622 .0188977 37.36 0.000 .6689233 .743001
_cons | 1.486844 .1855739 8.01 0.000 1.123126 1.850562
cl_var <- |
bd_var | .6836269 .0202733 33.72 0.000 .6438919 .7233618
_cons | .8219888 .1750425 4.70 0.000 .4789118 1.165066
be_var <- |
bd_var | .5734671 .0878156 6.53 0.000 .4013516 .7455826
cvpa_var | -.0517779 .081184 -0.64 0.524 -.2108956 .1073398
int_cvpa_bd | .3131637 .1431802 2.19 0.029 .0325358 .5937917
_cons | .5847567 .3761649 1.55 0.120 -.152513 1.322026
Variance |
e.bprs_var | .5681056 .028747 .5144663 .6273374
e.cs_var | .5016174 .0266822 .4519551 .5567368
e.cl_var | .5326543 .0277188 .4810052 .5898493
e.obe_var | .6369297 .0304577 .5799458 .6995126
e.be_var | .3141969 .0183408 .2802297 .3522814

LR test of model vs. saturated: chi2(17) = 480.63, Prob > chi2 = 0.0000

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(17)	480.634	model vs. saturated
p > chi2	0.000	
chi2_bs(25)	2329.002	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.227	Root mean squared error of approximation
90% CI, lower bound	0.210	
upper bound	0.245	
pclose	0.000	Probability RMSEA <= 0.05
Information criteria		
AIC	11422.273	Akaike's information criterion
BIC	11499.151	Bayesian information criterion
Baseline comparison		
CFI	0.799	Comparative fit index
TLI	0.704	Tucker-Lewis index
Size of residuals		
SRMR	0.074	Standardized root mean squared residual
CD	0.838	Coefficient of determination

Appendix C: Proposed alternative model

Specify option 'method(mlmv)' to use all observations)

Endogenous variables

Observed: bprs_var cs_var cl_var obe_var be_var

Exogenous variables

Observed: bd_var cvpa_var int_cvpa_bd

Fitting target model:

Iteration 0: log likelihood = -5481.8133
Iteration 1: log likelihood = -5481.8133

Structural equation model Number of obs = 529
Estimation method = ml
Log likelihood = -5481.8133

Standardized	OIM Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
cl_var <-						
cs_var	.6971264	.0291448	23.92	0.000	.6400036	.7542492

```
      bd_var |   .191482   .0329519     5.81   0.000     .1268975    .2560666
       _cons |  -.2145291   .1217678    -1.76   0.078    -.4531895    .0241314
-------------------------------------------------------------------------------
obe_var <-    |
      cl_var |   .4546942   .0414192    10.98   0.000      .373514    .5358744
      be_var |   .1664243   .0556892     2.99   0.003     .0572755    .275573
      bd_var |    .143835   .0608998     2.36   0.018     .0244735    .2631965
       _cons |   .5382262   .1720598     3.13   0.002     .2009953    .8754572
-------------------------------------------------------------------------------
bprs_var <-   |
      bd_var |   .6571867   .0218713    30.05   0.000     .6143199    .7000536
       _cons |   1.644456   .1990631     8.26   0.000      1.2543    2.034613
-------------------------------------------------------------------------------
cs_var <-     |
      bd_var |   .7059622   .0188977    37.36   0.000     .6689233     .743001
       _cons |   1.486844   .1855739     8.01   0.000     1.123126    1.850562
-------------------------------------------------------------------------------
be_var <-     |
      bd_var |   .5734671   .0878156     6.53   0.000     .4013516    .7455826
    cvpa_var |  -.0517779    .081184    -0.64   0.524    -.2108956    .1073398
 int_cvpa_bd |   .3131637   .1431802     2.19   0.029     .0325358    .5937917
       _cons |   .5847567   .3761649     1.55   0.120     -.152513    1.322026
-------------------------------------------------------------------------------
Variance      |
   e.bprs_var |   .5681056    .028747                      .5144663    .6273374
    e.cs_var |   .5016174   .0266822                      .4519551    .5567368
    e.cl_var |   .2888757   .0195064                      .2530657    .329753
   e.obe_var |   .5311817   .0293642                      .4766372    .591968
    e.be_var |   .3141969   .0183408                      .2802297    .3522814
-------------------------------------------------------------------------------
LR test of model vs. saturated: chi2(15)  =     57.99,
Prob > chi2 = 0.0000
. estat gof, stats(all)
-------------------------------------------------------------------------------
Fit statistic      |     Value   Description
-------------------------------------------------------------------------------
Likelihood ratio    |
      chi2_ms(15) |     57.987   model vs. saturated
        p > chi2 |      0.000
      chi2_bs(25) |   2329.002   baseline vs. saturated
        p > chi2 |      0.000
-------------------------------------------------------------------------------
Population error    |
          RMSEA |      0.074   Root mean squared error of approximation
90% CI, lower bound |      0.054
      upper bound |      0.094
         pclose |      0.024   Probability RMSEA <= 0.05
-------------------------------------------------------------------------------
Information criteria |
            AIC |  11003.627   Akaike's information criterion
            BIC |  11089.046   Bayesian information criterion
-------------------------------------------------------------------------------
Baseline comparison  |
            CFI |      0.981   Comparative fit index
            TLI |      0.969   Tucker-Lewis index
-------------------------------------------------------------------------------
Size of residuals    |
           SRMR |      0.024   Standardized root mean squared residual
             CD |      0.807   Coefficient of determination
```

