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**ECUADORIAN SMES' EXPORT  
ACTIVITIES AND ENVIRONMENTAL  
RESPONSIBILITY**

**DOCTORAL THESIS**

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**INTERNATIONAL DOCTORATE IN ENTREPRENEURSHIP AND  
MANAGEMENT**

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## **ABSTRACT**

The doctoral dissertation is a compilation of four articles, which revolve around the relationship between internationalization and export activities and corporate environmental responsibility. The second chapter is a systematic literature review, which examines the state-of-art about the relation between internationalization and environmental practices between 1998 and November 2019. We included 91 articles of Q1, Q2, Q3 and Q4 journals. The third chapter analyzes the influence of the manager's prior knowledge, attitude, engagement, and commitment towards the natural environment in the adoption of eco-friendly strategies within the firm. But one of the findings was that the lack of financial and human resources Ecuadorian SMEs face is an important limitation for the implementation of green plans inside the firms. This chapter used a qualitative approach to study the manager's perspective about the export activities and its relationship with environmental issues. The fourth chapter investigates the influence of export activities and behavior in the adoption of environmental strategies, eco-innovation and environmental performance. A quantitative methodology was used to test the hypothesis by applying SEM analysis. The software employed was STATA 14, and there were 100 valid answers taken from April 2021 to June 2021. The findings showed that export ratio does not influence positively on PES and eco-innovation. However, top management commitment and organizational learning capability have a positive relation with the three dependent variables. Finally, the fifth paper studied the influence of environmental strategies, eco-innovation, international certifications and firm's size on the growth of export revenues. As in the previous chapter, this research used quantitative techniques to test the hypothesis. The findings showed that eco-innovation, international certifications, eco-friendly orientation, and firm's size have a significant and positive relationship with export revenues. In other words, when a firm possesses all the variables mentioned above it might rise their export revenues. In sum, the doctoral dissertation showed that export activities and environmental actions are interrelated. within exporting Ecuadorian SMEs. The destination of products is relevant as well, because customers of developed regions have strict environmental regulations than developing countries.

**Key words:** export activities, CER, PES, eco-innovation, environmental performance, international certification, top management commitment, firm size.



# CHAPTER 1

## INTRODUCTION

### 1. INTRODUCTION

#### **1.1.Problem statement and objectives of the research**

Since World War II the amount of exports and trade worldwide have increased. For instance, in 1948 merchandise exports were \$59 billion, in 1983, \$1,838 billion, in 2003, \$7,379 billion and in 2017, \$17,198 billion (OMC, Organización Mundial del Comercio, 2018). At the same time, the world has been facing a growing environmental pressure including air pollution, land degradation and overfishing. Climate change, in particular, has intensified the frequency and magnitude of weather-related events such as tropical cyclones, which can trigger natural disasters and widespread emergencies (World Trade Organization & United Nations, 2018). Also, trade liberalization may lead to specialization in pollution-intensive activities in some countries if environmental policy stringency differs across countries (OECD, 2020). In this sense, exporting enterprises have also faced the problem of becoming sustainable or green and developing environmental strategies to maintain their domestic and international competitiveness.

However, literature from different countries have found that exporters are generally less pollutant than non-exporters (Richter & Schiersch, 2017). Exporters emit 9% to 13% less than non-exporters after controlling for establishment output and industry characteristics (Blyde & Ramirez, 2021). International trade can accelerate the diffusion of environmental goods and services to places where they are most needed and help stimulate productive local capacity. The environmental goods and services help regenerating the natural environment and making production and consumption more sustainable; for example, produce clean and renewable energy, improve resource and energy efficiency, and reduce waste and abolish air, water and soil pollution, among other important functions. Foreign markets give companies, governments and consumers around the world access to better and more efficient goods and services to protect the environment (World Trade Organization & United Nations, 2018).

Exporters may have newer facilities associated with more environmentally friendly infrastructure and technology. Management skills obtained from international operations might induce to more eco-innovation and better international performance (Blyde & Ramirez, 2021; Richter & Schiersch, 2017). Finally, the increasing awareness of foreign consumers about environmental issues is another key driver of opportunities to bring the economy, trade and environmental sustainability closer together. Rapidly expanding markets for sustainable food and beverages, energy-efficient home appliances and buildings and eco-friendly holiday destinations illustrate this trend (World Trade Organization & United Nations, 2018).

Governments and decision makers and scholars have been studying the role of companies in environmental damage. In September 2000, the United Nations presented the Millennium Development Goals in which they included the objective to ensure environmental sustainability. Moreover, in 2015, world leaders in a meeting in the UN headquarters created new objectives to face climate change and reduce carbon emissions. Finally, the United Nations members adopted the “2030 Agenda for Sustainable Development” in 2015. The 17 Sustainable Development Goals (SDGs) mention for example, to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. The data shows that emission intensity of global carbon dioxide (CO<sub>2</sub>) emissions from manufacturing industries declined by more than 20% between 2000 and 2016. Following the recommendations of the UN, companies all around the world have been adopting environmental strategies to overcome environmental damage. National policy frameworks and instruments are needed to enable a change toward sustainable consumption and production.

The direction of the relation between internationalization and environmental responsibility has been studied previously by some authors. But theory has not fully reached a consensus about the direction of the link between export behavior and environmental strategies and management, and whether this relation is beneficial for the environment. Some authors like Galdeano-Gómez, Carmona-Moreno, & Céspedes-Lorente, (2016:220) mention that the relation is “bi-directional as causal effects may go in both directions: regional export intensity may improve or worsen regional environmental performance.” Several authors mention that export activities have a positive relation in the adoption of environmental management and strategies (Gómez-Bolaños et al., 2019; Aguilera-Caracuel et al., 2016; Aguilera-Caracuel, Hurtado-Torres,

& Aragón-Correa, 2012; Chan & Ma, 2016; among others.). On the other hand, several authors indicate that the adoption of environmental strategies and management influences the degree of internationalization and firms' performance (Duque-Grisales, Aguilera-Caracuel, Guerrero-Villegas, & García-Sánchez, 2019; Martín-Tapia, Aragón-Correa, & Senise-Barrio, 2008; Emilio Galdeano-Gómez, Eva Carmona-Moreno, and José Céspedes-Lorente, 2016).

Numerous studies focused their investigation on the effect large and multinational corporations have on the environment (Kennelly & Lewis, 2003), as well as on their strategies to help solve the ecological problem, because their impact is higher than that of SMEs. However, large and multinational companies have appropriate organizational structures and policies that will support green behavior. These companies possess enough financial, human, technological resources and allies that will support the survival of ecological operations (Leonidou et al., 2016). In contrast, some authors have suggested that the harmful effect that individual SMEs have on the environment is insignificant, but the joint impact of these companies on the environment is overwhelming and could be even higher than the combined impact of large companies (Aguilera-Caracuel et al., 2011): around two thirds of the total industrial pollution (Leonidou et al., 2016). Likewise, Martín-Tapia et al., (2008) mentioned that SMEs produce 70% of pollution caused by world industries and 60% of carbon emissions. Nevertheless, empirical evidence comes from multinational corporations data and small and medium firms have been almost absent from these studies. (Martín-Tapia et al., 2008).

Firms from emerging markets have become important actors in the global economy for the past 30 years and several newly industrialized countries such as China, India, and Brazil have taken a larger share of the world's exports, and the dominance of the United States and other developed countries in export markets has decreased, studies investigating this nexus still mainly focus on developed regions and only few authors have researched developing countries (Wu & Ma, 2016). Aragón-Correa, Markus, & Hurtado-Torres (2016) suggested mentioned as future research to include the inclusion in future research of SMEs from developing regions considering diverse sectors of the economy. Also, Duque-Grisales et al., (2019), Sandhu, Smallman, Ozanne, & Cullen, (2012) and Urban & Govender, (2012) stated that little attention has been paid to environmental strategies in emerging markets, and research should focus on these territories (Latin America, India and South Africa).

The doctoral dissertation is dedicated to fill these gaps in the literature and to determine the direction of the relationship between exporting behavior and the adoption of environmental strategies in small and medium enterprises in Ecuador. To achieve this goal, it is necessary to create a set of research questions and specific objectives that will be developed in individual papers, each of which will have their own results, discussion and contribution, while following the main objective of the study.

It is essential to propose key objectives that will guide the pathway of the doctoral dissertation. These will mainly focus on analyzing the link between export behavior and environmental strategies in Ecuadorian SMEs. In order to examine whether internationalization of SMEs is an antecedent or consequence of the adoption and application of proactive environmental strategies (i.e.: is there a double causality among them?) The following objectives and research questions will determine the purpose of the chapters of the investigation:

- To examine the content and evolution of research based on the relationship between internationalization of firms and corporate environmental responsibility, and to identify the topics, units of analysis, and statistical techniques used throughout these studies as well as the authors and articles with the highest impact.
- To explore the importance of managers' prior knowledge in the development of their environmental goals, attitudes, and engagement, and in the adoption of green strategies within the firm in exporting Ecuadorian SMEs.
- To investigate if international export activities and top management commitment have a positive and significant influence over the adoption of environmental strategies in Ecuadorian SMEs.
- To analyze if environmental strategies have a positive relation with the adoption of export activities in Ecuadorian SMEs.

#### Research questions

- What is the state of literature regarding the nexus between the internationalization and export activities of firms and environmental responsibility?

- How do managers' international experience and prior knowledge impact the application of environmental attitudes, goals and strategies in Ecuadorian exporting SMEs?
- How does international diversification influence the adoption of environmental strategies and environmental performance by Ecuadorian exporting SMEs?
- Do environmental activities impact the implementation of export activities/behaviour and export performance of SMEs?

The doctoral dissertation has several contributions. The first one will shed light on the debate about the direction and causality of the relationship internationalization-environmental strategies. Second, it will contribute to the existing literature on Corporate Environmental Responsibility (CER) framework by analyzing International Entrepreneurship jointly with environmental strategies. Third, a conceptual framework will be developed to understand drivers and outcomes of CER in firms with international activities. We will deeply examine how managers' behavior, values and commitment, and the context of the country and international markets affect the adoption of environmental practices in Ecuadorian SMEs. Finally, we will give a general idea about the interaction of these two factors in Ecuador, a developing country which has been left aside in the research agenda.

## **2. CONCEPTUAL BACKGROUND AND LITERATURE REVIEW**

The increasing globalization of the business environment and rapid growth of international trade make it critical for firms, especially multinationals, to seek opportunities for foreign market expansion (Wu & Ma, 2016). This means that small and medium companies have followed the example of large corporations and have started to internationalize despite their lack of resources and international experience (Zaefarian et al., 2016). SMEs mainly go into foreign countries through exports because it is the easiest and fastest way, particularly for firms from emerging markets. SMEs manufacture in their countries and export to foreign markets (Wu & Ma, 2016).

The firm's commitment to the natural environment has become an important factor in local and international scenarios for several reasons: legislations are becoming stricter and are imposing severe penalties on firms not abiding by the law, consumers' growing environmental concern leads them to reward companies with green initiatives and to punish those without them, firms carry out green activities to achieve competitive

advantage, and rapid changing market conditions about the environment provide new opportunities for small and medium firms to exploit (Leonidou et al., 2016). This phenomenon has encouraged companies to adopt environmental values and practices to increase their competitiveness and performance.

This commitment has led to the wide study of several perspectives in the business and management literature. For instance, the term Corporate Social Responsibility (CSR) was introduced in the early-70s, and can be understood as “*instances in which companies go beyond compliance, engaging in actions that can advance social and environmental causes while seeking to capture value for the company through stakeholder management and by remaining consistent with their business strategy*”(Barin Cruz, Boehe, & Ogasavara, 2015:727). This definition includes three important aspects: economic, environmental, and social issues.

Other concept is Corporate Environmental Responsibility (CER). It focuses on a company's relation with the natural environment, the management and use of natural resources, waste production and disposal, recycling, and prevention and control of pollution (Hatmanu et al., 2019). Decision makers are the ones responsible for actions to protect the environment, some of which may be beyond legal obligations (Holtbrügge & Dögl, 2012).

The analysis of CER is important because it is necessary to see how international firms cope with the pressure of being green, which strategies they have followed, and how companies have implemented plans for becoming eco-friendly, with focus on environmental strategies, including top managerial environmental knowledge and experience, changes in process and products or services (Aguilera-Caracuel et al., 2011), and communicational aspects (González-Benito & González-Benito, 2006; Leonidou, Katsikeas, Fotiadis, & Christodoulides, 2013).

On the other hand, the international entrepreneurship approach mention that the firm's internationalization strategy is the process in which a firm expands the operations and transactions of its goods or services across borders into different geographic locations or markets (Ayuso & Navarrete-Báez, 2018). Internationalization can be viewed as a strategy to increase a firm's competitive advantage, growth of opportunities and diversification of benefits, as well as to access new resources, production capabilities, and knowledge (Ibid).

Moreover, IE is relevant because it refers to the discovery and exploitation of opportunities, across national borders (Oviatt & McDougall, 2005), for having access to new markets, new resources, knowledge and capabilities. Furthermore, IE has created the concepts of Born Global and International New Ventures, which denote newly formed firms that seek international markets from inception (Aspelund et al., 2017) mostly by using exports as their main way of entering foreign markets (Cavusgil & Knight, 2015). Numerous scholars studied the phenomenon of SMEs' internationalization process since the 90s, but only few have addressed the relation between export activities and environmental responsibility, and those that have address this topic have failed to create a convincing argument about how the firms' international expansion affects the environment (Aragon-Correa, Markus, & Hurtado-Torres, 2016).

Nowadays, literature mention that CER has international dimensions, for example internationalization has positive effects on knowledge transfer, dissemination of innovations, etc. Internationalized firms are exposed to new notions and ideas from different foreign customers, stakeholders, citizens, distributors, etc., and can acquire and leverage new knowledge. Additionally, companies will enhance and boost their new network, and gain experience in communication and negotiation strategies that will be useful when implementing environmental policies in their firms. Companies working in international markets can see the advantage of having environmental standards in order to obtain their license to work in other countries (Ayuso & Navarrete-Báez, 2018). Firms might improve their manufacturing processes and products, adopt green management and proactive strategies or obtain international certifications (Peng et al., 2009). Therefore, some authors consider international experience as a relevant knowledge-based resource that may contribute to improving firms' CER practices. As we can observe, internationalization and corporate environmental responsibility are somewhat connected. Both can be considered strategies to obtain advantages and capabilities over their competitors.

Additionally, CER and its link to international diversification, in particular have not been widely studied in the SMEs literature. Some authors have demonstrated that firms having efficient operations in international markets is positive for the development of environmental awareness and performance (Aragon-Correa et al., 2016; Bu et al., 2011; Suarez-Perales et al., 2017). Leonidou et al., (2013) and Leonidou, Katsikeas, Samiee, & Aykol, (2018) gave special attention to green marketing strategies and how these

strategies will influence the export performance of the firm. Other researchers, such as Aguilera-Caracuel, Aragón-Correa and Hurtado-Torres have focused on companies from Spain, from the automotive and food industries and found a positive relation between export activities and environmental strategies. The paper by Ayuso & Navarrete-Báez, (2018) makes a comparison between Spanish and Mexican firms regarding the adoption of environmental responsibility initiatives, and the study from Duque-Grisales et al., (2019) analyses the relation between internationalization and corporate environmental responsibility of Multilatinas.

### **3. STRUCTURE OF THE RESEARCH**

In the previous section we presented the main concepts and approaches between internationalization and corporate environmental responsibility. This section outlines the dissertation contents divided into 5 chapters.

The second chapter of the doctoral dissertation is a systematic literature which main objective is to explore the content and evolution of research, focusing on the relation between a firm's internationalization and corporate environmental responsibility, and to identify the topics, units of analysis, and statistical techniques used throughout these studies as well as the authors and articles with the highest impact. We use 91 articles from the database Web of Science and Scopus from 1998 and November 2019. The main findings reveal that: a) there international and external drivers that influence and lead the adoption of environmental strategies and plans within the company; b) internationalization and export activities can be a driver, but also a consequence of proactive environmental strategies and eco-innovation, it depends on several issues for example the environmental regulations of the home and host country, the industry, the firm's size, customer and stakeholder needs and requirements; c) top management commitment and stakeholder pressure are also important drivers for the implementation of green plans inside the small and medium companies; d) the majority of the studies were focused on large and multinational companies from developed regions, there is a lack of investigation of SMEs, especially from emerging markets and developing countries. Based on the results of chapter two, we developed this research.

The third chapter of the doctoral dissertation analyzed the top management commitment and previous knowledge in the adoption of environmental strategies within the firm. By using a qualitative approach, we can understand experience, actions, beliefs, and values



of people. In this case, we to analyze from a managerial perspective the environmental activities and export experience in Ecuadorian SMEs. In this article, the main objective is to explore the importance of managers' prior knowledge in the development of their environmental goals, attitudes, and engagement, and in the adoption of green strategies within the firm in exporting Ecuadorian SMEs. It is important to investigate how and why international-oriented managers have or have not changed their environmental attitudes and commitment. González-Benito & González-Benito (2005, 2006) and Katsikeas, Leonidou, & Zeriti (2016) mention that top management commitment is one of the most important drivers for implementing environmental activities, and this commitment may come from having previous knowledge. The findings showed that a) the managers' prior knowledge, values and beliefs can influence their commitment to protect the environment; b) it is easier for a firm to implement green plans when the manager and/or owner is committed to reduce their negative impact towards the natural environment; c) the lack of financial and human resources within the company can be a limitation for the adoption of eco-friendly strategies in the firm. The results were aligned with the ones of Sandhu et al. (2012), which studied Indian companies, and suggested that having international knowledge exhibits greater commitment to integrating environmental issues into strategic decision-making.

Chapter four is related to the causality of the following variables: export activities, environmental strategies and environmental performance. This article analysed if export activities and internationalization have a positive relation with the adoption of green strategies and environmental performance in Ecuadorian SMEs. In this chapter we used 100 valid questionnaires from exporting Ecuadorian SMEs. The literature has proven that foreign activities have a positive and significant influence over the adoption of environmental strategies. For example, Gómez-Bolaños et al. (2019) found that a firm's higher level of internationalization is positively related to better environmental management. They concluded that firms with a significant share of their business in foreign countries face institutional complexity, so they seek legitimacy in an international context by exhibiting a stronger effort to develop their environmental management activities. Aguilera-Caracuel et al., (2012) showed that international experience has a positive relation with the adoption of proactive environmental strategies. However, our findings did not support these hypotheses. Export ratio did not influence in the implementation of proactive environmental strategies, eco-innovation, and environmental

performance. On the other hand, foreign market destination, organizational learning capability, and top management commitment have a positive relation with the dependent variables. The knowledge obtained from international markets is an essential element for implementing green plans, improve the competitive advantage and performance, and developed dynamic capabilities (Taherdangkoo et al., 2017).

Chapter five analyzed if the adoption of PES, and eco-innovation, international certification and firm's size may influence in the exporting strategy of the firm. The objective is to analyze if the environmental strategies have a positive relation with the adoption of export activities in Ecuadorian SMEs. In this chapter we used 100 valid questionnaires from exporting Ecuadorian SMEs. Duque-Grisales et al. (2019) analyzed this relation in multilatinas and concluded that environmental initiatives have a positive and significant relation with geographic international diversification, but eco-innovations and emissions control do not have a significant relation with international diversification. Martin-Tapia et al. (2010) investigated the connection between proactive environmental strategies and export intensity in Spanish small firms. The results showed there is a positive relation between the two variables. These results reveal that the positive interactions between environmental strategy and the internationalization process for Spanish SMEs coincide with those found for large companies in previous literature. Our findings are similar to the papers previously mentioned, eco-innovation, international certification and firm's size influence over export revenues. In other words, when a firms start eco-innovating, possesses and an international certification is more likely to improve their export revenues. Also, the bigger the firm, the higher are the income of foreign activities.

Figure 1: Structure of the doctoral dissertation

	<i>Chapter 2: FIRMS' INTERNATIONAL BEHAVIOR AND ENVIRONMENTAL SUSTAINABILITY: A SYSTEMATIC LITERATURE REVIEW AND A FUTURE RESEARCH AGENDA</i>	<i>Chapter 3: MANAGERS' ENVIRONMENTAL ATTITUDES, GOALS, AND COMMITMENT TOWARDS THE ADOPTION OF ENVIRONMENTALLY-FRIENDLY STRATEGIES: THE CASE OF EXPORTING ECUADORIAN SMES</i>	<i>Chapter 4: ECUADORIAN SMES EXPORT ACTIVITIES AND ENVIRONMENTAL STRATEGIES: ANALYZING THEIR RELATIONSHIP</i>	<i>Chapter 5: DO ENVIRONMENTAL STRATEGIES IMPROVE THE EXPORT BEHAVIOR OF ECUADORIAN SMES?</i>
Objective	To examine the content and evolution of research based on the relationship between internationalization and corporate environmental responsibility, and to identify the topics, units of analysis, and statistical techniques used throughout these studies as well as the authors and articles with the highest impact	To explore the importance of managers' prior knowledge in the development of their environmental goals, attitudes, and engagement, and in the adoption of green strategies within the firm in exporting Ecuadorian SMES.	To investigate if international export activities and top management commitment have a positive and significant influence over the adoption of environmental strategies in Ecuadorian SME.	To analyze if environmental strategies have a positive relation with the adoption of export activities in Ecuadorian SMES
Research question	What is the state of literature regarding the nexus between the internationalization and export activities of firms and environmental responsibility?	How do managers' international experience and prior knowledge impact the application of environmental attitudes, goals and strategies in Ecuadorian exporting SMES?	How does international diversification influence the adoption of environmental strategies and environmental performance by Ecuadorian exporting SMES?	Do environmental activities impact the implementation of export activities/behaviour and export performance of SMES?
Theoretical framework	International entrepreneurship and corporate environmental responsibility.	Dynamic managerial capabilities, International sustainable entrepreneurship and top managerial commitment.	Knowledge-based view, internationalization and environmental responsibility.	Natural resource-based view.
Methodology	Theoretical: Systematic literature review	Qualitative: Case studies- Gioia method	Quantitative: Structural equation model	Quantitative: Hierarchical multiple regression analysis

#### 4. REFERENCES

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## CHAPTER 2

# FIRMS' INTERNATIONAL BEHAVIOR AND ENVIRONMENTAL SUSTAINABILITY: A SYSTEMATIC LITERATURE REVIEW AND A FUTURE RESEARCH AGENDA

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### ABSTRACT

In this paper we explore the current state of research about internalization/export activities and its relation to corporate environmental responsibility. This systematic literature review includes 91 articles found in management, business and entrepreneurship journals published between 1998 and November 2019. We provide information regarding the most cited articles, geographic focus, research methods, theoretical frameworks, and mainstreams. We found five mainstreams upon which we developed our conceptual framework. Our includes internal and external drivers that lead to the adoption of diverse strategies by firms and their possible outcomes. Future research should further investigate this relationship in developing countries, which have lax environmental regulations and where their SMEs' main internationalization strategy is exporting.

**Key words:** internationalization, export activities, corporate environmental responsibility, environmental strategies.

### 1. INTRODUCTION

Throughout the last decade, the natural environment has come into the forefront of national and international agendas, as well as, of the interests of consumers, multinationals, corporations, and medium and small enterprises. Nevertheless, according to a study made by Goodall (2008), out of approximately 31,000 articles in management and business academic journals from 1970 to 2007, there were only 44 articles mentioning climate change or global warming. This shows that the relation between environmental issues and business has only become relevant in recent years.

Climate change, pollution, and global warming have progressed at an alarming speed, and companies are seen as the main contributors to environmental damage (He et al., 2018).

Furthermore, changes in the composition of the atmosphere, the destruction of the stratosphere, the degradation of the topsoil, the massive use and disposal of plastic, and the increase in carbon emissions have been addressed by organizations. As a consequence, there has been increasing pressure from governments, international organizations and clients to take action, which has motivated firms to become environmentally responsible while maintaining their profits and revenues. International firms have faced challenges in their foreign operations, such as rigid legal codes, regulatory compliance, and public concern (Leonidou et al., 2015). Companies started to adjust their strategic planning with the objective of exploiting green and sustainable opportunities, nationally and internationally (Aragon-Correa & Sharma, 2003; Bıçakcıoğlu, Theoharakis, & Tanyeri, 2018).