Appendix D: Discriminant validity of BDDI and PBDQ regarding Brand Experience

The effects of BDDI and PBDQ on BE.

Endogenous variables

Measurement: pbdq3 pbdq4 pbdq6 pbdq7 bddi1 bddi3 bddi6 bddi7 bddi9 be1 be2 be3 be4 be5 be6 be7 be8 be9 be10 be11 be12

Latent: BE

Exogenous variables

Latent: PBDQ BDDI

Fitting target model:

Iteration 0: log likelihood = -18301.929

Iteration 1: log likelihood = -18221.725

Iteration 2: log likelihood = -18206.391

Iteration 3: log likelihood = -18205.878

Iteration 4: log likelihood = -18205.873

Iteration 5: log likelihood = -18205.873

Structural equation model Number of obs = 547

Estimation method = ml

Log likelihood = -18205.873

(1) [be1]BE = 1

(2) [pbdq3]PBDQ = 1

(3) [bddi1]BDDI = 1

| OIM

Standardized	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
Structural					
BE <-					
PBDQ	.4180997	.2307224	1.81	0.070	-.034108 .8703074
BDDI	.3382524	.2307557	1.47	0.143	-.1140205 .7905254
Measurement					
be1 <-					
BE	.7631091	.0198077	38.53	0.000	.7242866 .8019315
_cons	3.497912	.1140712	30.66	0.000	3.274336 3.721487
be2 <-					
BE	.7556715	.0201872	37.43	0.000	.7161053 .7952377
_cons	3.537016	.1151681	30.71	0.000	3.311291 3.762741
be3 <-					
BE	.7815168	.0185938	42.03	0.000	.7450737 .8179599
_cons	3.523956	.1148016	30.70	0.000	3.298949 3.748963
be4 <-					
BE	.7912499	.0179263	44.14	0.000	.756115 .8263847
_cons	3.115295	.1034375	30.12	0.000	2.912561 3.318029
be5 <-					
BE	.7475238	.0206753	36.16	0.000	.707001 .7880466
_cons	3.002826	.1003511	29.92	0.000	2.806141 3.19951

be6 <-						
BE	.7379919	.0212942	34.66	0.000	.6962559	.7797278
_cons	2.751686	.0935379	29.42	0.000	2.568355	2.935017
be7 <-						
BE	.6066762	.028725	21.12	0.000	.5503761	.6629762
_cons	2.807433	.0950401	29.54	0.000	2.621158	2.993708
be8 <-						
BE	.6418529	.0268763	23.88	0.000	.5891763	.6945295
_cons	2.804419	.0949587	29.53	0.000	2.618303	2.990534
be9 <-						
BE	.6240881	.027817	22.44	0.000	.5695678	.6786084
_cons	3.032801	.1011717	29.98	0.000	2.834508	3.231094
be10 <-						
BE	.6088609	.0287561	21.17	0.000	.5524999	.6652218
_cons	2.744271	.0933386	29.40	0.000	2.561331	2.927211
be11 <-						
BE	.655751	.0262762	24.96	0.000	.6042505	.7072515
_cons	2.790653	.0945872	29.50	0.000	2.605265	2.97604
be12 <-						
BE	.6323417	.0274872	23.00	0.000	.5784678	.6862157
_cons	2.580471	.0889654	29.01	0.000	2.406102	2.75484
----------+----------						
pbdq3 <-						