There has been a lot of debate about the relationship between a firms' internationalization process and its interaction with environmental responsibility and practices. Authors like Gómez-Bolaños, Hurtado-Torres, & Delgado-Márquez (2019), Aguilera-Caracuel, Escudero Torres, Eulogio, & Hurtado-Torres (2016), Aguilera-Caracuel, Hurtado-Torres, & Aragón-Correa (2012), Chan & Ma, (2016), Darnall, Henriques, & Sadorsky (2008) have mentioned that export activities have an influence over the adoption of environmental activities. In contrast, Duque-Grisales, Aguilera-Caracuel, Guerrero-Villegas, & García-Sánchez (2019), Martin-Tapia, Aragon-Correa, & Senise-Barrio (2008), Galdeano-Gómez, Carmona-Moreno, & Céspedes-Lorente (2016) said that the adoption of environmental strategies and management has an influence over the degree of internationalization and international performance.

This article aims to examine the content and evolution of research based on the relationship between internationalization of firms and corporate environmental responsibility, and to identify the topics, units of analysis, and statistical techniques used throughout these studies as well as the authors and articles with the highest impact. To accomplish this objective a search was conducted on Web of Science and Scopus. The articles included several combinations of keywords. This research aligns with those of He et al. (2018), Aguilera-Caracuel, Aragón-Correa, & Esther Hurtado-Torres (2011) and González-Benito & González-Benito (2006). Even though these studies do not examine this relation *per se*, these authors include specific environmental responsibility factors, like eco-innovation, green marketing, and proactive environmental strategies.



The importance of this paper lies in determining the state of the art about firms' internationalization activities and environmental actions. Nowadays, countries have increased the number of regulations that protect the natural environment and resources. Furthermore, since the Millennium Goals were established, other international legal instruments have been developed to defend the environment. Consumers and stakeholders are becoming environmentally conscious; therefore, companies must change their behavior towards the environment if they want to keep their competitiveness. Social media and new forms of communication have an influence over the legitimacy of a firm in foreign contexts since it is now easier and faster to spread information on whether firms are environmentally friendly or not.

There are several contributions in this article. The first one is the analysis of internationalization/export behavior and the three main environmental practices: proactive environmental actions, eco-innovation, and green marketing. The second is the development of a conceptual framework that includes internal and external drivers, firms' strategies, and influence on performance, reputation and legitimation. The third is a theoretical contribution extending the investigation of two theories: internationalization and corporate environmental responsibility. Finally, we mention a new topic in literature: ecopreneurships. There is a limited number of articles analyzing this issue.

The article has the following structure: first, the presentation of the theoretical framework and relevant concepts. Second, the description of the methodology used to analyze the research and the presentation of results. Finally, the implications, conclusions, future research agenda and limitations.

## **2. THEORETICAL BACKGROUND**

To lay the groundwork for the following literature review, we summarized the definitions and conceptualizations of internationalization and corporate sustainability and environmental responsibility. This will later help us see how these two strategies interact between each other, and the causality of their relationship.

### **2.1 Internationalization**

The term internationalization can be understood as a sequential and orderly process of increased international involvement and the associated changes in organizational form (Johanson & Vahlne, 1977; Cavusgil, 1980). Welch & Luostarinen (1988:36) defined internationalization as *“the process of increasing involvement in international*

*operations.*” There is another definition proposed by Andersen (1997:29), who stated that “*internationalization is the process of adapting exchange transaction modality to international markets.*” This is a narrow definition because it focuses on characteristics, like entry mode and international market selection, that are observable and give robustness to investigations.

Traditional internationalization theories in the 70s and early 80s only studied large companies with enough resources and significant economic power to internationalize, especially after World War II (Oviatt & McDougall, 1994). During these years, the main entry mode to international markets was the Uppsala internationalization model developed by Johanson and Vahlne (1977). The model distinguishes between 4 different modes to enter a foreign market. These entry modes can be regarded as stages. Stage 1: No regular export activities. Stage 2: Export via independent representatives (agents). Stage 3: Establishment of an overseas sales subsidiary. Stage 4: Overseas production/manufacturing units. The higher the stage of the company, the greater the internationalization degree.

The U model explains internationalization processes in stages mainly for two reasons. The first one is the firm’s lack of international experience, and the second is the uncertainty about the international environment and decision to internationalize (Andersen, 1993). These internationalization-in-stages models mainly focused on large and multinational corporations; however, in the late 80s, academics started incorporating SMEs into their research. Morrow (1988) was the first author who used International Entrepreneurship in an article and since then, there have been several conceptual frameworks explaining International Entrepreneurship theory; for instance, the INV theory from Oviatt and McDougall (1994, 1999, 2005), the role of networking of Coviello and Munro (1995,1997), models of Born Global Firms created by Madsen and Servais (1997), Born Global Firms as a challenge to traditional internationalization developed by Knight and Cavusgil (2004, 2015), and the resourced-based model on EIFs created by Rialp, Rialp and Knight (2005).

Oviatt & McDougall (2005: 7) defined International Entrepreneurship as “*the discovery, enactment, evaluation, and exploitation of opportunities—across national borders—to create future goods and services.*” This conceptualization focuses on opportunities. It permits, but does not require, the formation of new organizations, allows for corporate entrepreneurship, and highlights entrepreneurial activity across national borders (Ibid).

Chandra, Styles, and Wilkinson, (2011) share the same idea that International Entrepreneurship can be understood as a process of opportunity recognition and exploitation across national borders and include several actors like private and public organizations, diverse networks and histories. As the definition of International Entrepreneurship mentions, the increasing globalization of businesses and the growth of international trade, make companies seek foreign markets.

For the past 30-40 years, developed regions and countries have been the ones dominating international markets, but other countries like China, India and Brazil are newly industrialized and have become competitors of Europe and the United States (Wu & Ma, 2016). Companies from emerging economies use exports as the main entrance to international trade because these firms are in early stages of internationalization and lack resources to go further. This has created a dependency on foreign markets, and, at the same time, firms must adapt to stakeholders' needs and requirements, including environmental matters.

## **2.2 Corporate sustainability and responsibility**

Despite the comprehensiveness of the International Entrepreneurship theory, it is necessary to link this approach to the concept of corporate environmental sustainability. In the past decades, the term sustainability has been amply studied and discussed, not only by scholars, but also by governments, decisionmakers, corporations, etc. This has led all types of companies and corporations, especially those carrying out international activities and businesses, to pursue environmental responsibility by reducing their harm to nature and improving social justice around the world.

In the 80s, after the establishment of the United Nations' World Commission on Environment and the adoption of the Brundtland Report in 1987, the idea of sustainable development and how to achieve it was introduced to the world for the first time (Hatmanu et al., 2019). Additionally, the idea of corporate sustainability was born in this context. Corporate sustainability is based on 3 aspects: economic growth, ecological balance, and social responsibility. Depending on the topic studied in management and business literature and on the authors' own classification of corporate sustainability, it may be defined as either a mainly ecological concern, a social responsibility, or the integration of economic activities, natural resources and social justice (Linnenluecke & Griffiths, 2010).

The adoption of corporate sustainability principles within companies depends on internal factors (culture organization, learning and environmental orientation, experience, knowledge, values, and beliefs) and also external ones (regulations, institutions, norms, etc.). According to Linnenluecke & Griffiths, (2010) corporate sustainability is visible through technical solutions, publication of sustainability reports, and the integration of sustainability measures in employees' performance evaluation and training.

As it has been shown, corporate sustainability includes a wide range of aspects (economic, environmental, and social) and their interconnectedness. From this extensive topic the concept of corporate environmental responsibility was born. As the name denotes, this framework mainly focuses on environmental issues within companies. This approach aligns with the objective of this paper. It is important to analyze what literature says about firms' environmental responsibility and their internationalization process.

The general idea behind corporate environmental responsibility (CER) is to include responsible behavior towards the natural environment as part of the companies' economic activities, and to adopt responsible strategies to reduce negative impact on the environment, and finally, to become resource-saving and environmental enterprises (Wang, 2013). According to Gunningham (2009:215), CER can be understood as *“practices that benefit the environment (or mitigate the adverse impact of business on the environment) that go beyond those that companies are legally obliged to carry out.”* This definition is associated with the objectives of the World Business Council for Sustainable Development and with the United Nations Development Goals. In order to have environmental responsibility, firms should have the willingness and ability to confront environmental issues, considering their reality.

Corporate environmental responsibility manages the relationship between the company and the natural environment. This relationship connects the obligations of decision makers to take environmentally responsible actions and the combination of legal and moral actions taken considering a firm's interests (Hatmanu et al., 2019; Holtbrügge & Dögl, 2012; Huckle, 1995).

CER covers corporate actions related to management and the use of natural resources, waste production and disposal, sale and recycling of environmental goods, and pollution prevention and control (Hatmanu et al., 2019). However, it is necessary to first, create environmental support policies and ensure the existence of employees, departments,

systems, and procedures to support the firm's environmental decisions (Katsikeas et al., 2016). For example, companies should hire workers with previous experience in environmental management strategies, environmental procedures, green marketing strategies, among others, to start or develop their greening process. According to Katsikeas et al., (2016), it is important for firms to adopt environmental policies because it facilitates product development practices, helps employees perform key processes and routines effectively, and helps develop the creativity and capabilities of the personnel.

### **2.3 Internationalization and corporate environmental responsibility**

Corporate environmental responsibility has international dimensions, such as ecological implications for businesses across national borders, growing awareness in supra-national organizations about the reduction of ecological impact from business activities, and international pressure from NGOs and media on firms to act ecologically in countries with fewer and less strict ecological regulations (Holtbrügge & Dögl, 2012). Moreover, increasing regulations on the protection of the natural environment in developed regions have led companies to rethink environmental practices.

Furthermore, in 2015, the United Nations settled the Sustainable Development Goals to promote prosperity while protecting the planet and the natural environment. These goals encourage not only citizens to take action, but also companies. One goal; for example, is to avoid wasting water, since an important aspect of environmental responsibility is the reduction of water use in processes and products/services. Another important aspect is the use of clean energies. This is needed in corporations since energy is the dominant contributor to climate change. Around 60% of global greenhouse gas emissions are caused by energy. Companies should focus on innovating, developing and using new energy systems (United Nations, 2015).

It is completely necessary that companies invest in infrastructure, transport, and energy. These technological progresses are fundamental to achieve environmental goals, and to improve productivity and profitability. For instance, manufacturing is an important driver of economic development and employment, but carbon dioxide emissions from this sector have not decreased in developing regions. Firms in these regions should use ecological technology to reduce their harmful impact on the natural environment. Every day, consumers are becoming more ecological and they expect their products to be green in

all aspects, such as with their use of energy, water, recycling, etc. Enterprises have to adapt to these changes and develop new environmental strategies (United Nations, 2015).

Due to globalization the connection between International Entrepreneurship and Corporate Environmental Sustainability/Responsibility has increased. Companies seeking to go into international markets are trying to legitimize their position among competitors, clients, and stakeholders. One possible way to accomplish this legitimization is through environmental practices. Having green actions and products helps firms have an advantageous position among their competitors (Duque-Grisales et al., 2019; Aguilera-Caracuel & Guerrero-Villegas, 2018; Park, 2018; Luan, Tien, & Chen, 2016; Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, & De La Torre-Ruiz, 2010; Gunningham, 2009; Peng, Luan, & Chou, 2009).

Additionally, internationalized firms are exposed to new notions and ideas from different foreign customers, stakeholders, citizens, distributors, etc., and can acquire and leverage new knowledge. Companies will enhance and boost their new network and gain experience in communication and negotiation strategies that will be useful when implementing environmental policies in their firms. Companies working in international markets can identify the advantage of having environmental standards in order to obtain their license to work in other countries (Ayuso & Navarrete-Báez, 2018). Firms might improve their manufacturing processes or product, adopt green management and proactive strategies, or obtain international certifications (Peng et al., 2009). Moreover, the growth of a new ecological market segment around the world, the competition between firms to become the eco-friendliest company, the increasing role of communication and social media in spreading information and data about good or bad practices on a global scale (Leonidou et al., 2015) have all pushed international companies to focus on and improve their environmental policies and plans.

On the other hand, corporate environmental responsibility may have a positive and significant relation with internationalization and export activities. Environmental actions can be identified as capabilities because they allow to coordinate diverse resources in order to reduce environmental impacts and simultaneously maintain or increase competitiveness. In other words, environmental practices are characterized as dynamic capabilities because they permit the firm to generate new strategies to adapt to internal and external changes, and international competitiveness (Martín-Tapia et al., 2010).

Environmental actions generate intangible assets (capacity to innovate and understand different stakeholders' interests and international knowledge) essential to exporting processes (Martin-Tapia et al., 2008). Additionally, environmental strategies can have an influence on the firm's competitive advantage through product differentiation and by increasing its reputation and legitimation. In developed countries, the demand for ecological products has been increasing and it seems like this tendency will keep growing. In this context, firms should exploit this opportunity. Companies with these unique ecological products and good reputations among large suppliers can enter these international export markets easily (Duque-Grisales et al., 2019).

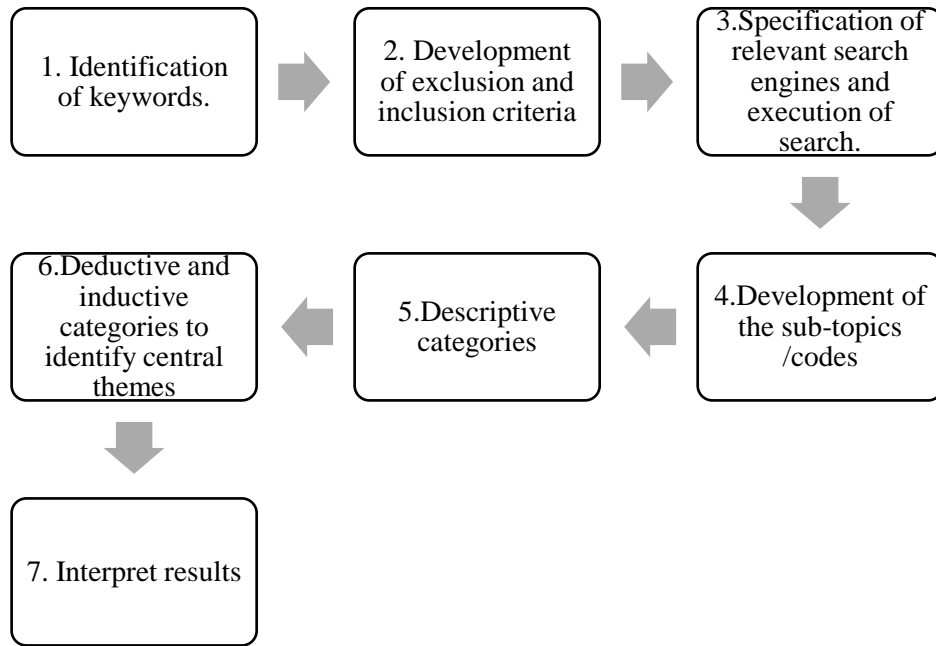
### **3. METHODOLOGY**

This paper is a systematic review, whose main objective is to synthesize research in a systematic, transparent, focused, equal, and accessible way, providing clarity in a reproducible manner, and following an established set-up (Klewitz & Hansen, 2014). It provides adequate evidence to inform policy and practice, as the diversity of knowledge is systematically managed with objectivity. Moreover, the systematic literature review is based on well-formulated research questions, identifies the most relevant investigations in the field, determines the quality of the research, and classifies all the information obtained through the use of an explicit methodology (Prior, 2014).

There are some steps a systematic literature review should follow to fulfill the purpose of the investigation. Figure 1 shows the steps we followed in this systematic literature review.

The identification of the key words was deduced from previous articles about corporate responsibility and internationalization processes. The investigation was conducted according to the following combination of key words in the title, abstract, and text of the articles: 1. "Internationalization," "environmental strategies;" 2. "Proactive environmental strategies," "export;" 3. "Internationalization," "proactive environmental strategies;" 4. "Environmental responsibility," "internationalization;" and, 5. "green business," "export."

Figure 1: Steps of a systematic literature review



Source: own created adapted from Klewitz & Hansen, 2014

Using these key words, we demonstrated that our objective is to analyze the relationship between internationalization or export activities and environmental responsibility. Therefore, this review does not claim to cover all publications dealing with either corporate environmental responsibility or internationalization processes.

The search covered articles, book chapters, and proceedings papers from 1998 to November 2019. This review includes the biggest research databases for business, management and entrepreneurship: Web of Science and Scopus. The scope of these databases supported our interdisciplinary goal of covering literature from the sustainability, environmental management and strategies, international business, and entrepreneurship areas.

After using the key words and the filters for type of document and categories, we got 251 hits. Subsequently, the title, abstract and conclusions were screened for relevance and eligibility. A full reading of the abstract and conclusions was carried out to assess whether internationalization and environmental responsibility were their central subjects. This was the most important inclusion and consideration criteria for achieving the objective of this study. If a given article did not meet this criterion, that article was not maintained for the final review analysis.



Inclusion criteria for each paper were as follows: 1. It has to be an article, proceeding paper, and/or book chapter; 2. It analyzes the relationship at the firm level; 3. The relation includes internationalization degree, export intensity, geographic diversification, proactive environmental strategies, environmental management, eco-innovation, green marketing, or green business strategy; and 4. It must have been published between 1998 and November 2019. 5. Published in English. A second process was carried out to check the veracity of the results.

After applying these criteria, 160 articles were excluded for the following reasons: 1. They focused only on internationalization or environmental responsibility and did not analyze their relation; 2. The journals were not Q1, Q2, Q3, or Q4 in Web of Science and Scopus; 3. They were editorials, transcribed speeches, commentaries and interviews; 4. They were not published in English; 5. They were not related to the topic, e.g. the sustainability of the internationalized higher education or sustainability in hospital or laboratory settings. Ultimately, 91 articles met the selection criteria and were used for the systematic literature review.

Subsequently, data from the full texts were extracted for each study to a table (see Appendix 1). This table is similar to a summary and includes authors, title, journal, year, objective, methods, variables and findings. Data extraction is part of the content-analysis process to make an overview of the characteristics of all articles that were included in our research (Holtbrügge & Dögl, 2012).

Based on the table, we coded articles by their geographic focus to assess the extent of internationalization, plus, we checked that all articles included export activities or internationalization as a variable or driver. This allowed us to identify the most studied countries and regions in the literature. Second, we identified three wide categories of environmental activity: (1) the relation of export behavior/performance with proactive environmental practices, strategies, and management; (2) the link between eco-innovation and internationalization; and (3) the nexus between green marketing strategies and international activities/performance. Afterwards, we examined the research method. We differentiated between theoretical and empirical studies with further classification into qualitative and quantitative methods.

The results are structured in two parts: first, the quantitative and bibliometric descriptive analysis. This helped us get a general idea of the research agenda on the topic. In this part, we also identified the impact of these articles based on the number of citations on the

SSCI and determined the most cited and productive authors as well. The second part is the qualitative analysis. This provides an in-depth study on the relationship between internationalization and environmental responsibility. In this exploratory analysis we consider article types (theoretical or empirical) and the different methodologies used, for example, level of analysis, statistical techniques, data source, and the geographical contexts.

#### **4. QUANTITATIVE RESULTS AND BIBLIOMETRICS RESULTS**

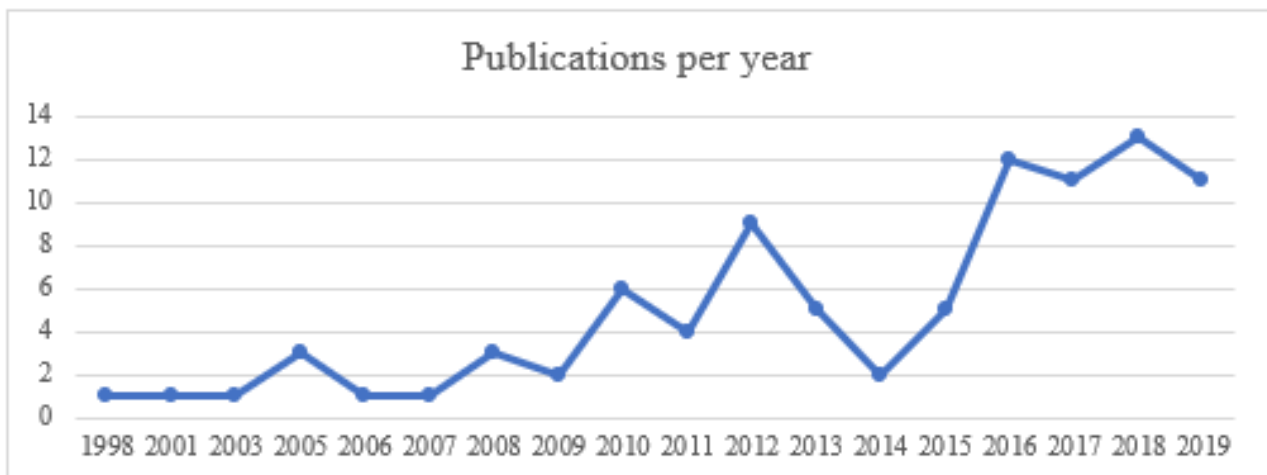
After choosing the most relevant articles (n=91) related to the topic published between 1998 and November 2019, the results and important data were compiled. The first quantitative results offer a general overview of the scientific papers reviewed. As shown in Figure 2, since 2007 there is a rising trend in publications related to this topic, especially in 2018 (n= 13) and 2019 (n=11). These numbers show an increasing concern about the environment and how consumers, stakeholders and citizens pressure companies to commit to the preservation of the natural environment (González-Benito & González-Benito, 2010), fighting against pollution and climate change, and turning their usual production activities into environmentally friendly ones. Because of this pressure, firms improve their environmental performance and commitment, competitive advantage, and profitability (Aragon-Correa & Sharma, 2003; Duque-Grisales et al., 2019).

The relationship between internationalization and environmental responsibility has been covered in several areas. For example: in Business, this field was studied in 45 articles (49.48%); in Management, in 35 papers (38.46%); in Environmental Studies, in 28 documents (30.76%); in Environmental Sciences, in 19 papers (20.87%), but it was also studied in other fields like Engineering Environmental, which had 7 articles, and Ecology, with 2 papers. It is important to clarify that one article can be part of two or more fields. These numbers confirm that the research on internationalization and corporate environmental issues is interdisciplinary as it includes areas such as environment, business, management, economics, politics, administration, among others.

As Table 1 shows, the journal with more publications is Business Strategy and the Environment (n=11). The second most relevant source is Sustainability (n=6), and in third place are the Journal of Business Ethics (n=5) and the Journal of Cleaner production (n=5). Other literature reviews like Dangelico (2016) mentioned that the most relevant journals in the topic of green product innovation are Business Strategy and the Environment, Journal of Cleaner Production, Ecological Economics, and Journal of

Business Ethics. He et al. (2018) also included Sustainability and Technological Forecasting, and Social Change as references in corporate environmental responsibility. Ortiz-Avram, Domnanovich, Kronenberg, and Scholz (2018) in their literature review said that the Journal of Business Ethics, Business Strategy and Environment, and Journal of Cleaner Production are the most representative journals in corporate environmental responsibility. In sum, the journals selected for this literature review are important at an international scale, are included in Q1 and Q2 of WoS, and can be considered outstanding sources of information for future investigations due to their impact factor and citation index. For example, in 2018 the impact factor of Business Strategy and the Environment was 6,381, of Journal of Business Ethics was 3,796, the Journal of Cleaner Production had a 6,395 impact factor, and Sustainability had 2,592.

Figure 2: Publications per year



Source: own created

Table 1: Most relevant sources

<b>Journals</b>	<b>Number of articles</b>	<b>Quartile in Category (Web of Science)</b>
<b>Business Strategy and the Environment</b>	12	Business and Management Q1 Environmental Studies Q1
<b>Sustainability</b>	6	Environmental Sciences and Studies Q2

			Green and Sustainable Science and Technology Q2
<b>Journal of Business Ethics</b>	5		Business Q1 Ethics Q1
<b>Journal of Cleaner Production</b>	5		Engineering, environmental Q1 Environmental Sciences Q1 Green and Sustainable Science and Technology Q1
<b>Journal of International Management</b>	3		Management Q2
<b>Corporate Social Responsibility and Environmental Management</b>	3		Business and Management Q1 Environmental Studies Q1
<b>International Business Review</b>	3		Business Q2
<b>Ecological Economics</b>	2		Ecology Q1 Economics Q1 Environmental Sciences and Studies Q1
<b>Journal of International Marketing</b>	2		Business Q2
<b>Technological Forecasting and Social Change</b>	2		Business Q1 Regional and Urban Planning Q1

<b>Innovar<sup>1</sup></b>	2	Sociology and Political Science Q3
<b>Other journals</b>	46	One paper each journal

Source: own created

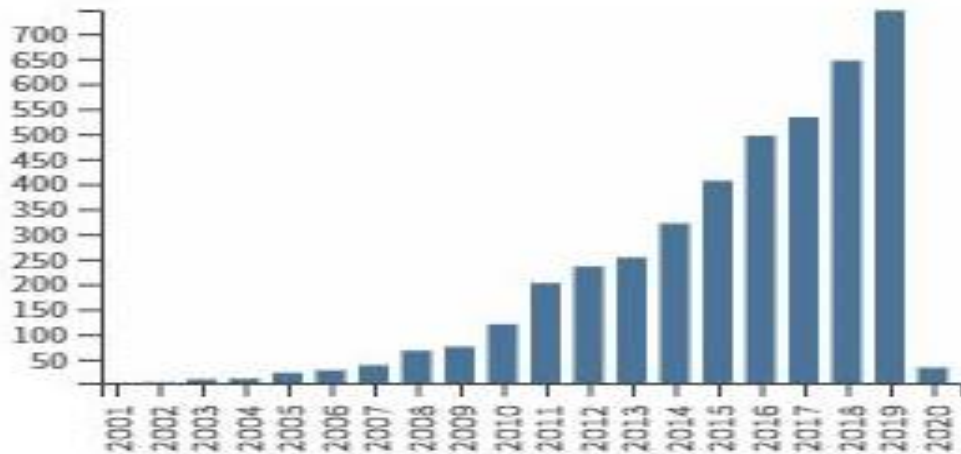
Regarding citations, the most cited articles were identified by their citation count in WoS. The results showed that the most cited papers (n=91) were: 1. *Do green supply chains leads to competitiveness and economic performance?* (Rao & Holt, 2005); 2. *Globalization and the environment: Determinants of the firm self-regulation in China* (Christmann & Taylor, 2001); 3. *Strategic proactivity and firm approach to the natural environment* (Juan Alberto Aragón-Correa, 1998); and 4. *Environmental proactivity and business performance: an empirical analysis* (González-Benito & González-Benito, 2005). These articles are the first ones to relate environmental activities to firms' performance, and have included export sales and new international market opportunities as important items for business performance. Additionally, Alberto Aragón-Correa (1998) developed a measurement tool for proactive environmental strategies. This is the most used tool for analyzing environmental strategies and several authors from around the world have been using it. These articles established a research agenda that has been analyzed throughout all these years.

As shown in Figure 3, the total citations per year has been increasing since 2003. In 2019 the total citations (n=91) were more than 800, and on January 13, 2020 only, the total citations were 33. If the trend continues the same, the number of citations will be higher in 2020 compared to previous years. These numbers show that the topic has been attracting the interest of scholars, organizations, countries, consumers, practitioners, etc. for reasons like climate change, pollution, international environmental conferences and meetings, Sustainable Development Goals, etc.

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<sup>1</sup> According to SCImago Journal

Figure 3: Total citations



Source: Web of Science

Figure 4 shows, regarding the geographic location of where the scientific documents were produced, that the following countries, institutions, and authors stand out: 1. Spain leads the list with 39 articles. These numbers follow what was shown in Table 2, since the three most productive and relevant authors are from Spain. 2. United Kingdom and China are in 2<sup>nd</sup> place with 19 documents each. The most relevant affiliations are the University of Leeds and Hong Kong Polytechnic University. 3. Italy is in 3<sup>rd</sup> place with 18 articles, and the most relevant affiliation is the University of Milano. 4. United States takes the 4<sup>th</sup> place, and one of the most productive and relevant authors, Sarkis, works at Clark University, Massachusetts. 5. Cyprus is important because it is the 5<sup>th</sup> most productive country and has two of the most productive authors: Christodoulides (4 articles) and Leonidou (4 papers).

As we can see, the topic has caught the attention of mainly European and Chinese researchers. Europe is the continent with more policies regulating pollution and emissions, and evidence suggests that European citizens have strict environmental regulations to reduce waste and mitigate climate change (European Union web page, n.d.).

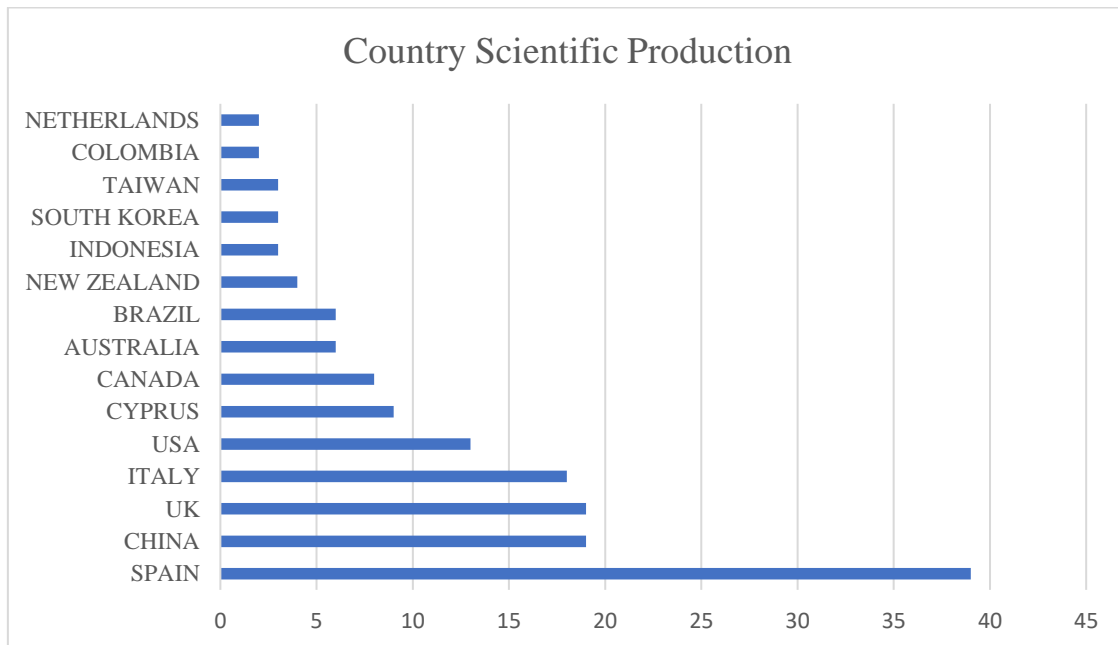
Table 2: Authors sorted by number of publications

	<b>Authors</b>	<b>Articles</b>
<b>1</b>	ARAGON CORREA JA	11

<b>2</b>	<b>ESTHER HURTADO TORRES N</b>	<b>7</b>
<b>3</b>	<b>AGUILERA CARACUEL J</b>	<b>6</b>
<b>4</b>	<b>CHRISTODOULIDES P</b>	<b>4</b>
<b>5</b>	<b>LEONIDOU LC</b>	<b>4</b>
<b>6</b>	<b>KATSIKEAS CS</b>	<b>3</b>
<b>7</b>	<b>MARTIN TAPIA I</b>	<b>3</b>
<b>8</b>	<b>SARKIS J</b>	<b>3</b>
<b>9</b>	<b>ZHU Q</b>	<b>3</b>

Source: own created

Figure 4: Country production



Source: own created

Most studies and researches have been developed in Europe, North America, and China, while little has been said of developing regions like Latin America, Africa, Middle East, or South East Asia, since there is a lack of research in these geographic areas (Duque-Grisales et al., 2019).

Although Latin America has the biggest biodiversity of plants and animals per square meter in the world, countries from this region have less strict and fewer environmental regulations compared to developed regions. Therefore, it is necessary to investigate how these territories manage their internationalization process with the adoption of environmental strategies and management.

For analyzing the keywords from the 91 articles, Bibliometrix package in R studio was used, and we obtained the top 10 keywords and their frequency in articles. The most common terms are: internationalization (appears in 9 articles), environmental management (8 articles), environmental strategy (8 articles), and sustainability (8 articles). Moreover, it is important to add the keywords plus (keywords that were not used by the authors). The most common ones are resource-based view (30 occurrences), management (28 times), and green and performance (25 articles each). If we analyze keywords and keywords plus, resource-based view is the word that has grown the most in use since 1998, the second word is management, and the third concept is performance. The term “determinants” had a big increase in its use between 2006 and 2016, but from that year on, articles using “determinants” have been decreasing. This could mean that, nowadays, scholars know which are the determinants and key factors about environmental responsibility and now investigators are focusing on answering why these determinants affect internationalization activities or firms’ performance.

## **5. QUALITATIVE ANALYSIS.**

### **5.1. Theoretical frameworks of reviewed articles**

Within the 91 articles, the most common theory used by the authors was the resource-based view (RBV) (n=22). According to Barney, (1991), the resourced-based view states that internal resources or capabilities can generate competitive advantages when those resources or capabilities are rare, valuable, difficult to imitate, and difficult to replace. Hart, (1995) uses the resource-based view to detect internal resources that contribute to the development of proactive environmental strategies and new capabilities to improve a firm’s performance. Furthermore, this approach states that new resources should be built to maintain a status quo between the firm and the natural environment, meet societal demands, and accept the relevance of stakeholders as part of corporate sustainability (Bıçakcıoğlu et al., 2018).



Resources can be divided into three categories: 1. Tangible; for example, financial reserves, buildings, etc. 2. Intangible; for instance, technical experience, knowledge, among others. 3. Personnel based, e.g. employee commitment and loyalty (Leonidou et al., 2013). Companies have these three types of resources that can be applied in different amounts and intensity in specific business situations to become environmentally friendly. Additionally, three papers used dynamic capabilities as theoretical framework. This theory was born as an extension of the RBV and puts special emphasis in a firm's need to integrate capabilities, resources, and competences in order to adapt to the new demands of the changing environment (Suárez-Perales et al., 2018). Teece, Pisano, & Shuen, (1997:516) defined dynamic capabilities as “*the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.*” When a firm acquires or adopts proactive environmental strategies, it includes several capabilities that could not be repeated by or compared to other companies. Therefore, a company that combines their business with the natural environment has dynamic capability, which allows the firm to adapt to changes in the environment, thus, gaining competitiveness and good performance (Bıçakcıoğlu et al., 2018). Dynamic capabilities are internal to the firm, but they come from external stimuli (Suárez-Perales et al., 2018).

Firms use these internal resources and capabilities for reasons such as maintaining their competitive advantage, increasing their sales and profits, and raising their internationalization and export activities. For instance, exploiting knowledge from international markets and new eco-technologies might influence export intensity and diversification of the firm; managers would like to enter foreign markets to compete with their new products and services (Kazlauskaitė et al., 2015). Additionally, reputation and brand value are important intangible resources that have an influence on the internationalization of a firm. For example, a company that has a reputation for being eco-friendly might have better chances of entering international markets and having good performance than those that do not have green strategies. At the same time, carrying out international activities means that firms developed new and better environmental strategies, eco-innovations, and green marketing strategies thanks to the know-how.

Institutional theory was the second most common theory (n=15). According to Scott & Christensen, (1995:33), institution can be defined as “*cognitive, normative and regulative structures and activities that provide stability and meaning to social behavior.*”

Regulatory consists of laws, regulations, rules and government policies in a national environment that promotes certain types of behavior and limits others. Normative are social norms, values, beliefs, and assumptions about human behavior. Finally, the cognitive dimension refers to social knowledge shared by people in a particular region (Scott & Christensen, 1995). This theory analyses the cultural and social pressure on companies and their impact on their operations (Bıçakcıoğlu et al., 2018). Institutional theory explains that organizations operating in similar social frameworks of norms, values and assumptions often behave similarly to gain social approval (Darnall et al., 2008; Peñasco et al., 2017). It also mentions that external influences shape and guide organizational actions. At the inter-organizational level, institutional pressure come from external sources like government, market, and society; but at the organizational level, pressure arises from culture, beliefs, political ideas, and shareholders (Darnall et al., 2008).

There are several classifications of the institutional theory. For example Galbreath, (2019) classifies institutions into coercive, normative and mimetic; while Darnall et al., (2008) use market, regulatory and social pressures; and Peñasco et al., (2017) distinguish formal and informal institutions, following the idea of North. Environmental sustainability/responsibility can benefit from institutional theory to identify why companies implement environmental policies, plans, and practices and to analyze international pressures, regulations, norms, market, beliefs, etc. that drive firms to adopt environmentally friendly operations.

Institutional context impacts the international behavior of firms by facilitating or restricting internationalization processes. Hence, the regulatory, normative and cultural, and cognitive dimensions of institutions have significantly attracted the attention of researchers from various fields (Korsakienė et al., 2015). Companies with proactive environmental strategies will seek to internationalize to developed countries, which have high environmental standards and eco-friendly consumers. On the other hand, internationalization allows firms to gain knowledge about institutional regulations specific to a country and environmental issues.

The third and fourth most common perspectives used in the articles are international entrepreneurship theory (n=9) and stakeholder theory(n=8). In international entrepreneurship, authors explain the main entry modes to international markets, and agree with the definition of Oviatt & McDougall, (2005) about the discovery and

exploitation of new opportunities in foreign countries to create goods and services and become profitable. The most common entry mode is exports because it is the cheapest and the fastest way. For small and medium companies, it is perfect until their international demand has stabilized. Most companies in the articles are exporting firms, because it is faster and less risky than FDI, subsidiaries, joint ventures, etc.

For the stakeholder theory, it is necessary to define stakeholder. Stakeholder can be understood as group or individual that affects or is affected by the accomplishments of the firm's goals. Companies need to meet stakeholders' expectations, because the decisions are influenced by their interests (Bıçakcıoğlu et al., 2018; Fraj-Andrés et al., 2009). Different stakeholders might have different effects on a firm's orientation, strategies, and practices. Companies may incorporate their green business strategies influenced by stakeholders' pressure and concerns if they want to enter new foreign markets. A firm with international activities is more exposed to stakeholder pressure, but this pressure also forces the company to acquire new knowledge to enter new markets and deal with new stakeholders.

Other frameworks used in the articles are: corporate environmental responsibility (n=5), used by authors who analyzed the drivers and outcomes of environmental responsibility (Leonidou et al., 2015), the main characteristics of CER, and countries likely to adopt it (Holtbrügge & Dögl, 2012); contingency theory, used in three papers that examine if environmental orientation can really drive exporting firms to practice proactive environmental strategies and consequently enhance their international performance (Chan & Ma, 2016); corporate social responsibility; green marketing; knowledge-based; resource dependency; and political economy theory. Other articles focus on the development of conceptual frameworks such as proactive environmental strategies, environmental management system, eco-innovation, ecopreneurship, environmental sustainability, and green business strategies.

## **5.2. Methodologies of reviewed studies**

We will examine the types of methodologies used in the 91 articles. From the total of studies, 80 papers (87.91%) use empirical methods. Of these 80 papers, 74 used quantitative methodology for testing the hypothesis; 4 articles use qualitative methodology; and 2 studies mix methods (quantitative, as well as qualitative approach). An interesting element in the papers that followed a qualitative approach is that most of them are from developing regions: Brazil, India and Vietnam, while the fourth paper

studies firms in Italy. The authors of all these four papers mention the lack of qualitative studies in the area.

It would be interesting to analyze case studies from developed regions and contrast their environmental innovations and strategies with those of firms from developing regions. Moreover, including qualitative analysis in this topic, would contribute to the literature because, while using this approach, the investigator can interpret activities, decisions, actions, and responses to the phenomena and try to make sense of them or explain them to people. By using case studies, authors can answer the how and/or why questions of the actions, considering firms' backgrounds, regulation contexts, internationalization processes and environmental policies.

In the quantitative studies, surveys and interviews were applied to gather data for obtaining the results. The statistical techniques used were structural equation model (n=23), used by Aguilera-Caracuel et al., (2011); Borsatto & Amui, (2019); Leonidou, Christodoulides, & Thwaites, (2016), among others; hierarchical multiple regression analysis (n=14), used by Ayuso & Navarrete-Báez, (2018); Wu & Ma, (2016); Zhu, Sarkis, & Lai, (2012), etc; and OLS regression (n=13), used by Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, (2010; Choi) & Yi, (2018); Kennelly & Lewis, (2003), etc. Other less frequently used techniques were panel data (n=6), anova (n=6), logic analysis (n=5), probit (n=4), and manova, which was used only once.

It is important to mention that before applying structural equation models and some regressions, exploratory and confirmatory factor analysis were used to verify and validate the constructs and measures used as new variables. Likewise, correlation analysis was carried out to evaluate the strength of relationships among quantitative variables.

Furthermore, the research in these articles was focused on the organizational level, which includes organizational culture, structure, cooperation, innovation, technology, external forces, among others. In both, quantitative and qualitative analysis, the surveys and interviews were carried out with CEOs, directors of environmental planification, and personnel in charge of environmental strategies and international markets. They were asked to talk about the firm's internationalization and environmental strategies, green marketing, international certifications, export and financial performance, eco-innovation, international sales, export intensity, firm size, type of industry, among others.

The other 11 investigations (13.11%) were theoretical. All of them were literature reviews about eco-innovation, environmental proactivity, green marketing and ecopreneurships. The inclusion of the latter in research is an important aspect about the literature reviews. Authors talking about this topic Rodríguez-García, Guijarro-García, & Carrilero-Castillo, (2019); Santini, (2017) mentioned that it was the future line of research. Nevertheless, scholars have just started studying this phenomenon in recent years, so there is not a consensus yet about its definition, who can be an ecopreneur, what differentiates an ecopreneur from an entrepreneur that applies green strategies in his or her business, or which are the entry modes of ecopreneurships into international markets.

### **5.3. Databases**

The databases used in the empirical the articles were diverse. The most common was Dun and Bradstreet (n=6), used in four articles from Spanish companies and two papers from the United Kingdom. The second most common database was PITEC (Panel de Innovación Tecnológica) (n=3), which allows the monitoring of technological innovation activities of Spanish companies; three articles studying manufacturing sectors used this database. Standard and Poors (n=3) was the third most used database; Calza, Profumo, & Tutore, (2016) used information from Standard and Poors from Germany, Switzerland, Austria, Italy, France, Spain and Portugal; and Aguilera-Caracuel & Guerrero-Villegas, (2018) and Kennelly & Lewis, (2003) used data of American multinational corporations. Another international database used was Thompson and Reuters (n=2); it was used for analyzing multinationals from around the world and from South Korea.

Other articles included information from local chambers of commerce or local directory; for instance, Vencato, Gomes, Scherer, Kneipp, & Bichueti, (2014) used the Rio Grande do Sul Association of Rubber, and Leonidou et al., (2016) and Leonidou, Christodoulides, Kyrgidou, & Palihawadana, (2017) used data from the Cyprus Chamber of Commerce and Industry, (CCCI). Likewise, the Foundation for Foreign Trade Studies Center – FUNCEX – was used, as well as stock exchange markets, such as the Vietnam Stock Market, Madrid Stock Exchange and Shanghai Stock Exchange.

There are 15 empirical papers that did not mention from where the authors obtained the data for the analysis, the investigators only mentioned sample size and the cities where the surveys were carried out. Six articles studying European companies did not mention databases, four papers analyzing China only indicated the cities, four papers from the rest of Asia, and one from New Zealand did not specified the data source.

The main database used in theoretical papers was Web of Science, followed by Scopus, EBSCO, Science Direct and Social Science Citation. Literature reviews used these databases to find the most relevant articles on their topic. It is important to mention that two literature reviews do not include where the authors found the information, or the methodology they followed for the review. These works can be categorized as narrative literature reviews, while the other nine are systematic reviews about a specific topic.

#### **5.4. Geographic locations**

The 80 empirical articles have tested hypothesis and propositions of several countries from around the world. Spain was the most prominent country with 18 papers investigating the food industry, utility industry, innovation, chemical products, electronic and electrical equipment, furniture and fixtures, automobile industry, metal industry, machinery, construction industry, service industry, plastic industry, rubber industry, among others. Seventeen articles focused only on a single-country analysis and the remaining one was a multiple country investigation. The second country with the most papers was China. Eleven articles studied the corporate environmental responsibility/sustainability in the country, ten of which examined a single country and one researched multiple country. In all 11 works, the manufacturing sector was analyzed. Brazil and Italy share the third spot with six articles each. In the case of Brazil, four were a single-country analysis and two a multiple country analysis. The sectors analyzed in the Brazilian context were oil, rubber, commerce, and services. Research from Italy was about the beer, fashion and manufacturing industries, and five articles were a single-country analysis and one was a multiple country analysis.

Rao & Holt, (2005) used a multiple country analysis about Filipino, Indonesian, Malaysian, Thai and Singaporean companies. This is the only paper in the literature review that analyses and compares Asian countries, since most of the articles have focused on the impact of internationalized Chinese companies on environmental issues. Additionally, three papers focused on South Korean manufacturing firms and carried out a single-country analysis. In the same region, two articles examined Vietnamese firms: Lin, Tan, & Geng, (2013) investigated the automobile sector and Do, Nguyen, Nguyen, & Johnson, (2019) explored the seafood sector. Moreover, in New Zealand and Australia, Dodds, Graci, ko, & Walker, (2013); and Galbreath, (2019) studied the wine industry.

The only three papers examining Africa focused on South African manufacturing and service sector. In Latin America, the majority of papers studied Brazil. However, Peña-

Vinces & Delgado-Márquez, (2013) analyzed Peruvian companies from agribusiness, agriculture, crafts, footwear and leather, hydrocarbons, jewelry, wood and paper, mechanical metals, mining, fishing, iron and steel, textiles and others, while Klerkx, Villalobos, & Engler, (2012) studied the agricultural sector of Chilean businesses. These two papers are a single-country analysis, but Duque-Grisales et al., (2019) uses a multiple country analysis with firms from Brazil, Mexico, Colombia, Chile, and Peru.

Other European articles, like those from Italy and Spain, are mostly single-country analyses. For example, Leonidou et al., (2016, 2013) analyzed the manufacturing and light industry of Cyprus. The three papers from the United Kingdom are also single country analyses and examined the manufacturing industry. Likewise, three articles from Greece are single-country and research goods, industrial products, services, wholesalers-retailers and remaking-construction, among other sectors. Calza et al., (2016); Darnall et al., (2008); and, Rabadán & Sáez-Martínez, (2017) analyzed firms from several European Union countries. In the case of the United States, four articles analyzed the manufacturing sector.

In summary, we can mention that 67 articles (83.75%) are single-country analyses, and 13 papers (13.75%) are multiple country analyses. It is important to mention that according to Orlitzky, Siegel, & Waldman (2011), CER studies have been skewed in favor of developed regions: North America covers 70% of the studies, Europe 21%, China 6% and the rest of the world 3%. In conclusion, it is possible that the results from these studies cannot be generalized to developing regions, because, in most cases, there are less sustainable and environmental regulations in these regions than in developed ones. Even though CER is widely known around the world, not all internationalized companies apply it, and the percentage of the studies in developing countries is much lower than in developed ones, despite the majority of natural resources being in developing territories.