PBDQ	.7220888	.0227008	31.81	0.000	.677596	.7665816
_cons	3.630028	.1177838	30.82	0.000	3.399176	3.86088
----------+----------						
pbdq4 <-						
PBDQ	.8017272	.0178712	44.86	0.000	.7667002	.8367542
_cons	4.158939	.1328109	31.31	0.000	3.898635	4.419244
----------+----------						
pbdq6 <-						
PBDQ	.854903	.0144574	59.13	0.000	.8265671	.883239
_cons	3.503803	.1142363	30.67	0.000	3.279904	3.727702
----------+----------						
pbdq7 <-						
PBDQ	.7478876	.0211065	35.43	0.000	.7065196	.7892555
_cons	4.111514	.1314542	31.28	0.000	3.853868	4.369159
----------+----------						
bddi1 <-						
BDDI	.6687767	.0260482	25.67	0.000	.6177232	.7198303
_cons	3.574814	.11623	30.76	0.000	3.347007	3.80262
bddi3 <-						
BDDI	.786456	.0187995	41.83	0.000	.7496096	.8233025
_cons	3.458697	.1129729	30.62	0.000	3.237274	3.68012
----------+----------						
bddi6 <-						

BDDI	.7378907	.0219518	33.61	0.000	.694866	.7809153
_cons	3.025176	.1009629	29.96	0.000	2.827292	3.223059
bddi7 <-						
BDDI	.7695299	.0198058	38.85	0.000	.7307112	.8083486
_cons	3.747647	.1211042	30.95	0.000	3.510287	3.985007
bddi9 <-						
BDDI	.7680335	.0203961	37.66	0.000	.7280578	.8080091
_cons	3.234113	.1067189	30.30	0.000	3.024948	3.443279
Variance						
e.pbdq3	.4785878	.032784			.418459	.5473565
e.pbdq4	.3572334	.0286557			.3052618	.4180535
e.pbdq6	.2691408	.0247193			.2248023	.3222244
e.pbdq7	.4406642	.0315706			.382935	.5070964
e.bddi1	.5527377	.0348409			.4885005	.6254219
e.bddi3	.3814869	.02957			.3277184	.4440771
e.bddi6	.4555173	.032396			.396249	.5236506
e.bddi7	.4078238	.0304824			.3522495	.472166
e.bddi9	.4101246	.0313298			.3530951	.476365
e.be1	.4176645	.0302309			.362424	.4813249
e.be2	.4289606	.0305098			.3731433	.4931273
e.be3	.3892315	.0290627			.3362416	.4505723
e.be4	.3739237	.0283683			.3222591	.4338711

e.be5 | .4412082 .0309105 .3846001 .5061482
e.be6 | .455368 .0314299 .3977514 .5213307
e.be7 | .631944 .0348536 .5671949 .7040847
e.be8 | .5880249 .0345013 .5241469 .6596877
e.be9 | .610514 .0347205 .5461187 .6825026
e.be10 | .6292884 .035017 .5642666 .7018029
e.be11 | .5699906 .0344613 .506296 .6416983
e.be12 | .6001439 .0347626 .5357357 .6722956
e.BE | .4406308 .03393 .3789043 .512413
PBDQ | 1 . . .
BDDI | 1 . . .
Covariance |
PBDQ |
BDDI | .9551016 .012749 74.92 0.000 .930114 .9800891
LR test of model vs. saturated: chi2(186) = 875.59, Prob > chi2 = 0.0000
. estat gof, stats(all)
Fit statistic | Value Description
----------+----------
Likelihood ratio |
chi2_ms(186) | 875.594 model vs. saturated
p > chi2 | 0.000
chi2_bs(210) | 7141.534 baseline vs. saturated

p > chi2	0.000	
Population error		
RMSEA	0.082	Root mean squared error of approximation
90% CI, lower bound	0.077	
upper bound	0.088	
pclose	0.000	Probability RMSEA <= 0.05
Information criteria		
AIC	36543.746	Akaike's information criterion
BIC	36827.840	Bayesian information criterion
Baseline comparison		
CFI	0.901	Comparative fit index
TLI	0.888	Tucker-Lewis index
Size of residuals		
SRMR	0.055	Standardized root mean squared residual
CD	0.950	Coefficient of determination

Appendix E: Scales used in chapter V

Perceived Brand Design Quality ***(Adopted from Yoo and Donthu, 2001 for Brand Design)***