## **5.5. Mainstreams and conceptual framework**

### **5.5.1. Mainstreams**

Through the qualitative content analysis of the 91 reviewed articles, we identified five mainstreams of study related to the internationalization process of a firm, one more than in the preliminary examination of the articles: 1. Eco-innovation; 2. Environmental Strategies; 3. Green marketing; 4. Performance; and 5. Ecopreneurship

As seen in Table 3, environmental strategies are the largest subtopic. It includes proactive strategies, management systems and actions, international certifications, etc. The second largest group is performance, followed by eco-innovation, green marketing, and lastly, ecopreneurship, a new term in the literature with few researchers addressing this topic. It is important to mention that papers can focus on more than one subtopic; for example, environmental strategies and their influence on a firm's performance can be discussed in the same paper, or eco-innovation and the economic performance, etc.

In the next section we will discuss each subtopic.

Table 3: sub-topics analyzed in the articles

<b>Mainstreams</b>	<b>Sub-topics</b>	<b>Number</b>	<b>Authors and years of publication</b>
<b>Eco-innovation</b>	Types of eco-innovation	10	(Borsatto & Amui, 2019; Chakrabarty & Wang, 2012; Chiarvesio et al., 2015; Choi & Yi, 2018; Hojnik et al., 2018; Lin et al., 2013; Macchion et al., 2017; Rodríguez-García et al., 2019; Ryszko, 2016; Suarez-Perales et al., 2017)
	Drivers and outcomes	10	(Dangelico, 2016; Frey et al., 2013; Galbreath, 2019; Hojnik & Ruzzier, 2016; Katsikeas et al., 2016; Keshminder & del Río, 2019; Peñasco et al., 2017; Suárez-Perales et al., 2018; Tariq et al., 2017; Vargas Martínez et al., 2018)
<b>Environmental strategies</b>	Proactive environmental strategies	26	(Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al., 2010; Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel et al., 2011,



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2012; Aguilera-Caracuel et al., 2011; Aragon-Correa et al., 2015; Aragon-Correa & Sharma, 2003; J. Alberto Aragón-Correa et al., 2008; Juan Alberto Aragón-Correa, 1998; Juan Alberto Aragón-Correa & A. Rubio-López, 2007; Ayuso & Navarrete-Báez, 2018; Calza et al., 2016; Chen et al., 2016a; Duque-Grisales et al., 2019; Fraj-Andrés et al., 2009; Gómez-Bolaños et al., 2019; González-Benito & González-Benito, 2005; Kennelly & Lewis, 2003; Ko & Liu, 2017; Martin-Tapia et al., 2008; Martín-Tapia et al., 2010; Rao & Holt, 2005; Ryszko, 2016; Sandhu et al., 2012; Wu & Ma, 2016; Zhu, Cordeiro, et al., 2012)

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Environmental management strategies	15	(Chen et al., 2016b; Christmann & Taylor, 2001; Darnall et al., 2008; Kang & He, 2018; Liu et al., 2019; Luan et al., 2016; Peña-Vinces & Delgado-Márquez, 2013; Peng et al., 2009; Rabadán & Sáez-Martínez, 2017; Suárez-Perales et al., 2018; Urban & Govender, 2012; Vencato et al., 2014; Xu et al., 2018; Zhu et al., 2011; Zhu, Sarkis, et al., 2012)
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Drivers outcomes	and 15	(Bae & Grant, 2018; Bıçakcıoğlu et al., 2018, 2019; Chan & Ma, 2016;
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			Do et al., 2019; Dodds et al., 2013; Fraj-Andrés et al., 2012; González-Benito & González-Benito, 2006, 2010; Holtbrügge & Dögl, 2012; Leonidou et al., 2015, 2016; Menguc et al., 2010; Paes, 2012; Suarez-Perales et al., 2017)
	Corporate social responsibility and sustainability	6	Aguilera-Caracuel & Guerrero-Villegas, 2018; Barin Cruz, Boehe, & Ogasavara, 2015; Colapinto, Gavinelli, Mariangela, & Di Gregorio, 2015; Godos-Díez, Cabeza-García, & Fernández-González, 2018; Klerkx, Villalobos, & Engler, 2012; Park, 2018
	<b>Green marketing</b>	10	Duffett, Edu, Haydam, Negricea, & Zaharia, 2018a; Fraj-Andrés et al., 2009; Leonidou et al., 2017, 2013; Li et al., 2017; Lin et al., 2013; Papadas, Avlonitis, Carrigan, & Piha, 2019; Setiadi et al., 2017; Taherdangkoo et al., 2017; Zeriti et al., 2014
<b>Performance</b>	Environmental performance	4	(Aragon-Correa et al., 2016; Bu et al., 2011; Corsini et al., 2019; Macchion et al., 2017)
	Market performance	3	(González-Benito & González-Benito, 2005; Setiadi et al., 2017; Taherdangkoo et al., 2017)

Financial/economic performance	10	(J. Alberto Aragón-Correa et al., 2008; Chen et al., 2016b; González-Benito & González-Benito, 2005; Hojnik et al., 2018; Leonidou et al., 2016, 2017; Menguc et al., 2010; Rao & Holt, 2005; Ryszko, 2016; Setiadi et al., 2017)
Export performance	9	(Bıçakcıoğlu et al., 2018, 2019; Boehe & Cruz, 2010; Leonidou et al., 2015, 2017; Li et al., 2017; Taherdangkoo et al., 2017; Vencato et al., 2014; Zeriti et al., 2014)
<b>Ecopreneurship</b>	2	Rodríguez-García et al., 2019; Santini, 2017.

Source: own created

For firms to adopt and adapt environmental issues into their activities, managers, directors, CEOs, and owners have incorporated environmental values to their personalities, attitudes, and behavior. A sustainability-oriented individual would have a better chance of recognizing entrepreneurial international opportunities regarding the environment and sustainability and have a strong inclination towards sustainable entrepreneurship (Sung & Park, 2018). At the organizational level, companies should follow an environmental orientation to face the changes in foreign markets, technology, innovation, etc. that are aligned with sustainability.

Chan & Ma, (2016) interpreted environmental orientation as a pro-environmental company culture that manifests a firm's philosophy of operating in a sustainable way. High environmental orientation in a firm shows a strong, organization-wide sense of responsibility for their activities and for possible impacts on the natural environment, leading to a better use of resources and acquiring competitive advantage (Kang & He, 2018). These environmental attitudes, behavior, and commitment to the natural environment are highly related to internationalization activities and firms' performance. Through internationalization, managers and employees can gain specific knowledge and

apply it to the company, and improve its exports and financial performance (Taherdangkoo et al., 2017). Likewise, joint ventures and multinationals can obtain patents for green technology or eco-products, technology transfer, as main pillars for environmental issues.

These companies integrate environmental concerns into their firm's culture, decision-making, and talks with stakeholders (Bıçakcıoğlu et al., 2018). Environmental orientation can be seen internally through the firm values, ethical standards, goals, and mission, and should be shared with all the employees. Environmental orientation can be perceived externally by balancing economic interests and environmental demands (Chan & Ma, 2016). When a firm is environmentally oriented, it is easier to adopt environmental strategies within the company's activities. For instance, Zhu et al., (2011) mentioned that Chinese manufacturers implemented international environmental certifications in their firms to enter new foreign markets and this significantly enhanced their export and environmental performance.

#### 5.5.1.1 Environmental strategies

According to Aragon-correa & Ortiz-de-Mandojana, (2016:1), an environmental strategy is a “*firm's long-term orientation about how to manage the environmental practices and develop environmental resources and capabilities to gain a good fit with its stakeholders' expectations.*” If a firm pursues this strategy, it will limit the negative effects on the environment and meet the requirements from governments, consumers, society and individuals (Do et al., 2019; Ko & Liu, 2017). There are different types of environmental strategies depending on a firm's practices. The first one is the reactive strategy, which respects the minimum legal requirements on pollution control, and reduction of energy use and waste (J. Alberto Aragón-Correa et al., 2008). It also has a low level of environmental responsiveness and performance (Do et al., 2019).

The second strategy is known as the proactive environmental strategy (PES). The concept of PES has been primarily developed by Juan Alberto Correa Aragón since 1998. It can be defined as “*the identification and analysis of all natural environmental aspects of a firm's products and services, and the establishment of comprehensive management programs*” (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel et al., 2011; Juan Alberto Aragón-Correa, 1998). It is the voluntary implementation of practices meant to improve environmental performance (González-Benito & González-Benito, 2006; Menguc et al., 2010). PES can be an internal resource

and a dynamic capability of a firm because the strategies must be unique, valuable, and difficult to reproduce. These strategies appeared as a consequence of an external stimulus, and at the end, the firm can have a competitive advantage through product differentiation and by increasing the firm's reputation (Martín-Tapia et al., 2010), leading to increased profitability and performance.

According to González-Benito & González-Benito, (2005, 2006) there are three categories of PES. The first one, planning and organizational practices, reflect the extent to which environmental management systems (EMS) have been implemented. EMS consist of a compilation of internal policies, plans and actions that affect the organizational unit and its relation to the natural environment (Darnall et al., 2008). It can also be understood as a firm's policy and efforts to reduce its negative impact on the natural environment (Kang & He, 2018). It modifies operation practices, checks environmental performance and compliance audits (Liu et al., 2019). The adoption of EMS can provide benefits such as productivity, competitiveness, profitability, green image, internationalization, etc. The way of measuring EMS is through international certifications. If a firm has these types of certifications, it is likely that their export activities will increase. In other words, holding international certifications would be like holding a "passport" for companies wanting to sell their products in foreign markets, because these certifications assure good practices (Peña-Vinces & Delgado-Márquez, 2013). The most well-known international EMS certification is ISO developed by the International Organization for Standardization.

The second category is operational practices, which indicate changes in the production and operations system. It can be divided into two groups: product-related and process-related practices. The first group includes practices focused on the design and development of more environmentally conscious products. The second group focuses on the development and implementation of more environmentally conscious manufacturing and operational methods and processes.

Finally, the last category is communicational practices, in which the main objective is to share with the company the social and institutional environmental actions taken in favor of the natural environment. This disclosure of information may attract stakeholders.

The relation between internationalization and PES is complex. Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, (2010) argued that international diversification helps companies gain knowledge through the interaction of culture, regulations, and

technologies. This knowledge may lead to the development of organizational capabilities such as innovative environmental managerial actions. In other words, the capabilities gained through an internationalization process have an influence on the adoption of environmental practices. Furthermore, innovation allows firms to achieve competitive advantage in international markets. The authors showed that firms with international activities have access to more and to diverse resources and greater returns. Finally, companies have more income to keep investing in innovation capabilities.

There are several drivers that encourage the adoption of environmental practices. As shown, internationalization is an internal factor of PES. Additionally, according to the literature researched, international companies can benefit from knowledge transfer between subsidiaries, plants, competitors, etc., facilitating the adoption of environmental strategies. Likewise, multinationals define their environmental regulations in order to meet the strictest requirements in countries where they operate and compete (González-Benito & González-Benito, 2006). Competition with foreign corporations may call for different and less known capabilities, which creates a more dynamic market environment, forcing companies to innovate and take action to increase competitiveness and efficiency (Peng et al., 2009). Empirical articles like that of Álvarez Gil et al., (2001) mentioned that being part of an international company positively influences the implementation of environmental practices. This means that companies operating in international markets have more environmental strategies than the ones operating locally. Martin-Tapia et al., (2008) proved that not only large international firms have a positive relationship to PES, but small and medium companies as well. It is explained that environmentally proactive companies gain knowledge based on diverse regulations upon which they can develop their own strategies for a variety of international stakeholders.

On the other hand, Martin-Tapia et al., (2008) mentioned that PES generate different capabilities that facilitate export activities. The capacity to innovate is an essential factor to compete in international markets, especially for firms with limited resources. These environmental strategies help managers understand stakeholders' interests. Moreover, if companies have a green reputation amongst their suppliers and consumers, it becomes easier for them to increase their international operations. As we can observe, in this direction of the relationship, internationalization is influenced by the adoption of environmental practices. International activities can be crucial drivers for adopting environmental practices, but these could also be a consequence of the implementation of

environmental policies within the firm. Carrying out international activities increases the knowledge of new environmental capabilities, and these recent capabilities lead to new environmental actions that facilitate a company's entry to diverse and complex foreign markets.

The second internal driver is managerial attitude. The support and commitment of top management are considered essential factors for the development of proactive environmental strategies for two main reasons. The first one is that it is completely necessary that managers and directors support environmental plans because the acceptance of resources required for the implementation of the practices must come from top executives. The second one is because implementing all the environmental plans requires the collaboration and coordination of every department and accomplishing this is easier when the initiative comes from the top (González-Benito & González-Benito, 2006).

Additionally, commitment enables top executives to communicate with employees and empower them to realize the firm's strategic environmental aspirations and to build important capabilities (Katsikeas et al., 2016). The higher the commitment of managers, the higher the importance of environmental plans. This managerial commitment comes from the managers' beliefs, expectations, perceptions, and motivations (González-Benito & González-Benito, 2005, 2010). Previous literature found that this commitment is established when managers perceive environmental issues as new international opportunities to increase competitiveness through competitive advantage like product differentiation, efficiency, enhanced reputation, subsidy or tax exemptions, among others (Peña-Vinces & Delgado-Márquez, 2013).

González-Benito & González-Benito, (2006) mentioned that position in the value chain, size and strategic attitude, might be factors that drive environmental strategies. Leonidou et al., (2015) include relationships between demographic and attitudinal traits of employees, adjustments of planning and control systems to take into consideration the risks involved in the use of environmental initiatives, organizational culture, the adoption of environmental thinking throughout the organization and the role of inter-departmental connection in achieving eco-orientation in the firm. Do et al., (2019) and Corsini et al., (2019) indicated that resources (tangible and intangible), capabilities (absorptive capacity), and organizational learning are driving factors that may lead to the adoption of proactive environmental strategies.

There are several external factors that may have an influence on the adoption of PES; for instance, the type of industry and competitive intensity. It is important to consider this variable because not all industries pollute the same way, and not all industries are under the same control, regulations, and pressure. The oil, chemical, pharmaceutical, and paper industries are linked to poor environmental performance (big amounts of waste and pollution) (González-Benito & González-Benito, 2006); while service sectors may be thought of having higher standards of environmental strategies. Competition within the industry can force companies to adopt PES. If a firm is the first one to have these plans, it will have advantage and product differentiation over its competitors. This can be seen as an opportunity, and if the sector has already adopted measures, the firm needs to apply them as well to keep its competitiveness and meet consumers' requirements (Leonidou et al., 2016).

Other external factor is pressure from different stakeholders, regulations, governments, markets, consumers, and citizens. Stakeholder pressure is the biggest stimulus for the adoption of eco-friendly plans by a business, and includes regulations, consumers, customers, suppliers, etc. Regulations cover a wide range of environmental issues; for example, clean technologies, recycling, waste and pollution management, among others (Do et al., 2019; Leonidou et al., 2016). Firms with a high level of internationalization are under more pressure from international stakeholders, especially companies from developing regions, since there are fewer environmental regulations there. Moreover, the needs and preferences from the market and customers are always changing; therefore, firms need to adapt their products, services, and processes to survive and succeed. Competitiveness of firms depends on their capacity to create value for stakeholders, in this case, clients (González-Benito & González-Benito, 2006). It has been proven that the implementation of environmental practices responds to a higher international stakeholder pressure (Chen et al., 2016b, 2016a).

#### 5.5.1.2 Eco-innovation

One of the main issues about eco-innovation is the terminology. Literature has shown that authors use different words to refer to the same concept. For example, ecological innovation, environmental innovation, sustainable innovation and green innovation are all used to refer to the same concept. Therefore, for simplicity's sake, we use the term "eco-innovation" (the most widely used term) with the understanding that it encompasses environmental and sustainable innovation. Since eco-innovation is a broad term, several



institutions and authors have worked on the definition of the word. For instance, Tariq et al., (2017:11) used the following definition: *“innovation that consists of new or modified processes, practices, systems, and products which benefit the environment and so contribute to environmental sustainability.”* Hojnik & Ruzzier, (2016); and Hojnik et al., (2018) used it to mean *“production, application or exploitation of a good, service, production, process and organizational structure, management or business method that is novel to the firm or user and which results, throughout its lifecycle, in a reduction of environmental risk, pollution and the negative impacts of resources use (including energy use) compared to relevant alternatives.”* Eco-innovation involves modifying products, processes, and organizational practices to reduce impact on the environment while maintaining economic profit.

Eco-innovation can be implemented at different levels in the firm, which is why there are several categories of eco-innovation. Tariq et al., (2017) differentiates between products, processes, services and organization; Keshminder & del Río, (2019) examine products, processes and organization. Eco-innovation in products is related to the development of a new product or to the improvement on an existing one; for example, the use of recycled organic material or the creation of environmental technologies (renewable technologies) (Rodríguez-García et al., 2019). Product innovation spins around the idea of components, production and logistics of a product which includes eco-design, eco-friendly materials, durability, refurbishing, recyclability, or reduction of raw materials (Klewitz & Hansen, 2014). Additionally, it can help a firm improve its performance, affirm the brand name and increase the number of loyal customers (Lin et al., 2013).

Eco-innovation processes can be described as the progress in technologies and processes that result in the production of goods with low environmental impact (Galbreath, 2019; Tariq et al., 2017) using less resources, managing non-product effectively, and increasing eco-efficiency (Klewitz & Hansen, 2014). It can be related to the term “cleaner production,” because the main ways of being eco-innovative in a process is through the adoption of environmentally-friendly technologies, good housekeeping, input substitution or waste management and energy consumption (Klewitz & Hansen, 2014). Organizational eco-innovation mentions restructuring within the firm, employees’ tasks, and the adoption of environmental management models (Rodríguez-García et al., 2019). In this category, literature has focused on the implementation of EMS, adoption of international certifications related with eco-innovation, stakeholder management,

sustainability vision, employee development, skills, training, and commitment to eco-innovation activities.

In the long term, eco-innovation helps reduce costs, explore and exploit new international opportunities, and improve legitimacy. Furthermore, it strengthens the creation of new sources of competitive advantage and differentiation strategies, and helps gain new market positions (Rodríguez-García et al., 2019). International technology transfer is an important element for the development of new products. It can be obtained through foreign direct investment (FDI), which makes it possible to reach new eco-technologies, and, through international cooperation, companies increase their R&D expenditure, thus boosting the technological intensity and technical advancement of their production (Ciborowski & Skrodzka, 2019). International knowledge, experience, and skills are relevant for technology transfer and eco-innovation as well.

There are drivers that have an influence on eco-innovation activities. Internal drivers will encourage firms to examine the risks, costs, and benefits of adopting eco-innovations. Capabilities, management systems, human resources, and environmental strategies are stimuli to implement eco-innovation (Dangelico, 2016; He et al., 2018). Other factors include technology, company size and industry (Tariq et al., 2017), values and culture of the managers, responsibility, ethics, firm policies, environmental awareness and strategic partnership and cooperation (Dangelico, 2016), and employee skills and knowledge (Keshminder & del Río, 2019). Chiarvesio et al., (2015); Choi & Yi, (2018); and Galbreath, (2019) stated that internationalization is a key point in product development or in the adoption of new processes since new knowledge, skills and technology are found in competitors or from previous international experience. Additionally, entering new foreign markets force companies to eco-innovate in order to be competitive and meet the environmental requirements of foreign customers. The positive effect between internationalization and eco-innovation is based on the exposure to markets or to regulatory requests in terms of green features (Chiarvesio et al., 2015).

On the other hand, firms that eco-innovate before internationalizing have competitive advantage over the rest. Internationalization can be a driving force, but also a consequence of eco-innovation. It could be best explained as a cycle, where export activities drive firms to eco-innovate, as a consequence, these new green products gain international reputation and loyal customers, which in turn leads the firm to exploit opportunities in other international markets. Additionally, in this process, firms obtain new knowledge,

new investors, and new stakeholders, which allow the firm to keep growing and implementing new technologies and environmental strategies.

Furthermore, external factors are mainly stakeholder pressure, such as regulatory requirements, client demands, or demands from the industry (He et al., 2018). Developed countries have higher standards in relation to environmental preservation. Regulatory pressure from government agencies forces firms to improve the quality of the natural environment by managing environmental externalities. Governments establish environmental laws and norms based on the level the of impact of each business sector (Choi & Yi, 2018). Several firms anticipate these regulations and start innovating earlier. Subsidies are a method governments and organizations use to persuade firms to adopt eco-innovations, and will bridge the gap in R&D with large companies (Peñasco et al., 2017). Moreover, international market demand is an important driver that will influence a firm's decision to reduce energy and polluting material use. Environmentally friendly consumers accept paying extra money for a green product or service (Tariq et al., 2017), and having green processes and products legitimizes the company. Political, economic and industrial context are considered as external drivers as well (Dangelico, 2016).

The main reason for implementing eco-innovations is to gain dynamic capabilities, competitive advantage over others, and improve performance. Lin et al., (2013) stated that green product innovation has a positive correlation with performance. Dangelico, (2016) mentioned that market performance (sales, market shares and customer outcomes) also has a positive relation to eco-innovation. The success of eco-innovation depends on the reduction of environmental impact as well as success in the international market (Tariq et al., 2017). According to Dangelico, (2016), another eco-innovation outcome is better economic and financial performance, given that through the increase of sales, the company gains higher profits and a better reputation, which can also represent an increase in exports and higher productivity.

#### 5.5.1.3 Green marketing

Papadas et al., (2019:2) stated that green marketing is *“the holistic management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way.”* Moreover, strategic green marketing can be seen as a tool towards long-term management actions that focus on proactive environmental strategies and the satisfaction of stakeholders (Paes, 2012). Leonidou et al., (2013) stated that green marketing can be understood as marketing practices and

procedures that explicitly include an ecologically friendly focus, and one of its goals is the creation of revenue by satisfying organizational and individual objectives of a product or service.

A company applying green marketing strategies has followed a sustainable orientation, even in the marketing aspect. This means the organization integrates the environmental imperative in its strategic marketing decisions in order to challenge the traditional marketing orientation of increased sales and profit maximization (Papadas et al., 2019).

Green marketing strategies converge on the elements of marketing mix with some variations: 1. Products: making variations in the design, packaging, label, among others, to reflect environmental friendliness. 2. Pricing: examining environmental costs for customers in terms of higher prices. 3. Distribution: developing environmental activities with all channel members, and 4. Promotion: sharing with customers the eco-friendly activities (Leonidou et al., 2013). At an international level, green products need an adequate green marketing strategy to launch their product to new customers and stakeholders.

Polansky & Rosenberg, (2001) differentiated between 2 green marketing strategies. The first one is defensive or reactive, where a firm makes minimum efforts related to the environment, such as complying with environmental regulations, adopting specific green standards and avoiding negative consequences. The second one is assertive, which is green-market oriented. This means that a firm adopts proactive strategies to exploit environmental opportunities in the market, increase profitability, improve its image, and avoid scrutiny from governments or stakeholders. This one considers the request from international stakeholders, foreign consumers, and regulations from the countries the firm exports to.

There are internal and external factors that influence green marketing strategies. Regarding internal drivers, these are marketers' environmental consciousness, business sensitivity toward environmentalism, top management support, risk aversion, and lack of organizational resources (Leonidou et al., 2013). Another driver is export behavior. Entering new international markets allows the firm to consider the existence of a culture associated with environmental issues in export companies, and that it is of international public concern. For instance, export companies can create a better image for their products by using product differentiation in their marketing strategies such as recyclable packaging and products (Polansky & Rosenberg, 2001; Taherdangkoo et al., 2017).

Furthermore, exporting firms improve their ability to exploit eco-opportunities on the international market (Setiadi et al., 2017). Among external factors are consumer environmental sensitivity, competitive pressures, regulatory intensity, market turbulence and consumer stakeholders (Leonidou et al., 2013).

Zeriti et al., (2014) and Fraj-Andrés et al., (2009) mentioned that the adoption of green marketing may minimize waste, eliminate sustainability-related risks, increase cost savings, improve employee skills and morale, and raise outputs and productivity. Moreover, it helps improve a company's reputation in foreign markets, with governments, suppliers, clients, NGOs, etc. It allows a firm to target new market segments. Additionally, having the correct green marketing strategies may allow the firm to obtain international partners in order to reduce production costs, waste and energy use (Setiadi et al., 2017), thus, gaining competitive advantage through product differentiation (Duffett et al., 2018). Finally, Taherdangkoo et al., (2017) demonstrated that environmental approaches in the marketing mix of a firm have positive effects on performance, especially on export performance.