PBDQ1 This brand's design has always been of high quality.
PBDQ 2 New versions of this brand have state-of-the-art design features.
PBDQ 3 This brand innovates with reliable design features.
PBDQ 4 The likelihood that this brand would be well-designed is very high.
PBDQ 5 I can expect consistency of this brand's design quality for its new products.
PBDQ 6 I am sure this brand will launch well-designed products next season.
PBDQ 7 This brand makes beautiful and sleek products.
PBDQ 8 What makes this brand's products distinctive is their design.
PBDQ 9 I think this brand invests very heavily in design
PBDQ 10 This brand makes beautiful-color products
PBDQ 11 This brand makes aesthetically pleasing design

Brand Design Loyalty ***(Adopted from Yoo and Donthu, 2001)***

BDLO1 I have always been a big fan of this brand 's design features
BDLO2 I consider myself to be loyal to this brand due to its design features.
BDLO3 This brand would be my first choice only because of its design features.
BDLO5 Due to its design features, I will wait until the brand is again available if this brand is not available at the retailer.
BDLO6 Even if I find that another brand has superior functionality, I would be loyal to this brand because of its distinct design features.

Brand Design Familiarity ***(Adopted from Yoo and Donthu, 2001)***

BDFA1 I am familiar with this brand's design features.
BDFA2 I can recognize this brand's design details among other competing brands.
BDFA3 I know how design characteristics of this brand look like.
BDFA4 I can identify this brand through its design.
BDFA6 I find this brand design features very familiar to me.
BDFA7 I can find quickly this brand among the rest because its design features are very familiar to me.

Brand Design Association ***(Adopted from Yoo and Donthu, 2001)***

BDAS1 Some design characteristics of this brand come to my mind quickly.
BDAS I can quickly recall the design details of this brand.
BDAS6 It is easy to remember this brand's design
BDAS8 This brand relies on design to attract buyers.

Brand Design Distinctiveness (A*dapted from Yli-Renko, Autio and Sapienza, 2001; Bruce and Daly, 2007; Person, Snelders, Karjalainen and Schoormans, 2007; Gatignon and Xuereb, 1997*)

BDDI1 This brand 's design features are better than those of competitors'.
BDDI2 I search for this brand's distinctive design features when I shop around.
BDDI3 This brand heavily employs design to draw attention to itself.
BDDI4 I always look for this brand's distinctive design features when I consider buying competitive brands.
BDDI5 This brand uses innovative elements in its new designs.
BDDI6 This brand's competitiveness must be based on its design.
BDDI7 This brand uses design to distinguish itself in the market
BDDI8 This brand uses design elements to help customers relate one product/service to another.
BDDI9 What makes this brand distinctive is its design.
BDDI10 This brand makes beautiful and sleek designs.

Meaning Driven Brand Design *(Inspired by the book Making Meaning, Diller et al, 2005)*
MDBD1 This brand design creates experiences that bring meaning to my life.
MDBD2 This brand 's design go beyond simply meeting my needs, and are linked to my values and lifestyle.
MDBD3 I choose this brand design, because in addition to functionality and price, it comes after a deeper personal underlying motivation.
MDBD4 This brand's design fits into my existing values and desire for belonging.
MDBD5 I care deeply for this brand's design features and I identify myself as someone that derives meaning from it.
MDBD6 This brand's design is consistent with my lifestyle.
MDBD7 The designers of this brand understand what is meaningful to their consumers and then explore how they might design the brand accordingly.
MDBD8 Some of the design details of this brand focus on the truly important perspectives of lifestyle, value and meaning.
MDBD9 This brand's design builds value based on a deep understanding of customers' needs.
MDBD10 The beauty of this brand gives me a sense that it has been created by considering purpose of experience.
MDBD11 Some features of this brand's design gives me a sense of satisfaction.
MDBD12 Some features of this brand's design allow me to feel that I experience something new and original.
MDBD13 This brand's design details inspire me to be more creative.
MDBD14 The design's details of this brand bring harmony to my life.
MDBD15 This brand's design allows me to feel a sense of unity with myself and my life.
MDBD16 This brand's design gives me a sense of freedom from worry about anything.

MDBD17 This brand's design deliver on its promise.
MDBD18 This brand's design makes me recognize myself as a respected individual.
MDBD19 This brand's design make me feel connected to my family and friends.
MDBD20 This brand's design details create symbolic meaning for me.