#### 5.5.1.4 Performance

Studies about firms' performance are numerous since this field has been studied by scholars for several decades. Performance is understood as a multi-functional concept and includes effectiveness, being affected, and compatibility dimensions (Taherdangkoo et al., 2017). It is recorded in literature that there is not just one type of performance; for example, Setiadi et al., (2017); Hojnik et al., (2018) and Rao & Holt, (2005) analyzed internationalization, environmental strategies and economic and financial performance. Some of the constructs they used to measure economic/financial performance were new market opportunities, product price increase, profit margin, sales growth, market share, export profits and export sales. Barin Cruz et al., (2015); Bıçakcıoğlu et al., (2019), and Vencato et al., (2014) analyzed the relationship between environmental strategies and export performance. It was found that having environmental strategies and innovation will increase export performance. Authors have used export volume, export revenue, export profitability and market participation in the main market abroad to measure export performance.

Moreover, there is also environmental performance. When a firm has internationalized and adopted green strategies, the result will be an improvement in its exports and environmental performance. Kennelly & Lewis, (2003) demonstrated that the

internationalization degree has a positive relation to environmental performance. Bu et al., (2011) showed that corporate environmental performance improves by receiving foreign investment. However, some authors, like Darnall et al., (2008); Leonidou et al., (2017); Luan et al., (2016); and Menguc et al., (2010) examined business performance. One of their findings is that enterprises should introduce green processes among other green activities for better performance (Luan et al., 2016). Furthermore, González-Benito & González-Benito, (2005) found that environmental proactivity can have certain positive effects on performance, and these effects depend on the degree of the environmental proactivity. All in all, it can be observed that depending on the level of environmental commitment and green practices there is a strong relation to economic, environmental and export performance. If companies have high standards regarding environmental strategies, their performance will be higher than that of their competitors, because their goods or services have a competitive advantage and characteristics unique to the firm.

#### 5.5.1.5 Ecopreneurship

The phenomenon of ecopreneurship is still an emerging one and its literature is scarce. The first articles date from 1992, although it was not until 2010 that the subject became more relevant to scholars, who started focusing on defining the concept as a theoretical term (Rodríguez-García et al., 2019). Rodgers, (2010); Rodríguez-García et al., (2019); and Santini, (2017) stated that the most accurate definition is entrepreneurship through an environmental lens. The idea of ecopreneurship was born from eco-conscious agents who are called ecological entrepreneurs or ecopreneurs; they try to popularize ecofriendly ideas and/or innovations (Rodgers, 2010). Ecopreneurs develop their new businesses based on sustainability principles (Santini, 2017).

According to Santini, (2017) there are 4 categories of ecopreneurs: 1. Innovative opportunists: those who identify a green niche for economic exploitation and are influenced by structural factors, such as regulation. 2. Visionary champions: seek to transform the world and whose business is founded on the basis of sustainability. 3. Ethical mavericks: influenced by soft structural drivers (such as experience, networks, or friends) and a sustainability orientation. 4. Environmental entrepreneurs: look for financial profits and are influenced by structural drivers; they can be accidental green entrepreneurs. For this classification, there was a combination of 2 dimensions: personal orientation (motivation) and its relation to the external context (structural influences).

These typologies can be used for identifying the features that explain ecopreneurs' behavior.

Gibbs, (2009) used other dimensions for categorizing ecopreneurs: business goal and market effect. He recognized 3 main types: 1. Alternative actors: for them, market goals are not important, and the business may exist to support a lifestyle. 2. Bioneers: occupy medium-sized niche markets with customer-focused eco-products. They are often inventors with a strong R&D focus and can be found in high-technology sectors, such as alternative energy sources. 3. Ecopreneurs: they want to have a large market share and to engage with mass markets. They are rarely inventors but aim to search for business ideas with products and services that solve environmental problems.

Depending on the approach and the author, we can observe the diverse types of ecopreneurs. The main similarity between them is the presence of sustainability in their processes and final products or services. From the beginning, they aligned their business goals with the preservation of the natural environment. In accordance with the literature, the main drivers for converting or starting ecopreneurship firms are: 1. Government regulation and legislation; 2. Market-driven, with environmentally beneficial behavior coming through positive incentives; and 3. Value-driven, with environmental change coming in response to consumer demands as they act on their environmental values (Gibbs, 2009; Santini, 2017).

Studies about ecopreneurships should focus on understanding how ecopreneurs create value beyond the economic or financial dimension since it is a positive social and ecological contribution. It is also important to analyze the key factors of ecopreneurships directly affecting profitability (Rodríguez-García et al., 2019). Finally, the rise of ecopreneurs may be partially due to growing market opportunities for sustainable products and services. Customers are increasingly becoming environmentally conscious. Many are losing confidence in larger corporations and have expectations of companies to show more social and environmental responsibility (Kirkwood & Walton, 2010). The decision of ecopreneurs to internationalize depends on their vision, personality, prior knowledge, and experience. Literature about ecopreneurships and internationalization is limited. Empirical research (qualitative and quantitative methodology) is necessary and would make the development of this field possible. It would be interesting to analyze how these ecopreneurships internationalize and cope with foreign markets while maintaining their sustainability values.

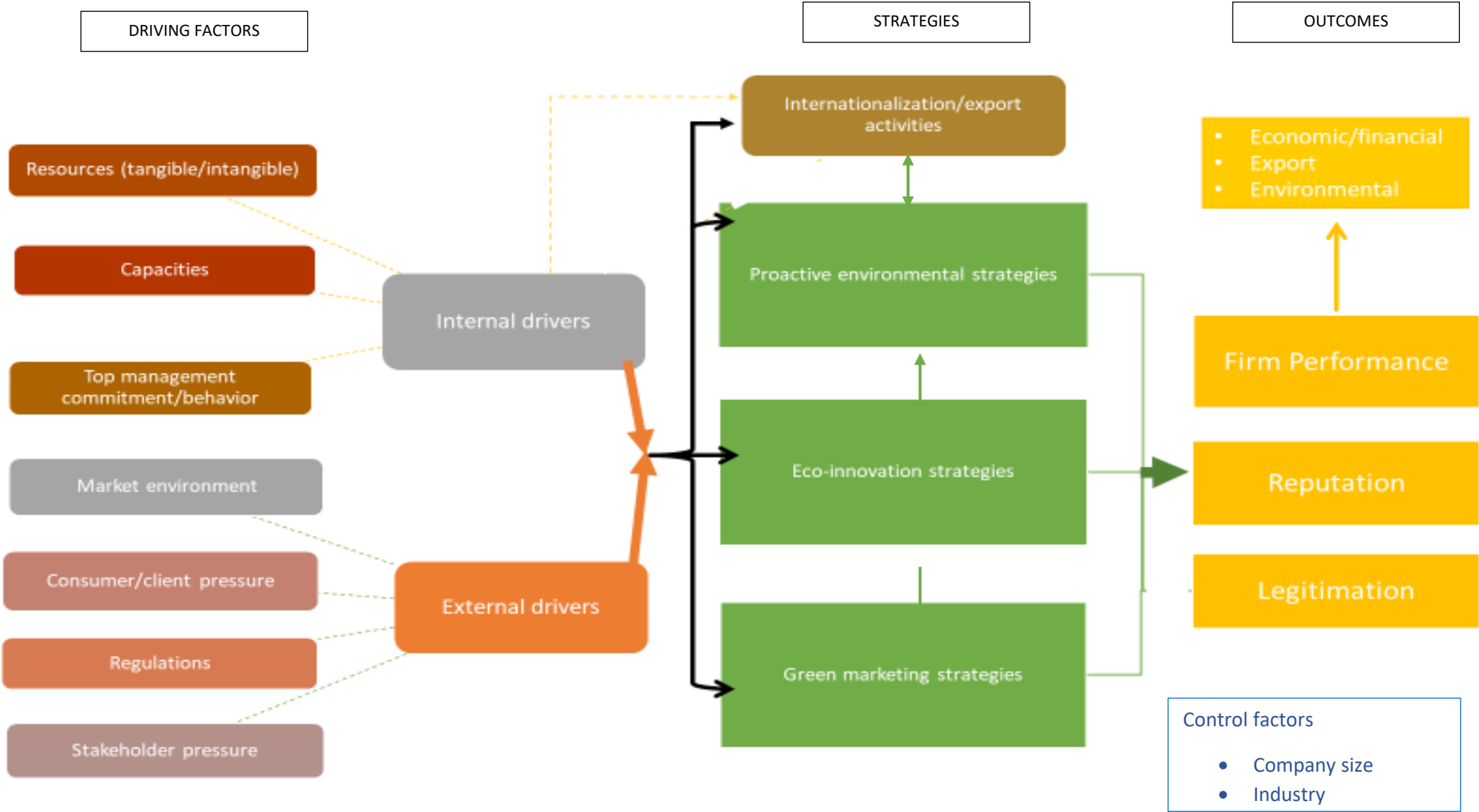
#### 5.5.1.6 Conceptual framework

Research on environmental responsibility and internationalization/export activities and the environment has significantly increased, particularly in the last decade. As noted in the bibliographic analysis, the literature compilation reveals the multidisciplinary nature of the research topic. Qualitative findings reveal that the existing research could be divided into 5 topics or mainstreams. Although thematic multiplicities exist, these works are synthesized into a conceptual framework to elucidate their interconnected relationships in the corporate setting.

The following conceptual framework was constructed as follows: on the left side of the figure are internal and external drivers, the firm's main strategies are in the middle of the graphic, and the outcomes are on the right side of the conceptual framework.



Figure 5: Conceptual framework



Source: own created

## 6. DISCUSSION AND CONCLUSIONS

Internal and external drivers cannot be analyzed in isolation from each other, as they are interconnected factors. Internationalization helps the firm cope with the regulations and pressure from customers and stakeholders. Firms that have implemented eco-friendly management activities, proactive strategies, eco-innovation, and green marketing strategies respond better in international markets than those who do not practice environmental responsibility. Additionally, these factors help in the international legitimation process. Furthermore, non-profit organizations and governments might lessen their pressure if companies have already implemented environmental strategies. Similarly, by facing regulations and pressures from developed regions, it will facilitate their entrance into other markets with lax environmental laws. Market context and environment will have an influence on top management to make decisions about committing to preserve the natural environment.

Proactive environmental strategies, eco-innovation, and green marketing are connected as well. Eco-innovation can be considered to be a PES; for instance, the environmental management strategies are a part of a PES (González-Benito & González-Benito, 2005, 2006; Liu et al., 2019), but at the same time they can be a part of an organizational eco-innovation (Rodríguez-García et al., 2019). Suárez-Perales et al., (2018) showed that eco-innovation is a driver for proactive environmental activities in Spanish firms. Also, within PES, there are changes in the production and operations system. It can be divided into two groups: product-related and process-related practices. These two classifications can be also considered as eco-innovation process and product. The literature of PES' measurement developed by Juan Alberto Aragón-Correa (1998) included 4 items related with eco-innovation; however specifically talking about eco-innovation, Boar-Boar & Oliveras-Villanueva (2019); Borsatto & Amui (2019); Leyva-de la Hiz et al. (2018); Ryszko (2016); Shu et al. (2020) have more than 4 items for measuring it, for example R&D, eco-technology, staff specialized in eco-processes and products, the use of sustainable materials, among others. Following the analysis of Chiarvesio et al. (2015); and Ryszko (2016), who investigated proactive environmental strategy, eco-innovation and firm performance in small, medium and large companies; the doctoral dissertation divided environmental actions in PES which include administrative and organizational issues related with environmental plans (manuals, prevention systems, strategic planning,

environmental objectives) while eco-innovation includes new process, products, designs, technology, etc. It is really necessary to mention the difficulty to determine the boundaries between each topic; if a company implements one proactive strategy, the most common phenomena states that it will eco-innovate or acquire international certifications to demonstrate that their standards are higher than those of their competitors and use marketing strategies to communicate it to consumers. Mostly depends of the perspective of the research.

With regards to the control variables, González-Benito & González-Benito, (2006) mention that industry and size are driving factors, because only large, multinational corporations adopt environmental strategies or are responsible with the natural environment, while SMEs have more trouble with implementing these actions. However, recent literature has shown that SMEs are interested in being environmentally proactive since they not only can minimize operation costs but also increase their business coherence, transparency, reputation and legitimacy (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010). Additionally, SMES represents more than 95% of enterprises, this big percentage should also adopt environmental strategies to reduce the harm done to nature (Ayuso & Navarrete-Báez, 2018). Size does not determine whether a company can become eco-friendly. It has been shown that SMEs and large companies can implement green activities, which might influence the level of commitment and the way actions are adopted. Regarding industry, some sectors are more familiarized with environmental strategies due to the pressure imposed by governments and stakeholders, for example, oil, energy, pharmaceutical, chemical, etc. However, this does not imply that other industries like agriculture will not implement them or be as committed as others (Barin Cruz et al., 2015).

As it was shown in the conceptual framework, after adopting or implementing environmental plans and activities (PES, eco-innovation, green marketing strategies), a firm's performance is affected. In the 90s it was suggested that organizations only invest in environmental activities up until its marginal benefit was equal to the marginal costs incurred. In other words, the firm would not invest beyond regulation requirements, because it was harmful to the firm's economic performance and it would limit its financial opportunities (Darnall et al., 2008). However, this literature review suggests that environmental practices have a positive relation to business performance. Organizations that implement environmental actions may benefit financially and in terms of exports.

By internationalizing firms will have access to foreign legitimation, reputation and resources to gain competitive advantage and contribute to the survival of the firm. Darnall et al., (2008) showed that the implementation of EMS has a positive influence on business performance. Taherdangkoo et al., (2017) focused on examining green marketing and its impact on export performance, the literature showed that implementing green marketing strategies improve a firm's export performance. Moreover, the same authors mentioned that selling eco-friendly products (products using recyclable biodegradable materials); adopting eco-friendly pricing (offering special discounts on the purchase of an eco-friendly product); using eco-friendly distributors (cooperation with eco-friendly foreign distributors) and embarking on environmental advertising practices (designing ads with emphasis on environmental features) can contribute to the achievement of superior performance in export markets. When a firm has a positive performance and is still on the rise due to the environmental factors, top managers will continue adopting new PES, financing R&D for new technology, products and services. During the last decade, customers have become more conscious about the impact that companies have on the natural environment, clients are stricter regarding firms' compliance with minimum environmental regulations, and companies have to adapt to this new way of living if they want to survive in the international market and keep their environmental, economic, financial and export performance.

On the other hand, Juan Alberto Aragón-Correa & A. Rubio-López, (2007) stated that many works have shown a negative or null relation between corporate environmental progress and performance. As a conclusion, they established that some firms may improve their financial performance thanks to their progress in environmental management, but other firms get a better performance by keeping their environmental activities at the minimum legal requirements. Ryszko, (2016) determined that PES do not have a direct correlation or effect with a firm's performance, and eco-innovation was a mediator in the relationship. Furthermore, he suggested that organizational capabilities related to PES do not necessarily create a competitive advantage. Chen et al., (2016b) advised that the positive, negative, or null connection between environmental actions and firm's performance depends on the analysis methods, variables used, time, and the countries from where sample information was collected.

Internationalization and environmental practices do not only affect performance, but they also exert an influence on the company's legitimation and international reputation.

Corporate disclosure reacts to environmental factors and legitimizing actions. Companies will be penalized if they do not operate in an adequate manner, which is consistent with social expectations and values. A firm's environmental policies must be aligned with the green values of society, international stakeholders, regulators, etc. (Wang, 2013). International firms, through voluntary environmental disclosure, increase their legitimation and reputation among foreign stakeholders (Aragon-Correa et al., 2016). Legitimation and reputation allow companies to enter complex markets. If a company is known for having good environmental practices and strategies aligned with international standards, it would be easier to obtain legitimization from new customers, stakeholders, investors, etc. and increase their export activities in specific regions.

Internationalization and export activities are important drivers because they build up a firm's ability to go more in depth in relation to environmental responsibility issues. A firm's activities may have positive spillover effects on foreign countries because the cross-border transfer of environmental practices helps fill institutional gaps and contributes to the diffusion of global behavioral norms. In other words, firms that operate in international markets are more advanced in the adoption of environmental strategies due to their acquisition of the know-how through experience and knowledge (Gómez-Bolaños et al., 2019; Suarez-Perales et al., 2017). Higher levels of internationalization increase a firm's exposure to stakeholders, global norms and global legitimating actors (Gómez-Bolaños et al., 2019). These global observations push the firm to become sustainable, through environmental management, strategies, and innovation. Gómez-Bolaños et al., (2019) showed the positive relation between internationalization and environmental management. Having environmental actions can be positive to a firm's competitiveness, performance, and profitability. They concluded that firms with a significant share of business in foreign countries face institutional complexities and seek legitimacy in an international context, by exhibiting a stronger effort to develop their environmental management activities.

Additionally, Aguilera-Caracuel et al., (2012) analyzed the positive relation between international experience gained through international diversification, and environmental strategies. They showed a significant relation and established that those export firms working in markets with different environmental institutional profiles obtain a background of complex knowledge which is positively related to the adoption of a proactive environmental strategies. Furthermore, Ayuso & Navarrete-Báez, (2018) stated

that firms with international experience can recognize the value of achieving high environmental and social standards in order to facilitate their license to operate in particular countries. Their data demonstrated that internationalization has a positive relation with the engagement of practices regarding the environment, human resource management, and community and local development.

Moreover, international diversification allows firms to strengthen their eco-innovation capacity and achieve a competitive advantage in foreign markets. International firms have access to different resources and can invest in eco-innovations (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010). It was demonstrated that internationalization has a positive relation with innovativeness and innovation capability, which helps firms develop green technologies and processes in the areas of R&D and technology (Aguilera-Caracuel et al., 2011). Export activities are important because firms obtain knowledge, experience, patents, etc. that have an influence on the creation of green products, and the reduction of waste, and energy and water use. After obtaining or developing these tangible resources (green technology equipment), a positive relation with green marketing activities is established (Leonidou et al., 2013). The possession of resources is important for the adoption of methods and processes for protecting the environment. Physical resources are crucial in helping with a firm's internationalization process, especially in the production capacity, manufacturing technology, and logistics infrastructure. The accumulation of tangible resources is critical for the design and support of a firm's green marketing strategy (Leonidou et al., 2013).

In opposition to the argument that internationalization and export activities are drivers to adopt environmental practices, some articles reveal that adopting PES or eco-innovations have an influence on the level of internationalization. Duque-Grisales et al., (2019) showed that proactive environmental strategies from multilatinas have a positive effect on geographic international diversification. This means that multilatinas that have implemented PES are more likely to pursue the benefits of internationalization; meanwhile, having eco-innovations and emission controls do not have a significant relation to international diversification. This study explains that companies from Latin America (countries with lax environmental regulations) must implement environmental strategies to enter European or North American markets, which have more strict environmental regulations. Companies need to change their environmental procedures in order to enter foreign markets and expand their sales (Taherdangkoo et al., 2017).

Martín-Tapia et al., (2008) also came up with the same conclusion: PES have a positive influence over internationalization and environmental strategies push firms to develop intangible assets, such as reputation, acquiring knowledge and stakeholder integration. Additionally, the results showed that SMEs' limitation of resources is not an obstacle for improving environmental and international issues. Future research is needed to determine the causality of the relation. Furthermore, Martin-Tapia et al., (2008) found that corporate environmental strategies can generate numerous capabilities that facilitate export processes for SMEs; for example, environmental approaches favor the capability to innovate and assume risks, which are essential to successfully compete in international markets. The outcomes were a positive relation between environmental strategies and export activities. These results show the positive interactions between environmental strategies and internationalization process for Spanish SMEs.

As the conceptual framework presents, internationalization and environmental activities can be seen as strategies of the firm, depending on the context and resources, one might come first and become a driving force to implement the other. For example, export performance and sales of an international firm that has recently adopted environmental strategies might increase (Bıçakcıoğlu, Theoharakis, & Tanyeri, 2019; Taherdangko, Ghasemi, & Beikpour, 2017). Moreover, a firm that starts exporting eco-products will be positively influenced by new eco-technologies and green marketing strategies. Internationalization may be an integrated part in the process where companies try to access and leverage resources on their way towards international growth and to overcome industry and environmental related barriers (Løvdaal & Neumann, 2011). Additionally, the decision to internationalize represents important strategic choices that largely determine a firm performance and survival. The scope of internationalization strategies is influenced by a firm's tangible and intangible resources (Sui & Baum, 2014), including resources related to environmental practices. Companies will enter a foreign market only when they have the resources necessary for them to do so. The entry mode into international markets might be influenced by innovation resources to create a market opportunity. Born global companies need more innovation resources to survive, these firms require strong technological advances. This innovative attitude is a key element to survive in a complex environment (Sui & Baum, 2014). However, firms that gradually internationalize might draw upon the knowledge and international experience to enter foreign markets, thus reducing the risk.

Top management commitment is relevant as well. Managers must have the desire to implement environmental actions and strategies in the firm. This attitude facilitates the adoption of new processes, products, and plans (González-Benito & González-Benito, 2006). Managerial commitment highlights the importance of environmental sustainability for the firms' operations; and the need to accumulate knowledge from past experience. Likewise, this commitment allows managers to communicate and empower the rest of the employees to understand the firm's strategic environmental goals and activities. Furthermore, it helps organizations build important capabilities for their performance (Katsikeas et al., 2016). Additionally, Katsikeas et al., (2016) empirically found the positive influence of top management commitment in corporate environmental responsibility, green marketing strategies, green supply chain practices and eco-innovation development. Chan & Ma, (2016) demonstrated that the CEOs' beliefs contribute significantly to the development of their firms' internal environmental orientation. Setiadi et al., (2017) showed that the higher management commitment to the environment, the better the firm will perform using environmentally friendly marketing strategies.

Our findings show that it is unquestionable that the number of articles analyzing environmental practices, drivers, and outcomes have increased over the last two decades. Consumers, stakeholders, governments, NGOs, and citizens have changed their way of thinking and acting regarding the natural environment. Companies have been restructuring their goals, knowledge, processes, and products to survive. These external stakeholders have pressured firms to change their way of doing businesses, but at the same time, have allowed the firms obtain new resources, dynamic capabilities, and competitive advantages. At the beginning of the 2000s, the literature was focused on corporate environmental responsibility of large and multinational companies, because these firms had sufficient resources and knowledge to implement environmental practices. However, in the last decades, scholars have been studying environmental actions and responsibility in small and medium enterprises. Being an SME is not an obstacle to acquire innovation capacities (Frey et al., 2013) and increase performance and export activities.

To summarize, we can say that environmental strategies are a fundamental issue in firms' activities. A company can choose various areas of concern such as product, organization and systems, process, supply chain and recovery, where they can start implementing



environmental activities. There are several driving factors that have an influence on the adoption of strategies, but the most studied throughout the literature are: internationalization, management attitude and stakeholder pressure. It is important to highlight that all these factors are interconnected; for example, when a firm starts exporting, stakeholder pressure will increase because foreign customers might be more eco-friendly. Moreover, top management will have an environmental orientation if they have previous knowledge about the consequences and outcomes of the PES, or if they have worked in other international companies. Company size is a factor that can have an influence on the adoption of PES, but it has been shown that MSMEs that also adopt environmental strategies according to their reality have kept their profitability and competitiveness. Internationalization strategies help in the development of environmental activities, allow to cope with international stakeholder pressure, and improve reputation. Ultimately, these will lead to an expansion and diversification of international markets and a growth in export performance.