Overall Brand Equity Items (*Yoo and Donthu, 2001*)
OBE1 It makes sense to buy my favourite brand instead of any other brand, even if they are the same.
OBE2 Even if another brand has same features as my favourite brand, I would prefer to buy my favourite one.
OBE3 If there is another brand as good as my favourite one , I would prefer to buy my favourite one.
OBE4 If another brand is not different from my favourite one in any way, it seems smarter to purchase my favourite one.

Brand Experience
Brand Experience Dimensions (Adopted from Brakus et al, 2009, with no "reverse" items)

Sensory
BE1 This brand makes a strong impression on my visual sense or other senses.
BE2 I find this brand interesting in a sensory way.
BE3 This brand appeals to my senses.

Affective
BE4 This brand induces feelings and sentiments.
BE5 I have strong emotions for this brand.
BE6 This brand is an emotional brand.

Behavioral
BE7 I engage in physical actions and behaviors when I use this brand.
BE8 This brand results in bodily experiences.
BE9 This brand is action oriented.

Intellectual
BE10 I engage in a lot of thinking when I encounter this brand.
BE11 This brand makes me think .
BE12 This brand stimulates my curiosity and problem solving.

BE13 This brand induces action (added by the author).
BE14 When I use this brand, my body experiences physical sensations evoked by the external world
(added by the author).

Seven-point Likert scale was used: 1 = "strongly disagree" and 7= "strongly agree".

Consumer Satisfaction (Brakus et al, 2009; Oliver, 1980)
CS1 I am satisfied with this brand and its performance.
CS2 If I could do it again, I would buy a different brand than this brand (reverse).
CS3 My choice to get this brand has been a wise one.
CS4 I feel bad about my decision to get this brand (reverse).
CS5 "I am not happy with what I did with this brand (reverse)

Seven-point Likert scale was used: 1 = "strongly disagree" and 7= "strongly agree".

Consumer Loyalty ((Brakus et al, 2009; Yoo and Donthu, 2001)
CL1 In the future, I will be loyal to this brand
CL2 I will buy this brand again
CL3 This brand will be my first choice in the future
CL4 I will not buy other brands if this brand is available at the store
CL5 I will recommend this brand to others.

Seven-point Likert scale was used: 1 = "strongly disagree" and 7= "strongly agree".

CVPA (Centrality of Visual Product Aesthetics) Scale (Bloch et al, 2003)
Value:
CVPA1 Owning products that have superior designs makes me feel good about myself.
CVPA2 I enjoy seeing displays of products that have superior designs.
CVPA3 A product's design is a source of pleasure to me.
CVPA4 Beautiful product designs make our world a better place to live.

Acumen:
CVPA5 Being able to see subtle differences in product designs is one skill that I have developed over time.
CVPA6 I see things in a product's design that other people tend to pass over.
CVPA7 I have the ability to imagine how a product will fit in with designs of other things I already own.
CVPA8 I have a pretty good idea of what makes one product look better than its competitors.

Response:
CVPA9 Sometimes the way a product looks seems to reach out and grab me.
CVPA10 If a product's design really "speaks" to me, I feel that I must buy it.
CVPA11 When I see a product that has a really great design, I feel a strong urge to buy it.

Appendix F: Interview Questions

Part I: Specific (Divergent)
Please tell / show me an example of a brand with good design.
Why do you think this brand has a good design?

Part II: General (Convergent)
What do you think would be the advantages of buying/selling a brand with good design?
What do you think about the value of design?
What can be the factors influencing the importance of design of the brand?
What are the other sources of design value that you can think of?
What other factors may have an effect on the importance of design?
What kind of value do you think design would bring to your life?
What could be the advantages of working with a designer?
What does “meaningful design experience” mean to you?

Appendix G: London School of Economics - The HUB invitation to Participate

From: "Rodriguez-Wilches, A (PGT)" <A.Rodriguez-Wilches@lse.ac.uk> **To:** "gilipinar@yahoo.com" <gilipinar@yahoo.com> **Cc:**"wesleyj@gsu.edu" <wesleyj@gsu.edu>; "dtruex@gsu.edu" <dtruex@gsu.edu>; "jordi.montana @ esade.edu" <jordi.montana@esade.edu>; "johnchristopher.spender @ esade.edu "<johnchristopher.spender@esade.edu> **Sent:** Wednesday, March 5, 2014 12:47 AM **Subject:** LSE - The HUB invitation to Participate

Dear Mr. Ilipinar,

We are a team of Master students at the London School of Economics. As part of an Open Innovation initiative, we are aiming to solve a real challenge for the global social incubator **The HUB**, which has been experiencing rapid international growth over the

past few years. The overall question is: **How can an organization grow in a decentralized, networked way?** We are acquainted with and inspired by your and your colleague's work on **design thinking in postmodern organizations (2011),** and would like to invite you and your colleagues (who are all copied in) to participate in this process.