Another crucial factor to take into consideration is knowledge. Firms, managers, and employees need knowledge to recognize opportunities and understand how to take advantage of them. Firms demonstrate their knowledge through standards, practices, policies, processes, and environmental performance. SMEs and multinationals achieve their optimal performance through operational efficiency, international activities, and marketing strategies. A top manager's knowledge, behavior, and commitment are vital to implement environmental practices. If these people recognize the advantages and benefits, it would be easier and faster to become eco-friendly (González-Benito & González-Benito, 2006). An internationalization strategy is an opportunity and stimulus to adopt environmental practices. Cooperation with research centers, financial partners, trade associations and public entities can help organizations overcome difficulties, and help them develop and offer innovative products and services, to be competitive at an international level (Frey et al., 2013) In fact, the more internationalized a firm is, the greater the opportunity is for both, the development of environmental knowledge, and the dispersion of superior environmental standards, processes, and practices (Leonidou et al., 2016). Finally, the improvement of environmental strategies is not only a response to an environmental requirement from stakeholders, but it is also the motivation that a firm has to strengthen their competitive advantage and performance indicators (Darnall et al., 2008).

## **7. FUTURE RESEARCH AGENDA AND LIMITATIONS**

The literature review provides several contributions. First, it examines the state of the art related to CER and internationalization. This literature review unifies environmental strategies (proactive, eco-innovation, and green marketing) and relates it to export behavior, as few theoretical articles have addressed this topic. The conceptual framework was drafted to include main drivers (internal and external), firm strategies, and possible outcomes. This framework highlights the strategic aspects of firms' green business activities related to exporting behavior. The second contribution is the integration of two theories, corporate environmental responsibility, and internationalization/international entrepreneurship/export behavior. The combination of these approaches lets us understand the importance of international strategies, networks, knowledge, and skills in the corporate environmental practices; and consequently, how environmental strategies push firms to become more international. We found that internationalization can be a driver for implementing environmental activities; however, literature has also proven that export behaviors can be a consequence of the adoption of environmental strategies.

Additionally, the findings of this study help improve upon existing knowledge relating to several theoretical paradigms, such as, dynamic capabilities, resource-based, institutional and stakeholder theory. Finally, the last contribution is the inclusion of a new topic into the research agenda: ecopreneurship. Until now, literature addressing this topic has focused on theoretical aspects. Scholars have attempted to define the term but have failed to test it empirically. This literature review has presented this topic for further research. It is necessary to analyze the business models of this ecological entrepreneurship, determine how ecopreneurs insert their businesses in foreign markets, and establish whether their business model will be consistent with export activities.

Furthermore, there are some political, managerial, and academic implications. Governments from developing countries should implement strict environmental regulations and provide incentives to encourage firms to adopt environmental actions which in turn would provide them with intangible assets, like international legitimation and reputation. Policy makers can develop regulations that allow companies to partner with universities and educational centers to develop applied courses for the employees of export firms. In addition, cooperation with national, regional, and local financial institutions can provide specific credit lines for export firms that are interested in

incorporating environmental activities into their products. These programs can help firms improve the environmental standards needed to enter foreign markets.

Managers should focus on building strategic environmental actions that satisfy the international market, stakeholder pressure, and minimize their harmful impact on the natural environment. At the same time, implementing environmentally friendly strategies is crucial to obtain a product differentiation advantage among internal competitors. Moreover, boards of directors should implement internationalization practices as international exposure provides opportunities for learning from stakeholders and foreign markets. Through a simultaneous increase in both environmental actions and internationalization, firms can have higher financial returns and a positive impact on the natural environment, society, and economy. According to Leonidou et al., (2015) the commitment to green issues must be shown in the exporting department. Top managers need to persuade their employees to adopt a set of green values to facilitate the firm's green policies. The establishment of environmental incentives and green standards will help set up an appropriate environmental climate in the export organization and achieve the company's legitimacy in foreign markets. Managers must acknowledge environmental activities as a long-term investment rather than a short-term expense.

The academic implications presented have shown that there is a positive relationship between internationalization/export activities and environmental practices. Nowadays, more and more companies are adopting environmental strategies. We have expressed that internationalization has an effect on the establishment of environmental actions. Firms that operate in international markets have a higher disposition to implement environmental strategies, because of their acquisition of know-how through experience. On the other hand, environmental practices allow firms to intensify their export activities, or enter new foreign markets, deal with the pressure of international stakeholders, gain legitimation and reputation. These conclusions have been demonstrated in empirical papers using data from developed or high-income countries. It is extremely necessary to verify these relations in developing economies, where environmental regulations and realities are vastly different.

### **Limitations**

The literature review has some limitations. First, our timeline spanned from 1998 to November 2019 with the intention of finding articles that contained the most recent material and content. Consequently, limiting our timeframe meant we excluded articles

written and published prior to 1998 and papers published after November 2019. Moreover, our results may be affected by the long review processes (acceptance of paper until publication) which lasts, on average, 2 years in top-tier journals. There may already be a significant increase in submissions of articles, but they are not yet published due to this long review process (Holtbrügge & Dögl, 2012). Secondly, the databases used were Web of Science and Scopus, but we did not consider EBSCO, SCCI, Google Scholar, or Science Direct, which may have left out some relevant articles. Thirdly, qualitative content analysis is subject to interpretation and there is a risk of bias stemming from the particular analyst perspectives (Ortiz-Avram et al., 2018). To minimize this risk, we developed a table to provide consistency across the work.

Our analysis shows that research in this field has largely occurred at the organizational level, while the individual level has been ignored. It is important to understand why firms become green, not only from information provided in surveys and statistical methods, but also from the individual *per se* using qualitative methods. There is an evident lack of qualitative articles (4) in comparison with quantitative papers (80). Future research is needed using qualitative methods (Park, 2018) to completely understand firms' internationalization process and its relationship with environmental practices, and economic and cultural contexts which are important, as well as with the values and behaviors of owners, managers, employees, etc.

Additionally, further research should focus on developing regions. As it was mentioned, the majority of the literature has analyzed the corporate environmental phenomena in developed countries (91%) and China (6%), the remaining 3% is divided among Latin America, the rest of Asia, Africa and the Middle East (Orlitzky et al., 2011). These regions should be included in the analyses of internationalization and its relationship with CER (Aguilera-Caracuel et al., 2011), because their exports will be focused on USA and Europe. Furthermore, the majority of articles have analyzed large and multinational firms, because it was believed that they have a higher impact on the natural environment. This is done even though most of the global enterprises are micro, small and medium firms, and, collectively, they have a big impact on the environment (Kennelly & Lewis, 2003).

Another future research topic is linked to the relationship between internationalization/export activities and environmental responsibility and actions. It is not clear if internationalization is a driver or a consequence, or both. It is necessary to analyze this relationship to have a more precise answer about this causality. Aguilera-

Caracuel, Aragón-Correa, Hurtado-Torres, et al., (2010) established that internationalization is a driver, while Duque-Grisales et al., (2019) determined that PES influence over the degree of internationalization. It would be interesting to see this causality between proactive environmental strategies, eco-innovation, and export activities. Additionally, comparing two or more sectors would give a clear response to the relationship. One industry could react differently than others and establish whether a firm's geography of exports is related to its green strategies and influences its likelihood to include environmental concerns in its innovation activities. In this area it could be interesting to establish whether environmental practices are mediators or moderators between the internationalization and a business's performance or if environmental practices are the mediator or moderator.

Moreover, the area of ecopreneurship is relatively recent, so new research should focus on this area. Studies should focus on understanding how ecopreneurs create value beyond economic or financial dimensions. It is also important to analyze the key factors of ecopreneurships that directly affect profitability. Research should focus on the main differences between ecopreneurs and entrepreneurs who have simply adopted environmental strategies. Empirical analyses are needed to understand this new phenomenon.

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## CHAPTER 3

# MANAGERS' ENVIRONMENTAL ATTITUDES, GOALS, AND COMMITMENT TOWARDS THE ADOPTION OF ENVIRONMENTALLY FRIENDLY STRATEGIES: THE CASE OF EXPORTING ECUADORIAN SMES

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### **Abstract:**

Natural environmental degradation and sustainability have become important issues in the international business sphere during the last few decades. However, research discussing corporate environmental responsibility and internationalization has often focused on larger companies of developed regions. This paper analyzes the owners' environmental attitude and engagement in Ecuadorian exporting SMEs. Using four case studies, the findings suggest that owners' prior knowledge, environmental values and goals may influence in their environmental attitude and engagement, and the firm's green commitment. Also, financial and human resources play a key role in the adoption of eco-friendly strategies within the firm. A conceptual framework was developed, which explains the relationship between the owners' prior knowledge, environmental attitude, and the firm's green commitment in exporting Ecuadorian firms. This article contributes to international sustainable entrepreneurship and manager's environmental commitment literature.

**Key words:** manager, prior knowledge, environmental attitude, environmental commitment, environmental strategies, internationalization, exporting Ecuadorian SMEs.

### **1. INTRODUCTION**

International entrepreneurial activities constitute a key element to promote economic growth in both developed and developing economies (Peña-Vinces & Delgado-Márquez, 2013). This economic growth, mainly based on serious resource exploitation and intensive pollution, is environmentally unsustainable (Spence et al., 2012). As a consequence, there has been increasing pressure from governments, international organizations, and clients to take action, which has motivated firms to become environmentally responsible while aiming at maintaining their profits and revenues.

Firms' environmental commitment is an important part of business ethics and plans. It is understood as a firm's ethical value on the importance of environment protection and related green activities, and should be able to improve firms' sustainable performance

(Liu et al., 2014). Different motivations have been tested to explain which factors influence a company's environmental conduct, in particular, in large and multinational companies generating large amounts of evidence (Kennelly & Lewis, 2003), but small and medium enterprises (SMEs) have attracted less attention (Galkina, 2021; Martin-Tapia et al., 2008). For instance, literature has been studying barriers for adopting environmental strategies in SMEs: resource constraints or entrepreneurs' lack of environmental commitment (Revell et al., 2010), the adoption of a short-term business perspective, the dependency on external organizations to implement environmental initiatives (Leonidou et al., 2016), low levels of eco-literacy and lack of access to information, the low environmental visibility of SMEs footprint, and lack of an important stimulus to change (Battisti & Perry, 2011).

However, other studies have proven that certain SMEs business activities, values, and goals are aligned with ecological paradigms (Ceptureanu et al., 2017; Leonidou et al., 2016; Martin-Tapia et al., 2008; Martín-Tapia et al., 2010); for example, recycling, energy efficiency, responsible buying and selling, the management of carbon emissions (Battisti & Perry, 2011), and the creation of innovative business models and sustainability strategies (Aguilera-Caracuel et al., 2011; Aragón-Correa et al., 2008; Peña-Vinces & Delgado-Márquez, 2013; Schaltegger & Wagner, 2011). These solutions have one requirement in common: managers must acquire and integrate knowledge to correctly implement these plans.

According to Johnson, (2017) few studies have analyzed the importance of knowledge for sustainability activities and environmental management. There is insufficient investigation about SMEs' managers goals and beliefs towards environmental responsibility and commitment, even though managers are facing pressures from several actors to adopt and improve environmental actions (Arru, 2020). Top managerial commitment towards the environment is an essential factor for adopting green strategies within the company. The higher environmental commitment of managers, the higher the importance for implementing sustainable policies and plans (González-Benito & González-Benito, 2006). The environmental attitude of owners can be an enabling factor, but can also be a barrier to new environmentally friendly activities (Testa et al., 2016).

It is particularly necessary to examine the importance of managers' prior knowledge and green attitude regarding their companies' environmental commitment in an emerging economy. The objective of this chapter is to explore the importance of managers' prior

knowledge in the development of their environmental goals, attitudes, and engagement, and in the adoption of green strategies within the firm in exporting Ecuadorian SMEs. This investigation combines the individual level (owners' perspective) and the firm level (environmental commitment and adoption of green strategies), by using this multilevel analysis we explain how the owners' prior knowledge, values and attitudes influence in the environmental commitment of the firm and green opportunity exploitation.

Authors like Barr (2007); Cassells & Lewis (2011); Dibrell et al. (2011); Testa et al. (2016); and Williams & Schaefer (2013) have examined this phenomenon in developed countries and have shown that there is a positive relationship between the two variables. It is extremely essential to investigate this same phenomenon in a developing territory which may have lax environmental regulations, lack of resources destined to implement environmental plans, and a possible lack of knowledge and experience.

The objective of the study is aligned with the United Nations Sustainable Development Goals. The 17 Sustainable Development Goals (SDGs) recognize that ending poverty must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth—all while tackling climate change and working to preserve our oceans and forests (United Nations Department of Economic and Social Affairs & Development, 2021). According to the United Nations SDGs (2020), NGOs, governments, companies, universities, etc. are developing new technologies to reduce harmful impacts to the natural environment. For example, investments in Research and Development have been increasing in the past years; in 2010 the amount was \$1.4 trillion, and, in 2017, it was \$2.2 trillion. National policy frameworks and instruments are needed to enable a change towards sustainable consumption and production. Companies should adapt to these regulations and reduce the extraction of natural resources, waste, and water consumption, and increase the use of clean energies.

This paper makes several contributions to the literature. First, we analyze managers' perspectives and the importance of their goals, beliefs, and commitments for implementing environmental actions and strategies in a developing country, Ecuador, which may or may not act similarly to other more developed regions. Second, we expand the literature on international sustainable entrepreneurship and managerial commitment; we relate these two approaches that have not been studied in the literature in depth. Third, we propose a conceptual framework which explains the connection between prior knowledge, environmental attitude, commitment, and strategies in exporting firms. We

also identify relevant aspects that affect the adoption of environmental strategies within Ecuadorian firms.

To fulfil the aim of this research a qualitative methodology was employed. Several, semi-structured interviews were conducted with four managers of exporting Ecuadorian SMEs. The chapter has the following structure: first, literature review; second, the methodology and techniques used in the study, the context of the Ecuadorian SMEs, and a description of the case studies. Third, the findings, results, and analysis of the information. Finally, the implications, conclusions, future research, and limitations.

## **2. LITERATURE REVIEW AND THEORETICAL BACKGROUND**

Literature about corporate sustainability has mainly focused on how firms can reduce their environmental impacts, and how sustainable development affects competitiveness and profitability (Hall et al., 2010). Likewise, literature on sustainable businesses has included studies on the importance of adopting green strategies for the performance of large firms. Additionally, more recent ecopreneurial literature centers around differences between traditional entrepreneurs and international ecopreneurs, and the influence of attitude and sustainable orientation of entrepreneurs and managers (Zolfaghari Ejlal Manesh & Rialp-Criado, 2019). However, there is not enough research yet about internationalized SMEs that are becoming green (Galkina, 2021; Martin-Tapia et al., 2008), their motivations, and the importance of managers' attitudes when implementing eco-friendly plans.

This study embraces two important approaches. The first one is international sustainable entrepreneurship; and the second one is managerial commitment which embraces prior knowledge and attitude as factors that may have an influence on the adoption and development of environmental strategies within the firm.

### **2.1 Dynamic capabilities**

Dynamic capabilities theory states that the firm needs to create or develop new capabilities to identify and exploit new opportunities (Teece, 2014). Companies with dynamic capabilities can generate competitive advantage and improve the performance of the firm (Teece et al., 1997). In other words, the dynamic capabilities may help the organization to adopt new strategies in response to the changing market conditions and environment, by combining old resources with new ones. Moreover, according to

Andersson (2000), the capacity of adopting new dynamic capabilities comes in hand with entrepreneurs able to identify and exploit new opportunities.

Based on the definition of dynamic capabilities, the idea of dynamic managerial capabilities was developed. According to Ambrosini & Altintas (2019); and Teece (2016), the managers are the key aspect behind dynamic capabilities. Also, they mentioned that managers have two roles that support dynamic capabilities: an entrepreneurial role and a leadership role. The entrepreneurial role can be considered as the ability to sense and seize opportunity, orchestrate resources, and adapt the organization and its business model. While the leadership role requires propagating the vision and values of the organization, aligning people with strategy, and motivating them. In this sense, according to Adner & Helfat (2003, pg:1012) dynamic managerial capabilities can be defined as “the capacity of managers to create, extend or modify the way in which an organization makes a living and reconfigure organizational resources and competences”. It extends the dynamic capabilities perspective by putting attention to the role of managers, individually and in teams (Helfat & Martin, 2015).

Moreover, literature posits that dynamic managerial capabilities can outline opportunities, enterprises must search and explore across technologies and local and international markets. There are three very important aspects of managerial capabilities: 1. sensing (which means identifying and assessing opportunities outside the firm; 2. seizing (mobilizing the resources to capture value from those opportunities); and 3. transforming (continuous renewal). The company need these features sensing, seizing, and transformational capabilities to gain competitive advantage (Ambrosini & Altintas, 2019; Andersson, 2000; Teece, 2016).

In this sense, the top managers strategic thinking is considered as an individual capability to understand and adapt to changes in order to bring innovation and improve performance (Helfat et al., 2007). Managers’ strategic thinking can be considered a driver for environmental responsibility, if the managers are aware of the environmental opportunities in the international market this may facilitates the adoption of environmental actions and sustainable development (Buil-Fabregà et al., 2017). Managers are the ones that obtain and create new knowledge, modify actions that will influence positively on the implantation of sustainable and environmental practices. Additionally, managers will have the tools to motivate and promote environmental responsibility

among the workers. Managerial capabilities (skills and abilities) influence the way international opportunities are recognized and exploited within the firms.

## **2.2 International sustainable entrepreneurship**

The focus of this study is on sustainable entrepreneurial activities across national borders, i.e., we analyze the environmental aspects of international entrepreneurship (IE). IE is being recognized as a relevant conduit for opportunity recognition and exploitation across national borders (Oviatt & McDougall, 2005), and for bringing transformation into sustainable products, processes and answers for social and environmental concerns (Hall et al., 2010). The exploitation of entrepreneurial opportunities related to environmental issues enable the creation of green activities; and the increased economic performance promotes enhanced sustainability (Sung & Park, 2018). Based on the environmental aspects of entrepreneurship, the concept of sustainable entrepreneurship (SE) was developed in the early 2000s. The idea of international ecopreneurs emerged at the intersection of both sustainable/environmental awareness and international entrepreneurship (Galkina, 2021; Zolfaghari Ejlal Manesh & Rialp-Criado, 2019).

A consensus has not yet been reached in literature about the definition of SE; however, Ceptureanu, Ceptureanu, Orzan, Bordean, & Radulescu (2017) classified sustainable entrepreneurship into socially-oriented SE and environmentally-oriented SE, which highlights entrepreneurs' attitudes concerning their business environmental values, and the management of environmental strategies (Dean & McMullen, 2007; Jolink & Niesten, 2015). These SMEs are managed by entrepreneurs that may earn financial benefits from actions focused on reducing environmental impacts (Ceptureanu et al., 2017). In other words, these businesses include ecological aspects, financial benefits, and environmental strategies in their decisions. Traditional enterprises can adopt environmental practices after their establishment—for example, due to changes in market demands, consumer preferences, or industry regulations—and include ecological values in their initial business idea (Galkina, 2021).

As mentioned above, Zolfaghari Ejlal Manesh & Rialp-Criado (2019) developed the idea of international ecopreneurs. These ecopreneurs generate new products, services, techniques and organizational modes that substantially reduce environmental impacts and increase quality of life (Schaltegger, 2002). This notion of an international ecopreneur provides a better understanding of ecopreneurs' motivations and objectives at an

international scale, and it can also help policymakers create policies that support entrepreneurs in coping with crucial environmental concerns (Zolfaghari Ejlal Manesh & Rialp-Criado, 2019).

According to Schaltegger (2002), there are several motivators for entrepreneurs to become sustainable/green and enter foreign markets: an ecopreneur's value system, incentives, attributes, jointly with his/her international prior knowledge and experience, ties and networks, profitability, and new customers. Additionally, Williams & Schaefer (2013) include compliance with legislation and stakeholder pressure from customers, local communities, environmental interest groups and others economic opportunities arising from pro-environmental behavior; while gaining profits and having international operations (Zolfaghari Ejlal Manesh & Rialp-Criado, 2019).

Sustainable ventures in international markets are trying to legitimize their position among competitors, clients, and stakeholders worldwide. One possible way to accomplish this legitimization is through environmental practices. Green actions and products help firms to obtain an advantageous position among their competitors (Duque-Grisales et al., 2019; Aguilera-Caracuel & Guerrero-Villegas, 2018; Park, 2018; Luan, Tien, & Chen, 2016; Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, & De La Torre-Ruiz, 2010; Gunningham, 2009; Peng, Luan, & Chou, 2009). Furthermore, companies with environmental responsibility plans have better access to certain markets; differentiated products; better risk management and relations with external stakeholders; and lower consumption of materials, energy, and water (Ambec & Lanoie, 2008). Additionally, these companies comply with international environmental regulations, they have gained a reputation among stakeholders and customers, and have reached a balance between profits and reducing the consumption of natural resources by developing green technology, products, and services.

### **2.3 Managers' environmental commitment**

Management commitment to the environment can be understood as the extent to which top managers demonstrate commitment to protect nature, drive the firm's environmental strategy, and support its environmental initiatives (Banerjee et al., 2003; Graves et al., 2019). Managers' environmental engagement may arise internally, from the personal aspirations of the owners and managers and strategic managerial considerations, but also externally, as a result of regulatory and international market pressures (Galkina, 2021).

González-Benito & González-Benito (2006) and Jansson et al. (2017) argued that top management commitment is an essential aspect for having environmental actions within a firm. The higher the environmental commitment and awareness of managers, the higher the formal importance of implementing sustainable plans and activities will be especially in SMEs, where owner-managers often have personal motivations which are important in the strategic direction of the firm and can lead to a higher commitment to environmental issues. In addition, Buil-Fabregà, Alonso-Almeida, & Bagur-Femenías (2017) asserted that top managers' individual capabilities become competences classified into sensing (identification and evaluation of opportunities), seizing (carrying out the identified sustainable opportunity to create value) and transforming (continued eco-innovation), vital for implementing sustainable and eco-friendly plans in the enterprise. These capabilities are important not only to adopt environmental strategies, but also to identify and exploit opportunities in new markets, where consumers are becoming more eco-friendly every year. Managers working in internationalized firms are exposed to new knowledge and pressure, which may influence in their environmental commitment. If the managers recognize new green opportunities, they can start engaging with the environment and making significant changes in their firms' plans and operations to become eco-friendly.

Environmental engagement allows managers to communicate their firms' strategic environmental goals and activities and empower the rest of employees (Graves et al., 2019). Katsikeas et al. (2016) empirically found a positive influence of top management commitment in corporate environmental responsibility, green marketing strategies, green supply chain practices, eco-innovation development, and developing capabilities for improving a firm's performance. Chan & Ma (2016) demonstrated that CEOs' beliefs contribute significantly to the development of their firms' internal environmental orientation. Setiadi et al. (2017) and Banerjee et al., (2003) showed that the higher the management commitment to the environment, the better the firm will perform using environmentally-friendly marketing strategies, especially in developed markets, like the USA and the EU.

It has also been proven that managers have a significant influence on the environmental commitment of their firms through their interpretations, preferences, or decisions, which depend on the possibility of gaining competitive advantage associated with environmental actions (Lopez-Gamero et al., 2011), and the promotion of eco-innovation to mitigate



complex issues (Woo & Kang, 2020). Therefore, it is important to investigate more deeply the reasons underlying this commitment: values, goals, beliefs, attitudes, prior knowledge.

#### **2.4 Managers' prior knowledge**

Managers' prior knowledge and strategic thinking are relevant for their companies' survival, for the adoption of environmental strategies (Buil-Fabregà et al., 2017; González-Benito & González-Benito, 2006, 2010), and for applying internationalization strategies (Kontinen & Ojala, 2011). Kraus et al., (2017) stated that prior knowledge helps managers correctly interpret and create new data. Kontinen & Ojala, (2011); Lim & Xavier (2015); and Shane & Venkataraman (2000) also claimed that individuals can recognize new opportunities due to prior information and their ability to evaluate it.

Research on knowledge acquisition in the field of environmental management is limited, and only few studies mention this phenomenon in SMEs (Johnson, 2017). For example, Hörisch et al. (2015) assured SMEs know and apply less sustainability management tools than large and multinational corporations, but the ratio of knowledge to application is relatively the same. Thus, knowledge is an essential driver in the implementation of environmental management and commitment, but it can also be a barrier when considering the lack of resources that small businesses face to gather such knowledge (Johnson, 2017).