We are looking forward to a lively **discussion** among network experts, entrepreneurs, students and professors **on the organizational model of the 21st century** to come up with different suggestions for the HUB.

A Workshop will take place on Wednesday 12 March from 6.00-8.00pm in the HUB Westminster (1st floor, New Zealand House, 80 Haymarket, London SW1Y 4TE).

Apart from the workshop, we are also hosting an **online discussion in our blog**: We would very much appreciate your insight - be it just a small entry, a publication related to that, or some comments! In case you want to make a contribution to this blog, you could send this to us by email. The blog can be found on:http://rhizomeblog.wordpress.com/
Also, if you know anyone with a particular interest or insight on this **please do post the link to the blog and invite them to participate too.**This would be of enormous help.

For more information on our challenge please see the PDF attached.

Thank you in advance for any feedback.

Best regards,
the HUB plus LSE Team

(Katharina Niermann, Andres Rodriguez Wilches, Philippe Van 't Hoff and Harsh Sethia)

Appendix H: Paper Makes SSRN Top Ten List (2012)

----- Forwarded Message -----
From: "management@ssrn.com" <management@ssrn.com>
To: gilipinar@yahoo.com
Sent: Wednesday, February 1, 2012 10:03 AM
Subject: Your Paper Makes SSRN Top Ten List

SSRN SOCIAL SCIENCE RESEARCH NETWORK
tomorrow's research today

Dear Gursel Ilipinar:

Your paper, "DESIGN THINKING IN THE POSTMODERN ORGANIZATION", was recently listed on SSRN's Top Ten download list for: PRN: Social Sciences (Topic) and Philosophy of Science eJournal.

As of 02/01/2012, your paper has been downloaded 52 times. You may view the abstract and download statistics at:http://ssrn.com/abstract=1963605.

Top Ten Lists are updated on a daily basis. Click the following link(s) to view the Top Ten list for:

PRN: Social Sciences (Topic) Top Ten and Philosophy of Science eJournal Top Ten.

Click the following link(s) to view all the papers in:

PRN: Social Sciences (Topic) All Papers and Philosophy of Science eJournal All Papers.

To view SSRN's Top Ten lists for any network, subnetwork, eJournal or topic on the Browse list (reachable through the following link: http://www.ssrn.com/Browse), click the "i" button to the right of the name, and then select the "Top Downloaded" link in the popup window.

Your paper may be included in future Top Ten lists for other networks or eJournals. If so, you will receive additional notices at that time.

If you have any questions regarding this notification or any other matter, please email AuthorSupport@SSRN.com or call 877-SSRNHelp (877 777 6435 toll free). Outside of the United States, call +1 585 442 8170. We are open Monday through Friday between the hours of 8:30AM and 6:00PM, United States Eastern.

Sincerely,

Michael C. Jensen
Chairman
Social Science Research Network

Appendix I: Paper Makes SSRN Top Ten List (2011)

----- Forwarded Message -----
From: "management@ssrn.com" <management@ssrn.com>
To: gilipinar@yahoo.com
Sent: Sunday, December 11, 2011 4:33 PM
Subject: Your Paper Makes SSRN Top Ten List

SSRN SOCIAL SCIENCE RESEARCH NETWORK
tomorrow's research today

Dear Gursel Ilipinar:

Your paper, "DESIGN THINKING IN THE POSTMODERN ORGANIZATION", was recently listed on SSRN's Top Ten download list for Aesthetics & Philosophy of Art eJournal, ORG: Organizational Structural Designs (Topic), PRN: Aesthetic Experience, Judgment, Value (Topic), PRN: Philosophy of Art (Topic), PRN: Philosophy of the Arts: Fields, Genres & Media (Topic), RCRN Subject Matter eJournals, RCRN: Rhetoric of Other Academic Disciplines (Topic), Rhetoric & Communication Research Network, Rhetoric of Academic Disciplines eJournal, Structural Dimensions & Organizational Behavior eJournal and Sustainability Research & Policy Network. As of 12/11/2011, your paper has been downloaded 23 times. You may view the abstract and download statistics at http://ssrn.com/abstract=1963605.

Top Ten Lists are updated on a daily basis. Click on the following link to view the Top Ten list for the journal Aesthetics & Philosophy of Art eJournal Top Ten, ORG: Organizational Structural Designs (Topic) Top Ten, PRN: Aesthetic Experience, Judgment, Value (Topic) Top Ten, PRN: Philosophy of Art (Topic) Top Ten, PRN: Philosophy of the Arts: Fields, Genres & Media (Topic) Top Ten, RCRN Subject Matter eJournals Top Ten, RCRN: Rhetoric of Other Academic Disciplines (Topic) Top Ten, Rhetoric & Communication Research Network Top Ten, Rhetoric of Academic Disciplines eJournal Top Ten, Structural Dimensions & Organizational Behavior eJournal Top Ten and Sustainability Research & Policy Network Top Ten.

Click on the following link to view all the papers in the journal Aesthetics & Philosophy of Art eJournal All Papers, ORG: Organizational Structural Designs (Topic) All Papers, PRN: Aesthetic Experience, Judgment, Value (Topic) All Papers,PRN: Philosophy of Art (Topic) All Papers, PRN: Philosophy of the Arts: Fields, Genres & Media (Topic) All Papers,RCRN Subject Matter eJournals All Papers, RCRN: Rhetoric of Other Academic Disciplines (Topic) All Papers,Rhetoric & Communication Research Network All Papers, Rhetoric of Academic Disciplines eJournal All Papers,Structural Dimensions & Organizational

Behavior eJournal All Papers and Sustainability Research & Policy Network All Papers.

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If you have any questions regarding this notification or any other matter, please email AuthorSupport@SSRN.com or call 877-SSRNHelp (877 777 6435 toll free). Outside of the United States, call +1 585 442 8170.

SSRN Announcement:
SSRN has again been named the Number 1 Open Access Repository in the World (for January, 2011) by the Ranking Web of World Repositories (http://repositories.webometrics.info/toprep.asp). Our thanks to all of the SSRN authors who helped make this happen.

Sincerely,

Michael C. Jensen
Chairman
Social Science Research Network

Appendix J: Design Can Drive Exceptional Returns for Shareholders

This is a recent email I have received from Greg Thomas, former Director of Research at Emory University's Goizueta Business School's Emory Branding Institute (formerly ZIBS - Zyman Institute for Branding Studies), Atlanta, Georgia, USA, who co- hosted me (with Professor Raj Srivastava) during my assignment (2007-2008) funded by AGAUR. His email refers to our discussions dating back to 2007 around the need of creating such an Index to track design oriented companies.

From: Greg Thomas <g@inov8n.com>

To: Gursel Ilipinar <gilipinar@yahoo.com>

Sent: Friday, April 4, 2014 6:18 PM

Subject: Design Can Drive Exceptional Returns for Shareholders - Jeneanne Rae - Harvard Business Review

Hi Gursel

This is an article you'll like.

http://blogs.hbr.org/2014/04/design-can-drive-exceptional-returns-for-shareholders/

Cheers,

Greg Thomas

+1 404 254-6958

Design Can Drive Exceptional Returns for Shareholders

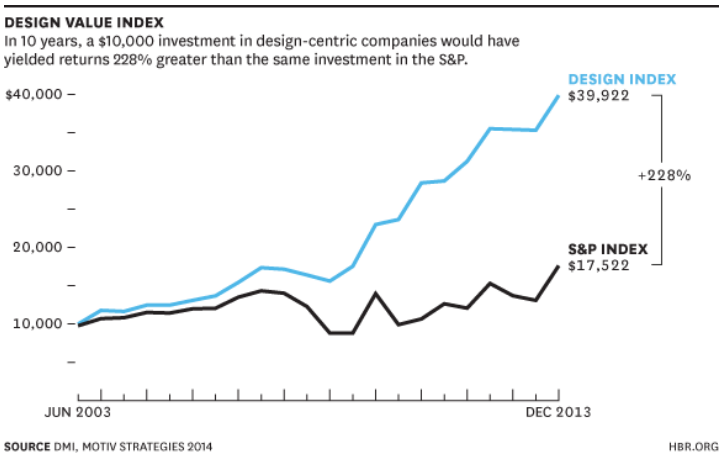
by Jeneanne Rae | 1:00 PM April 4, 2014

It used to be about "us" and "them."