Managers/owners must develop an absorptive capacity to recognize and understand new knowledge, assimilate this information, and create new information combining the new knowledge with the existing one (Lane et al., 2006). In the environmental context, knowledge leads the change towards new environmental practices, processes, and products. Moreover, according to Patzelt & Shepherd, (2011) owners who possess prior knowledge about the natural environment (phenomena of the physical world including biodiversity and ecosystems) are more likely to recognize changes in the environment and preserve it than individuals whose attention is more focused on business profits.

Moreover, the accumulation of knowledge about international markets, green practices, and technologies gained through export operations can be viewed as intangible and complex resources needed to overcome problems (Aguilera-Caracuel et al., 2012) and improve environmental performance (Galdeano-Gómez et al., 2011; Peñasco et al., 2017). Additionally, exporters recognize new opportunities for eco-innovative products

and benefit from the technological expertise of their international buyers and customers.

Ecopreneurs need prior knowledge about the national and international markets (data about how markets work and function), ways to serve the market (information about the use of new technology to develop new products or services that can be used in a certain market), customers (information about consumer needs and requirements) (Kontinen & Ojala, 2011; Kraus et al., 2017), and environmental activities (drivers, strategies, benefits, outcomes, and national and international regulations and certifications) (Bıçakcıoğlu et al., 2018; González-Benito & González-Benito, 2006; Leonidou et al., 2017) to increase their profits and competitive advantage. Sustainable development and environmental responsibility require knowledge in order to raise awareness and recognize green business opportunities (Ceptureanu et al., 2017; Johnson, 2017; Roy & Thérin, 2008).

## **2.5 Managers' environmental values, goals, and attitudes**

Values represent guiding principles for decision making, specifically in small and medium firms, in which manager/owners often build companies that are in line with their personal aspirations and values (Williams & Schaefer, 2013). According to Jang (2016) managers with environmental values are more likely to address stakeholders' interests and to have genuine and ethical relationships with them. Furthermore, managers' environmental values have a significant influence on environmental planning, goals, audits, awareness, operations like energy and water efficiency practices (Jang, 2016), and opportunity recognition (Testa et al., 2016).

Entrepreneurs have different goals which affect a firm's activities and outcomes. For example, green entrepreneurs have aspirations which include environmental and economic aspects in corporate activities. Likewise, ecopreneurs try to solve societal and environmental problems through the realization of a successful business (Arru, 2020; Schaltegger & Wagner, 2011). Goals are the mechanism through which values are led to action; affect the interest and attraction to environmental practices, perceived feasibility, and positive intentions towards the natural environment; and precede motivation and attitude (Arru, 2020). Additionally, goals affect the opportunities entrepreneurs recognize (Elfving et al., 2009).

According to Williams & Schaefer (2013) managers' environmental attitude and engagement facilitates the adoption of new processes, products, and plans. This attitude has been found to play a key role in determining a firm's engagement with the

environment, the intensity of that commitment, and the degree to which such behaviors are embedded in the company (Cassells & Lewis, 2011); especially in SMEs, where the values and goals of the company might reflect the owners/managers green attitude (Cassells & Lewis, 2011).

Moreover, firms with managers holding stronger environmental attitudes will focus on environmental issues and increase the number of ideas that lead to eco-innovation and new green products and processes (Aragón-Correa et al., 2008; Dibrell et al., 2011). Cassells & Lewis (2011) demonstrated a positive relation between owners'/managers' attitudes and environmental practices. In addition, Dibrell et al. (2011) and Testa et al. (2016) empirically showed that managers with a strong environmental attitude implement sets of practices to improve green policies and adopt eco-friendly strategies.

Managers' prior knowledge, values, goals, and attitude towards the natural environment, influence their firms' engagement with the environment, and the adoption of environmental strategies within the firm. Recognizing and exploiting sustainable opportunities allow the firm to achieve competitive advantage and the ability to create value. Sustainable opportunities do not only focus on economic gains, but also on environmental and social benefits (Ceptureanu et al., 2017). When managers exploit these green opportunities, their firms can increase their profits and sales, increase the number of consumers, enter foreign markets, and acquire new knowledge and technology, while reinforcing its environmental commitment.

### **3. METHODOLOGY**

#### **3.1. Research context**

The Ecuadorian economy has been supported mainly by oil exports since the late 70s. Between 2000 and 2018 the mean of oil exports represented around 50% of the total exports. The other 50% came from the sale of non-oil products, mainly primary goods; for example, flowers, banana, cocoa, coffee, among others (Banco Central del Ecuador, 2018). This sale of non-oil products increased from 2.48 billion dollars in 2000 to 12.20 billion dollars in 2017 (Ibid).

It is widely known that entrepreneurship is an important aspect of the Ecuadorian economy. According to information from the Ecuadorian Central Bank, and the Ministry of International Trade, in 2010, 31% of non-petroleum exports came from SMEs. In 2017, 1.250 billion dollars came from the international sale of products from SMEs (Ministerio

de Comercio Exterior e Inversiones, 2018), and 68% of the exporting firms are SMEs. Besides, small and medium enterprises employ around 40% of the economically active population, and make up 13% of the Ecuadorian GDP (Araque Jaramillo & Argüello Salazar, 2016).

In this research the agroindustry sector was analyzed for several reasons: 1. It has the highest number of employees per hectare compared to other sectors of the economy. 2. This sector is the second most important in the country regarding the amount exports. 3. The agroindustry has great potential to internationalize and adopt environmental strategies due to the variety of products and quality. 4. This sector is vulnerable to changes pertaining to environmental regulations because it works directly with soil, water, human health, and it directly affects flora and fauna. Besides, this sector is considered one of the main causes of erosion; loss of soil fertility; depletion of nutrients; loss of crops, wild plants, and resources; salinization and alkalization; pollution of water systems; and loss of fertile farmland (Altieri, 2004). Therefore, it is important to examine if the managers of exporting Ecuadorian SMEs in this sector have environmental attitudes and their influence on their firms' environmental commitment.

### **3.2. Research design**

This research follows a qualitative methodology and applies a multiple case study strategy for several reasons: 1. This study focuses on managers' prior knowledge, values, and attitudes. 2. This investigation is exploratory and does not test hypotheses. 3. The multiple case studies method can identify similarities and differences among the cases (Kontinen & Ojala, 2012). By using this methodology, firms' background context, managers' prior knowledge and international experience, and the implication of these factors in the adoption of environmental strategies in the firm can be analyzed. The interpretative and inductive approach describes or explains the processes and phenomena under investigation (Gioia et al., 2013), in this case, what motivates SMEs owners' to engage in environmental issues.

To accomplish this objective, semi-structured interviews were carried out with four different SMEs owners. These interviews allowed the researcher to ask the most important questions related to the topic, and also some questions to back up the main idea and obtain some important details for the study (Zaefarian et al., 2016). All interviewees were owners and managers at the same time. Additionally, secondary data was used to

corroborate the information given by the interviewees. This information came from the websites of government institutions and the websites of the firms.

### **3.3. Qualitative sampling and case selection criteria**

The definition of SMEs used in this research is from The Andean Community of Nations (2009), which defines SMEs by the number of employees a company has: 1. microbusiness: 1-9 employees; 2. small business: 10-49 employees; 3. medium business: 50-199 employees; 4. large enterprises: more than 200 employees. Following this definition of SMEs, the criteria to choose the case studies were: 1. To be a legally founded small or medium business from Ecuador. 2. Its international sales must account for at least 10% of its total sales. 3. To be part of the agroindustry sector. 4. The business cannot be a subsidiary or a franchise of a multinational company. 5. The enterprise must at least comply with the national environmental regulations. 6. The manager must have environmental knowledge and be sensitive to environmental concerns. 7. Willingness to participate in the study. The following four companies comply with the conditions mentioned above and were chosen for the analysis of the case studies.

Firm A produces and exports roses. The company was legally founded in mid-2003 and was born because of previous labor experience and product, sector, and market knowledge. The main office is located in Tabacundo-Ecuador. The company has important markets, such as Canada, United States, Russia, Turkey, and Azerbaijan. Roses are sold abroad through distributors. The business sells rose bouquets to intermediaries, and they deliver them to supermarkets and flower shops. One important aspect of the company is that over the years it has acquired environmental certifications; this means that the production of roses complies with international environmental regulations. For example, they use natural fungicides and fertilizers instead of chemical ones.

Firm B produces and sells roses and gypsophila. It was also founded in Tabacundo-Ecuador in 2005 when the owners identified the lack of Ecuadorian roses in the international market. Their clients are from the United States, Italy, Chile, Spain, and Russia. The owner has previous work experience in the same sector. He worked for around 15 years in large companies in the same industry.

Firm C is dedicated to the production and sale of teas. These teas are based on a drink from Ecuador called "*Horchata Lojana*." The *horchata* is made up of 20 herbal plants, and around 7 of them only grow in the Ecuadorian highlands. The firm was consolidated

in late 2017 and, at first, it was part of CRISFE, an accelerator from Ecuador. The owners talked to local farmers about *horchata* and decided to export a beverage based on those herbs. Likewise, they decided to buy the herbs directly from these rural farmers. In 2018 the enterprise was considered one of the top 6 most impactful and promising start-ups at the HUBWeek in Boston. It is important to mention that the owners previously founded a company related to teaching platforms which gave them knowledge and experience about building up a business. Finally, the firm exports their products only to a single country, the United States, but without intermediaries. The teas are for sale in more than 100 points in the east coast of the United States.

Firm D produces and sells chocolate. This family firm was founded in 1895 and the current owners are the fourth generation in charge of the business. Its most prominent characteristics are the certified organic cocoa and the absence of animal trace. Before the COVID-19 crisis, their main destination was Colombia, and around 20% of their sales were destined for foreign markets. Due to the pandemic, their international sales have decreased. Maritime and land borders are closed, and there is not a way to deliver the product. Something similar happened with the number of employees; before COVID-19, the company had 12 employees, but due to the pandemic, they have had to cut staff to around half of the employees until sales increase again.

Table 1: Information about the firms

	<b>Company</b>			
<b>Firm</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Industry segment</b>	Agroindustry	Agroindustry	Agroindustry	Agroindustry
<b>Exportation products</b>	Roses	Roses, gypsophila and astromelies.	Herbal teas	Chocolates
<b>Year of establishment.</b>	2003	2005	2017	1895
<b>Year of internationalization.</b>	2003	2006	2018	2010
<b>Number of employees.</b>	20	15	10	12/6
<b>Percentage of international sales</b>	99%	96%	100%	19%

<b>International entry mode</b>	Exports through intermediaries	Exports directly Exports through intermediaries	Exports directly and subsidiary office	Exports through intermediaries
<b>First export's destination</b>	United States	Italy	United States	Colombia
<b>Current export's destinations</b>	United States Canada Turkey Azerbaijan Russia	Italy United States Russia Chile Spain	United States	Colombia

Source: own created

### **3.4. Data collection and analysis**

Four in-depth online interviews were carried out with the SME owners between September and October 2020. The interview guide was developed based on the literature and research objective. The questions explored the managers' engagement with environmental issues, with emphasis on the role played by personal values, goals, and attitudes. Also, the managers' prior knowledge and information about internationalization processes and adoption of environmental strategies were collected. The entrepreneurs received the questionnaire in advanced to prepare the answers for the interview. The interviews were conducted via Zoom and lasted between 30-60 minutes, the language used was Spanish, and the informants were aware they were being recorded. Additionally, the interviewees sent a written answer with the main points of the questions. If there was any doubt about the information, the entrepreneurs were re-contacted via mobile phone.

At the beginning of the interviews, neutral questions were asked to build mutual trust. Later, questions related to their businesses' history and operations in the international market were asked. The next block of questions was about environmental commitment and strategies. In this part of the interview, the owners talked about their environmental values, goals, attitudes, and knowledge. Additionally, they mentioned their previous experiences, the problems they have faced, and the characteristics of the markets and their clients. Secondary data was obtained from the companies' websites, their social media,

and other recorded interviews in media. Information was also gathered from government institutions, such as, PROECUADOR, Superintendencia de Compañías, and Agrocalidad.

As for data analysis, this research follows the Gioia et al., (2013) approach, which starts creating concepts in a more general way to describe or explain a phenomenon of theoretical interest. Theory development was accomplished through an inductive coding process. At the beginning, first-order categories were derived from raw data. First-order categories try to adhere closely to the terms respondents used in the interview. Later, the first order concepts were grouped and linked to second and third order themes, which allowed for the identification of the managers' characteristics and served as a base for the conceptual model. Finally, the aggregate dimension—environmental attitude and commitment—was developed, and the result was the data structure seen in Figure 1. The data structure presents the information in a graphic which describes the process that goes from raw data to the themes identified when conducting the analysis (Gioia et al., 2013). Manual techniques were used to examine the data. Some propositions were developed for bringing approaches together (internationalization/exporting activities, manager's prior knowledge, his/her environmental attitude and firm's environmental commitment), and to consider further exploration of the topic.

#### **4. FINDINGS AND RESULTS: CROSS-CASE ANALYSIS**

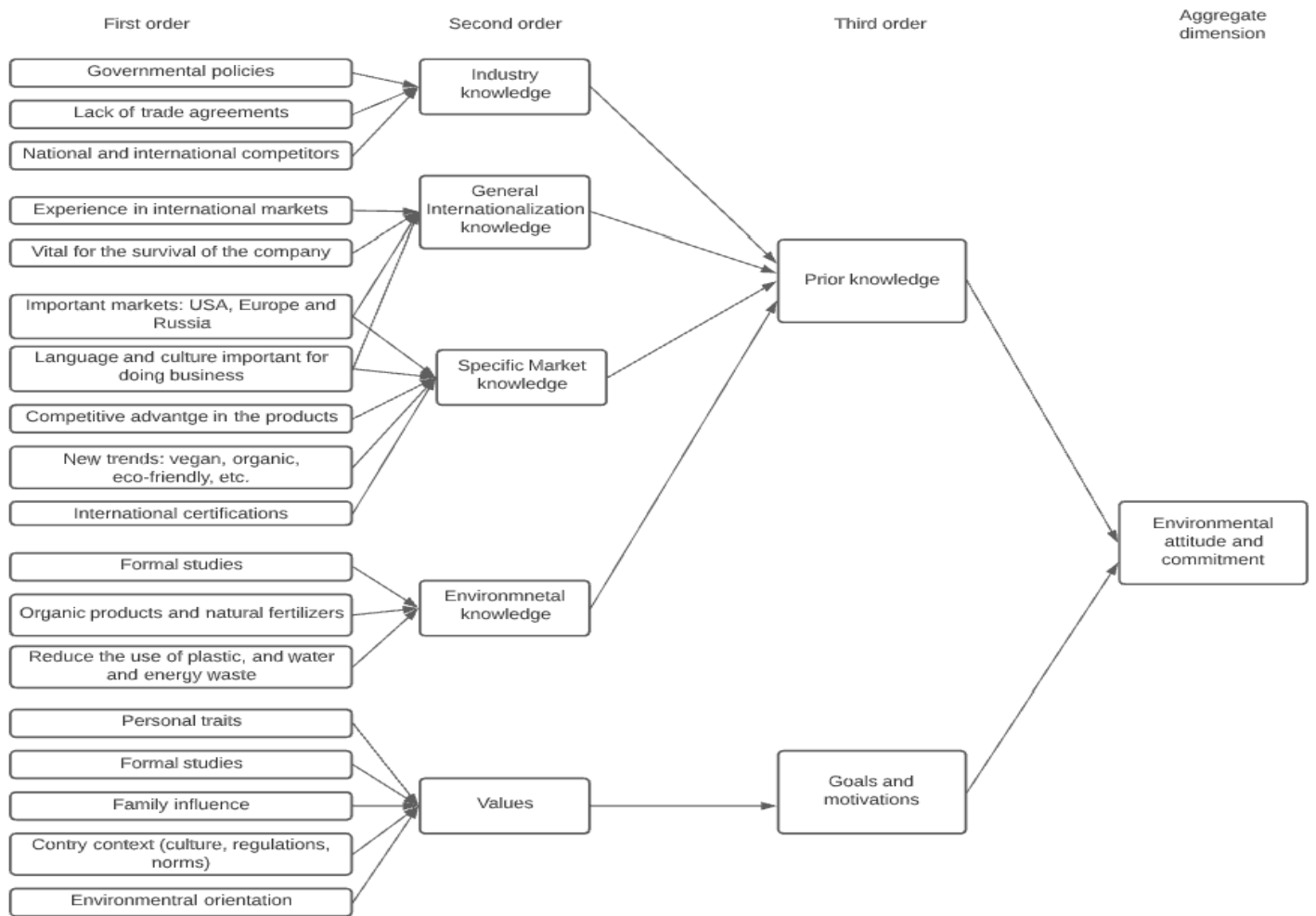
This section will present how managers' prior knowledge impacts the application of environmental attitudes, goals, and strategies in Ecuadorian exporting SMEs. This section will be divided into prior knowledge, motivation, values, attitudes, and commitment (see appendix 2)

##### **4.1 Prior knowledge and experience**

As table 2 shows, prior knowledge is divided into sector or industry, market, internationalization, and environment. Besides, knowledge is classified as low, medium and high knowledge, according to the owners' answers and analysis of the responses, using the guide by Kontinen & Ojala (2011). High knowledge refers to when owners give information about the national and international sector, or proactively plan to enter foreign markets or adopt environmental strategies.



Figure 1: Data structure



Source: own created based on the model of Gioia et al., (2013).

Each entrepreneur vastly explained his/her answers and argued his/her ideas. Medium knowledge implies that owners do not immediately react to new opportunities, but after consideration they seize the opportunity to compete in national and international markets and implement green plans. In this regard, the entrepreneurs were not quite sure about the culture, the language, environmental regulations etc., which made it difficult to exploit new opportunities. Low knowledge implies that owners only have scant information about the subject, they are not familiarized with the process, or do not do anything to enter foreign markets, adopt eco-friendly strategies, or analyze new consumer trends.

#### 4.1.1 Industry prior knowledge

Owner A and B have high knowledge of the national and international sector. The owners worked for about 15 years in the flower sector before founding their own companies. Both entrepreneurs mentioned that the competition within their home country is difficult,

especially with large firms which have resources to buy new technology (irrigation system) or to import new tools. According to owner A, the main problem with the national industry comes from government policies:

*“The sector was affected by the decisions of the former president, Rafael Correa. For example, he did not sign the commercial agreement with the European Union, while Peru and Colombia did. Also, Ecuador lost tariff preferences with the United States. Moreover, the prices of chemical products are higher here than in our neighboring countries due taxes and lack of trade agreements. Our minimum wage is the higher of the region (we use dollars). Finally, the international prices of roses have not increased while production expenses have. These factors have contributed to small and medium enterprises to lose competitive advantage over Colombia and Peru.”*

Table 2: Ecopreneurs prior knowledge

	<b>Industry</b>	<b>Internationalization</b>	<b>International Market</b>	<b>Environmental issues</b>
<b>Firm A</b>	High	High	High/medium	High
<b>Firm B</b>	High	High	High/medium	Medium
<b>Firm C</b>	High/low	High	High	High
<b>Firm D</b>	High	Low	Medium	High

Source: Own created based on Kontinen & Ojala, (2011)

The international industry in Europe and the United States is very competitive. Owners A and B coincided in their main competitors being Colombia, because of the similar temperature and climate that aids in the production of flowers and has its own monetary policy; some African countries due to their closeness to Europe; and The Netherlands because they are the biggest tulip producers in the world. Furthermore, both owners agreed that not everyone appreciates the high quality of the product and prefer cheaper flowers. Both managers stated that in international fairs, Ecuadorian roses are considered the best in the world due to their unique characteristics such as long, thick, and completely vertical stems; large buttons; and extremely bright colors obtained thanks to the geographical situation of the country, which allows for microclimates and light to be present. Neither Colombia, nor The Netherlands, nor the African countries have these environmental characteristics.

Owner C has a high knowledge on the international industry, but a low knowledge on the national one. The owner did not analyze in depth the national industry because his main

objective was to position his brand in the USA. The owners researched the drinking sector in the east coast of the United States and discovered that, in that area, the percentage of people drinking eco-teas was increasing, as well as the number of competitors (Coca-Cola Company, Nestlé, etc.) On the other hand, they know about the general aspects of the Ecuadorian industry. There are few tea companies using different herbs, mainly bagged tea; and the number of consumers has been rising.

In the case of firm D, the owners have a high knowledge of the industry. This family firm has seen how the chocolate industry has been growing in the last century. Since the early 2000s the number of competitors has increased. There are large local companies which established their brand nationally and internationally, such as Pacari and República del Cacao. The owners were aware of the difficulties of the industry, large companies have the resources to enter foreign markets, to run marketing campaigns, etc., and the small and medium companies must deal with other problems like investment, and technology, and now, the pandemic has changed the way business is done. Also, owner D mentioned that the international competition is even more complex than the national one:

*“Colombia produces cocoa and chocolate, but the smell and taste is not as good as the Ecuadorian ones. Some Swiss companies buy Ecuadorian cocoa. If we invest in human capital, new technology, etc., we can be as famous as Swiss chocolate producers and gain reputation in the international arena.”*

In sum, the four companies have generally high knowledge about the industry. Owners A and B gained it through experience in their previous jobs. Both owners, worked in flower companies for several years. In the case of firm C, the owner investigated about the tea industry in the United States. He used his prior knowledge on business and management to exploit an opportunity and establish a new company. Owner D acquired knowledge through family experience and marketing studies, which have help her to maintain her company during the COVID-19 crisis, creating a new business and marketing plan that will allow the firm to growth nationally and internationally.

#### 4.1.2 General prior internationalization knowledge

The second aspect is general internationalization knowledge. Owners A, B, and C have high knowledge about general internationalization. From the first moment, the three owners knew that internationalization was the main goal of their enterprises. They have experience managing international sales, and how to start this process. Owners A and B

worked for several years in other rose companies, so they have experience in the business and in international operations. Owner A recognized international opportunity after seeing the quality of the firm's products and stated, *"the quality of Ecuadorian roses (length, colors, duration, among other things) makes it possible to enter into international markets."* Owner B replied:

*"The difference between national and international prices is wide. Depending on the stem length, a single rose can cost two or three times more in the USA, Europe, Middle East, Asia, etc. than in Ecuador. Internationalization is vital for the survival of the company."*

Owner C has internationalization knowledge because of his previous company, which had offices in some Latin American countries. From the beginning, company C started selling their products in the United States. They found the opportunity to internationalize by planning, researching, and analyzing consumers' behavior in the east coast of the United States.

Nevertheless, owner D has low knowledge about general internationalization. The family owners were aware that going into foreign markets was important for the company, but some markets are stricter than others. She mentioned that they sell to Colombia because the transportation is cheaper and faster than to the USA or Europe. Also, Colombian regulations are similar to Ecuadorian ones, and products can enter easily. On the other hand, the owners do not have knowledge or experience selling their products in developed regions like North America and the European Union. Owner D stated:

*"Before COVID-19 we wanted to expand our sales, but the crisis has affected our company. We stopped selling our chocolate in Colombia, and now we depend 100% on national sales (de-internationalization process). This pandemic has forced us to change our business and marketing plan."*

Overall, owner A shared, *"after entering our first country (United States) it was easier to increase the number of international markets, especially the ones that are nearby, in this case, Canada."* Owner B stated that Europe and North America are the easiest markets to manage due to the amount of information that can be obtained. Firm C decided to stay in one country, and to stabilize their sales in the east coast of the United States and later expand within the country and to other foreign markets.

#### 4.1.3 Foreign specific market knowledge

The four owners pay great attention to foreign-specific market knowledge. Firms A, B and C have less than 5% of their sales in the national market. Owners A and B have high knowledge of North American and European markets, but medium knowledge of the Russian, Azerbaijani, and Turkish markets. They indicated that the price of roses and flowers in international markets is guided by the season. It is important to know customers' preferences (length of the stem, colors, etc.) in each festivity. Additionally, they said that sales are higher between September and May; for example, the most important holiday is Valentine's Day, the prices increase in this season. Moreover, both owners agreed that the Russian market prefers white and red roses with large stems, longer than 80 cm. The flowers for this specific market cost more; they take longer to produce, and the transportation to Russia and logistics are more expensive.