"Us" were the people who believed that design could add significant value when tightly integrated with other business processes. "Them" were the majority of managers who didn't get what design was all about in the first place.

Today, however, the distance between “us” and “them” is getting smaller. And with good reason: From Target to Uber, business managers everywhere are starting to understand that the strategic use of design is making a difference in achieving outsized business results. At the same time, design is notoriously difficult to define, tough to measure, and hard to isolate as a function.

To better understand how design leads to returns, my company, Motiv Strategies, and the Design Management Institute worked together to produce a new tool that tracks the results of design-centric companies against those that are not. Called the Design Value Index, it shows that 15 rigorously-selected companies we believe institutionally understand the value of design beat the S&P by 228% over the last 10 years.



The index was constructed in the same fashion as other indexes that seek to isolate an industry sector (banking, biotech), geography (China), or size (large cap), for example. In our version, we sought to identify only companies that are design leaders. Starting with a list of over 75 publicly-traded U.S. firms, we found only 15 that met our six criteria: publicly traded in the U.S. for 10+ years; deployment of design as an integrated function across the entire enterprise; evidence that design investments and influence are increasing; clear reporting structure and operating model for design; experienced design executives at the helm directing design activities; and tangible senior leadership-level commitment for design. Corporations who made the index based on this criteria include Apple, Coca-Cola, Ford, Herman-Miller, IBM, Intuit, Newell-Rubbermaid, Procter & Gamble, Starbucks, Starwood, Steelcase, Target, Walt Disney, Whirlpool, and Nike.

The latter company is a great example of what it looks like to place design at the center of corporate strategy. At Nike, a large and well-resourced design function reports directly to CEO, Mark Parker, who early in his tenure was a designer himself. Virtually everything the company makes, and is thinking about making, is highly influenced by this huge team of footwear, product, fashion, store, graphic, interaction, and brand designers. Using human-centered design methods, inspiration for the company’s signature products is drawn directly from its cadre of

famous and not-so-famous practicing athletes, with whom the designers directly interact to devise authentic performance innovations and style updates.

In fact, no other company function is allowed to second guess the design team's direction when it comes to the emotional and functional benefits for consumers, the interpretation of market trends, and, of course, aesthetics. Design is expected *and trusted* to lead Nike.

This is not to say that design "runs" the company, however. Rather, design is a highly influential force that, when effectively integrated with strategy, marketing, and so forth, can help the company stay out in front of its competitors by staying close to customers and commanding handsome price premiums. Of course, design also has a huge impact on the representation of Nike's brand across the globe. Countless acts in the design details ladder up to one big, fat impression that Nike is *the* company for performance-minded athletes.

How can this type of commitment to design contribute to results? In Interbrand's 2013 list of the World's most valuable brands, Nike ranks 24th, two slots up from the prior year and a 13% increase in value to $17.085 billion. Next to Apple, Nike had the highest shareholder returns in our index — from 2003- 2013 Nike's market cap increased from under $6 billion to $70 billion, or 1,095% over the last ten years. Further, Nike was ranked the #7 most innovative company by Fast Company in 2014, and the 13th most admired company by *Forbes* magazine.

The bottom line is that companies that use design strategically grow faster and have higher margins than their competitors. High growth rates and margins make these companies very attractive to shareholders, increasing competition for ownership. This ultimately pushes their stock prices higher than their industry peers. The returns in our Design Value Index were 2.28 times the size of the S&P's returns over the last 10 years. Neither hedge fund managers, nor venture capitalists, nor mutual fund managers came anywhere close to these results.

And thanks to the exemplar companies included in our index, as well as many international firms like Samsung, Ikea, and BMW, consumers now recognize, expect, and will pay for good design. This goes beyond traditional consumer products; government and B2B marketing, notorious for not-so-great aesthetics and customer experiences, are starting to make design a priority.

As a person who has spent part of her career helping companies appreciate and use design to their advantage, I will be the first to tell you that making it a central part of strategy isn't always easy. But now that we know a lot more about how integrated design drives returns, companies across sectors can start thinking about managing design strategically at the enterprise level. There is clearly much value to unlock, and the only way to do this effectively is to do it together. I want no more talk of "them," just "us." by Jeneanne Rae, 2014.