An important issue is the attainment of ecological stamps, or ecological certifications (when an independent agency, meaning a governmental, non-governmental organization, or an industry consortium test or verifies that a certain more sustainable practice has been followed in the production of a given good or service). In North America and Europe, consumers' preferences are changing rapidly, clients are becoming more eco-friendly, and they rather buy roses that are sustainable. In the case of firm A, the company has the green certification Rainforest, and their roses can cost around 5 or 10 cents more, because it is taking into consideration the natural environment in which the roses are produced, and it can take longer to cultivate these roses. Firm B does not have the stamps. This new stream has made owners A and B rethink their environmental actions within their firms.

Owner C has high specific knowledge on the market in the United States. They researched about the behavior and preferences of consumers in the east coast of the USA. The result was that the number of people looking for herbal teas is increasing, but the market has important companies like Coca-Cola, Nestlé, and Unilever. He replied:

*“Our product is unique because it does not contain any artificial flavors. The teas use organic herbs only found in Ecuador, are healthy, help the digestive system, and do not contain sugar, so diabetics can drink them. Nowadays, clients prefer products that do not harm the environment and the body. Our brand is growing, we sell the teas to local supermarkets, but they can also be found in Amazon USA and will be available in Walmart in the next months.”*

The owners of the three firms—A, B and C—speak English, which facilitates the communication between owners and the intermediaries. They also stated that Western

Countries share similar traditions, and this simplifies the way of doing business. In the case of Russia, Turkey and Azerbaijan, the language is a problem, not all distributors or intermediaries speak English nor Spanish, hindering communication. The owner of firm B who knows Italian, which was helpful for recognizing a business opportunity, found a gap in the Italian market.

Owner D has high knowledge of the local market. She is aware of customers' needs and trends. The culture, traditions and language in Colombia are similar which facilitates negotiations and sales. Also, she was aware of the organic, vegan, and ecological trends, and stated:

*“We know that the organic products niche is growing, and our chocolates come from 100% organic cocoa which give us an advantage over other competitors. We also know that vegan consumers are important, and most of the Ecuadorian chocolate contains milk or other animal trace; our chocolates do not contain any animal products, they are 100% vegetable and come from fine or flavor cocoa, one of the best in the world. Additionally, we are conscious of the eco-friendly trend, and our chocolates respect the environment, the packages are biodegradable and do not contain plastic. All these characteristics help us gain competitive advantage over some important competitors and exploit new opportunities.”*

#### **4.2. Environmental knowledge**

The fourth aspect of prior knowledge is environmental issues or concerns. This part of the interview included information owners possess about the natural environment in Ecuador, national and international environmental regulations, and the environmental actions their firms have adopted in recent years.

Owner A, who is a chemical engineer, knows about greenhouse effects, pollution, and global warming due to his degree. His experience in the rose business has allowed him to understand the damage synthetic fertilizers cause to the soil, water, and human health. He stated:

*“I started using compost (made of their own roses and organic waste) to cultivate the flowers; preserve the land and soil from erosion and the health of our workers; and to acquire the international certification Rainforest Alliance, which demonstrates our commitment to the environment and community.”*

Additionally, he recognized that the structure of the greenhouse (plastic and metal) is polluting the environment. He argued: *“Every two or three years we have to change the*

*greenhouse's roof, which is made of plastic. I decided to re-use the good parts and reduce the negative impact towards the environment.*” In addition, he said that Ecuador does not have any regulations on recycling, all the garbage goes to one place, it does not matter if it is plastic, organic, metal or glass.

The company has two water reservoirs, which are filled with rainwater and river water. In this aspect it is important to mention that the company is located in a rural area next to an indigenous community, and the water is delivered according to the necessities of the community (houses and businesses). In this way, owner A believes that reducing water waste is important because the firm does not have access to water sources all the time.

Owner B is an industrial engineer, who knows about procedures, technology, efficiency and has been working in the flower sector for several years. The knowledge obtained at the university and in previous jobs, helped him identify the opportunity and ways to reduce energy, water waste, and soil erosion. He mentioned that the soil and climate make Ecuadorian roses unique and that it is important to take care of the land. Also, he implemented an irrigation system that decreases water waste and built a reservoir to use rainwater. These two practices allow this entrepreneur to reduce water expenses and re-use it to diminish consumption.

Moreover, he knows that the use of fertilizers and pesticides rush soil damage. Therefore, he minimized the use of chemical pesticides in rose production. The owner consulted experts in the subject and used natural pesticides to help the environment and reduce health problems. Finally, he mentioned that he reduced the negative impact of his company by using natural fertilizers, using new irrigation systems, collecting rainwater for use, and cleaning litter from rivers and land nearby.

In the case of firm C, the owners have high knowledge about environmental issues for several reasons. One of the owners studied Business and Management and some subjects analyzed the environmental aspects of business. Also, while coursing the MBA program at Babson College, he studied “Entrepreneurship” which included social, green, or sustainable entrepreneurship. The knowledge obtained allowed him to investigate about the harmful impact of companies towards the environment—the over-exploitation of natural resources and energy, water waste, pollution, etc. Second, their products comply with American regulations; for instance, the packaging, export permits, content of beverages, etc. must comply with the environmental and trade norms of the United States.

Third, the owners learnt about the USA customers' trends and preferences and realized that environmental and social issues are relevant. Owner C stated:

*“Knowing the behavior of consumers and thinking of the damage of pesticides to the soil and health, we decided to buy organic horchata for our teas. Nowadays, we have the Ecuadorian Agrocalidad certificate, and we are working to obtain an international ecological certificate. Also, potential clients prefer to pay more if the products are natural, do not harm nature and help community development.”*

The family owners of company D know about the environmental issues in the community and nature. The company only buys certified organic cocoa because they know synthetic fertilizers and pesticides harm the soil, flora and fauna, and change the flavor of the cocoa. Also, by purchasing organic cocoa the smell and taste are unique, giving their chocolate competitive advantage. To come full circle regarding natural fertilizers, the owners sell their natural cocoa's waste to farmers that produce compost. Furthermore, the owner replied:

*“During the pandemic crisis, we installed a new machine which reduces water waste. This new acquisition goes in accordance with international environmental regulations, because we will try to obtain international certifications in the short term. Also, during this time we created a new business and marketing plans which include environmental actions such as recycling (new and industrialized garbage cans) and reusing some materials (paper and glass).”*

Another important aspect about company D is the owners' university studies. One of the owners studied Food Engineering, where she learnt how chemical substances harm nature and human health. Moreover, she developed an adequate cocoa process to get an exceptional taste, taking the environment into consideration. The other owner studied marketing and a pastry course, that helped him understand new environmental trends in the market and the unique flavors chocolate can have when the cocoa is cultivated without synthetic fertilizers and pesticides.

All the owners mentioned that their packaging systems are eco-friendly. Owners A and B send roses to the USA, Russia, and the European Union in cardboard boxes that are recyclable and are made from recycled materials. They have reduced the use of plastic in their packages. Firm C uses glass bottles and reduces plastic use in their production. Lastly, firm D's chocolate packaging is made out of paperboard and can be recycled.



Additionally, the four companies are reducing their paper use; their orders and invoices are done via e-mail and there is no need to print out the information.

The four companies know the importance of being eco-responsible. Even though they still do not have environmental management systems like ISO, they are trying to adopt new environmental strategies and actions. In the case of firm A, the owner must comply with environmental plans to keep their international certification. Firms C and D have to apply new strategies in order to earn the environmental certification they are looking for. Besides, having these certificates will make it easier to access markets such as the European and American ones (Peña-Vinces & Delgado-Márquez, 2013; Zhu et al., 2011).

### **4.3 Environmental values, goals, attitudes, and commitment**

The main motivation and goal of owner A was both economic and financial. He recognized and exploited the opportunity to increase his revenues and profits; but over the years he has learnt to care about the environment and community. He said:

*“In the early 2000s, firms did not care too much about their impact on the natural environment. Only in the last decade has the flower industry seen a big change in the behavior of consumers who have made us ponder about our negative impacts on the ecosystem.”*

He also mentioned that his family had been an important factor for having environmental attitudes in his house and business. Around 20 years ago, his wife and kids started recycling, re-using plastic bags, and buying organic food from small and local farmers (in Ecuador these activities are not common). Following these initiatives, entrepreneur A decided to apply some of them to his business. He researched actions for helping the environment; for example, composting, using natural fertilizers, re-using plastic, printing less, etc. He said the very first step to implement eco-friendly strategies is the owner's environmental attitude and engagement.

The company hired an environmental engineer to create the compost, build the reservoirs, implement the new irrigation system, and help with the international certifications. Owner A mentioned: *“The adoption of environmental strategies and plans in an Ecuadorian SMEs is not easy, not many managers are willing to assume the (extremely high) costs and risks.”* Likewise, he said that Ecuadorian environmental regulations are lax, and companies just meet the minimum requirements. Therefore, owners must have a strong motivation and positive attitude towards nature to voluntarily implement environmental plans that go

beyond the minimum requirements in their companies. In the case of firm A, the adoption of the environmental plans has helped the firm to increase its presence in foreign markets, profits, and revenues. Roses with an environmental certification have higher value in Europe and the United States.

When owner A was asked about the employees' training programs, he mentioned induction talks for managing the irrigation system and the production of compost. Additionally, he had attended several conferences made by "PROEcuador" and "Ministerio del Ambiente," which helped him identify new market trends; for example, that European clients are looking for organic and natural products with green certifications. The attendance to these conferences and courses helped the manager acquire environmental knowledge and skills, and later transfer them to the employees.

Owner B decided to build his own company to obtain greater economic benefit. However, in the last decade he identified clients looking for eco-friendly products, hence he started implementing environmental practices. The owner does not have any green certifications yet, but he would like to explore options like ISO 14000, or Rainforest Alliance after COVID-19. Manager B has showed his environmental attitude and his firm's environmental commitment by using compost, an irrigation system that reduces water waste, and helping the community by providing jobs, getting together for cleaning litter from the river, among other things. Finally, he mentioned that he sees his business having highly proactive environmental strategies in the medium term, but support from the Ecuadorian government is necessary. Ecuadorian institutions should facilitate financial resources and training programs for SMEs.

Owner C mentioned that the main motivation for building the company was both financial and social. However, he knows environmentalism is an important issue for consumers and decided to use glass bottles for their teas, reducing their negative impact towards the environment, and giving their product a unique characteristic. Moreover, the firm only uses organic *horchata* in their teas. The product is cultivated by rural farmers in the Andes, and they use natural bug killers or fertilizers. By doing so, the farmers preserve the soil and rivers, and give an exceptional flavor to the teas. Additionally, their supply chains use biodegradable packaging and recycling systems.

His short-term objective is to obtain an international certification, for which, they have started the application process. And in the long term, they are thinking of implementing

environmental management systems, like ISO 9000. These actions (the use of glass bottles, cultivating organic *horchata*, reducing printing, only using social media for marketing and applying for environmental certificates) demonstrate the firm's environmental commitment, and the environmental values and attitudes of the manager.

On the one hand, owner C mentioned that their firm complies with both Ecuador and the United States environmental regulations and norms. On the other hand, he said that adopting environmental plans is costly, and that the Ecuadorian government should focus on the creation of new programs about environmental issues concerning SMEs.

Firm D was founded in 1895 in Quito. The current family owners (fourth generation) said the main objective of the firm was to generate profits and revenues for the family. So far, that goal remains. However, the family owners also have environmental goals, motivations, and behaviors. They care about the natural resources and the environment, and therefore, they have changed some of their daily actions; for example, recycling in the company and in their home, reducing plastic and paper use, using organic cocoa and biodegradable packaging; selling their organic waste for composting, and, in the future, they will try to implement solar panels for electricity. The owners' environmental attitude is reflected in their firm's commitment to help the natural environment by having green plans and adopting new ones. Finally, she said education is the most important aspect for becoming eco-friendly and encouraging other entrepreneurs to respect the environment and create new green strategies within their firms. Formal studies are important for the survival and innovativeness of the company.

All the firms stated that the most difficult part about having environmental strategies is the high costs. Although, the entrepreneurs have knowledge, experience, and positive attitudes towards nature, not all owners are willing to spend the amount of money necessary to implement green actions until they have established their brand in the international and national markets. And without the help of private and public institutions it is difficult for exporting Ecuadorian SMEs to adopt environmental strategies. Buying eco-technology can be expensive, hiring employees specialized in green strategies can increase the costs, and the process for obtaining green certifications might be expensive.

In conclusion, these firms had primarily a financial goal. The owners originally wanted to increase their income, profits, and revenues. However, this economic goal has not been a limitation or impediment for also developing environmental attitudes and adopting eco-

friendly activities at the same time. The owners were aware of the environmental damage caused by firms; consequently, they have green attitudes towards the environment and their firms have adopted proactive green strategies (which go beyond Ecuadorian environmental regulations). Their eco-friendly plans and strategies have also allowed the firms to sell in developed regions, such as the United States and the European Union.

Finally, the managers are willing to keep implementing new actions, such as earning environmental certifications, applying environmental management systems (ISO 9000), reducing plastic use, creating new technologies which diminish pollution and water and energy waste, etc. However, the most common limitation is the lack of financial resources. The implementation of new environmental strategies has a very high cost, and not all firms have the money and resources to do it, especially in a developing country like Ecuador, which has been facing a dramatic health and economic crisis in 2020 and 2021.

## **5. DISCUSSION AND CONCLUSIONS**

This study presents the managerial dynamic capabilities and the IE phenomenon from a novel angle. Sustainable and green entrepreneurship is an emergent field of research, and knowledge on the factors that affect entrepreneurs' behavior towards the natural environment is still insufficient (Arru, 2020; Patzelt & Shepherd, 2011). Furthermore, few researchers in this topic have been analyzing them at the individual and firm levels (Jahanshahi et al., 2017). This chapter adds current discussion about entrepreneurs' prior knowledge as a key driver of eco-entrepreneurial values, goals, attitudes, and adoption of strategies, in the context of environmental responsibility. In addition, by bringing the phenomenon of ecopreneurship into the international context, it establishes the missing link between greening and internationalization (Chiarvesio et al., 2015). Finally, we developed a conceptual framework and propositions which explains how the owner's prior knowledge, green values, goals and attitudes, and the firms environmental commitment and influence in his/her engagement towards the environment and the adoption of green strategies within the firm.

This qualitative study showed that entrepreneurs' prior knowledge is an important element for managerial commitment towards the environment and for the adoption of environmental strategies in Ecuadorian exporting SMEs. However, in a developing country like Ecuador, there are other relevant factors that influence the adoption of

environmental strategies, for instance, the availability of financial and human resources. The first contribution of our study relies on examining some exporting SMEs of a developing country: Ecuador. The current CSR and environmental responsibility literature is predominantly driven from a European or North American perspective and from big corporations' points of view (Stewart & Gapp, 2014). Also, this study offers new insights for IE scholarship by looking at the internationalization of SMEs that consider environmental issues in their operations. Studies in this direction have been very scarce and fragmented (Galkina, 2021).

The second contribution sheds light on the prominent role of entrepreneurs' attitudes as an influential motivator for environmental practices, providing a valuable empirical contribution to the literature on the topic. The relationship between managerial engagement and environmental responsibility has been under-researched in the context of Ecuadorian SMEs. This chapter provides the micro-perspective of individual owners who base their actions on their emotions, green value systems, experiences, and commitments. This micro-level analysis has been largely neglected in IE; therefore, this study analyses the necessity to understand what is making some exporting SMEs becoming eco-friendly (Zolfaghari Ejlal Manesh & Rialp-Criado, 2019) and extend the IE domain forward.

The third contribution is to consider several types of prior knowledge in the research: about the industry, internationalization, the market, and the environment. When a firm has international operations, all this information is vital for green opportunity recognition and exploitation, and, ultimately, for the survival of the company. Other articles analyzing prior knowledge and management attitudes to the environment only take into consideration environmental knowledge (Patzelt & Shepherd, 2011). We, also, identify a variable that was not considered in the beginning, the lack of financial resources for the adoption of environmental plans or investing which is relevant for Ecuadorian SMEs.

The following conceptual framework explains the findings about owners' prior knowledge, green values and attitude engagement, and its relationship with their companies' environmental commitment, adoption of eco-friendly strategies, and green opportunity exploitation. The conceptual framework emerges from the data structure following the method developed by Gioia et al. (2013). The owners mentioned that without prior market knowledge they would not have identified changes in trends, customers' requirements, and environmental regulations, and would not have recognized

nor exploited new opportunities. For example, respondents C and D recognized the harm of using plastic products as a negative condition and introduced ecofriendly packaging to the market. Likewise, entrepreneur A identified the added value of having green certifications. He took advantage of the situation and obtained an international green certification. Additionally, without prior industry knowledge, the four entrepreneurs could not have obtained information about the strengths and weaknesses of their national and international competitors. With this information, the entrepreneurs improved their competitive advantage and implemented environmental practices that characterized their products in international markets. Finally, general internationalization knowledge helped the entrepreneurs start exporting their products; the owners did know about trade, customs, and environmental regulations.

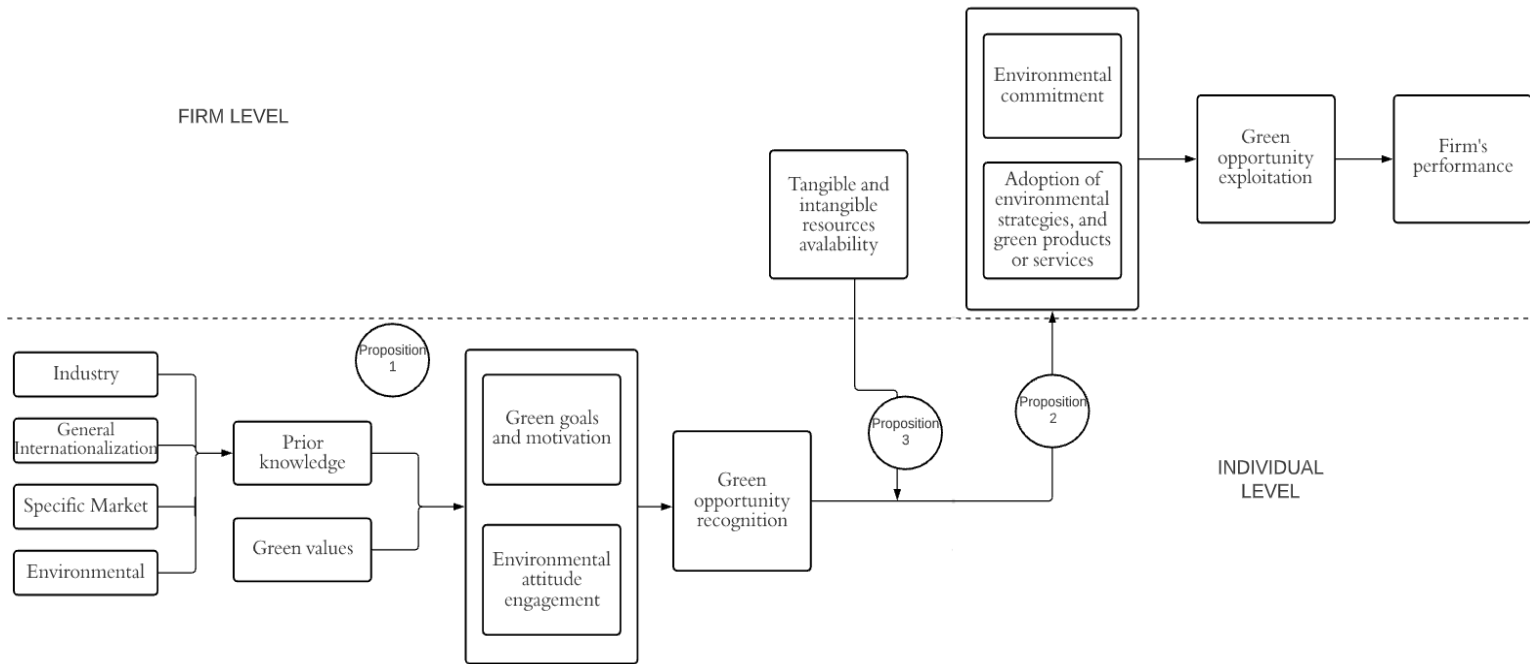
The research found that the managers dynamic capabilities are important for adopting and maintaining sustainable and environmental practices, because they create, develop or modify strategies and plans to make the organization reduce their negative impact towards the environment, reduce the exploitation of natural resources, and diminish the pollution (Andersson & Evers, 2015). Without their willingness, knowledge, skills and capabilities it would be harder for companies to become green and sustainable.

In addition, Roy & Thérin (2008) found that knowledge plays a significant role in SMEs' efforts to increase their environmental commitment. These authors stated that firms with greater environmental commitment are more open to external knowledge about environmental issues and marketing aspects. When owners are continuously gaining new knowledge, they can face new challenges and problems in the international markets. For instance, the four owners are constantly analyzing their customers' changing needs to meet their requirements: eco-friendly packaging, organic products, green certifications, waste management, among others. The owners recognized and understood new knowledge, assimilated this information, and identified new green opportunities. The knowledge acquired helped them implement green actions and create new marketing plans taking into consideration their eco-friendly activities. They are better prepared to use their new knowledge to cope with new challenges and problems.

Additionally, the four owners have prior knowledge on the natural environment. In the case of firms, A and B, they reduced their negative impact by using natural fertilizers, like compost. For companies C and D, even though they do not produce *horchata* and chocolate themselves, respectively, they buy these key raw materials from farmers who

do not use pesticides and chemical fertilizers. Acquiring environmental knowledge allowed the owners to exploit other consumer niches in developed regions; for example, clients that only buy organic products. These findings support the studies by Hanohov & Baldacchino (2018); Muñoz & Dimov (2017); and Patzelt & Shepherd (2011) that underline the importance of natural environment knowledge.

Figure 2: conceptual framework



Source: Own created

According to Hanohov & Baldacchino (2018); and Muñoz & Dimov (2017) prior knowledge is interconnected with moral judgments, values and attitudes about the environment. The owners might know about climate change, soil erosion, pollution, etc., but if they do not have environmental values and attitudes, they will probably not adopt eco-friendly strategies. On the contrary, if owners/managers have the information, willingness to change, and the needed resources, their companies may adopt green strategies. Additionally, prior knowledge and green values influence the way entrepreneurs recognize opportunities (Ceptureanu et al., 2017). Hence, we suggest the following proposition:

1. *Entrepreneurs' prior knowledge (industry, internationalization, marketing, environmental), green values, and goals influence their environmental attitude engagement and opportunity recognition in agro-industrial exporting SMEs of Ecuador.*

This investigation is aligned with the articles of Cantor et al. (2013); Hanohov & Baldacchino (2018); Jahanshahi et al. (2017); and Muñoz & Dimov (2017) who stated that managers' environmental attitude engagement is a key element when adopting green strategies and sustainability within the firms. When the owners are conscious about the damage towards the environment, they engage to reduce their negative impact towards nature, identify green opportunities, and start eco-innovating.

Moreover, similar to Aragón-Correa et al. (2004); and Aragon-Correa & Sharma (2003); Fraj-Andrés et al. (2009); Lopez-Gamero et al. (2011); and Testa et al. (2016); this investigation shows that managers' green attitudes appear as an essential factor for the subsequent investment in proactive environmental strategies. managers' environmental engagement reflects the whole business environmental policies (Liu et al., 2014). The four key respondents in this study stated that, in addition to prior knowledge, their environmental values and attitudes are important elements for establishing environmental actions within the firm. For example, owner A decided to reduce his negative impact on the soil by using compost. Owner B built water reservoirs to use and re-use rainwater in the irrigation system. Owner C only buys organic *horchata* to reduce soil erosion; and owner D bought a new machine which reduces water waste. The managers' environmental attitude engagement is significant to bring about these changes, and it was obtained in different ways, i.e., prior knowledge, experience, values, goals, profits, among others.

Entrepreneurs have a chance to have an influence on the degree of environmental commitment their organizations show. Dibrell et al. (2011) stated that top managers' environmental attitudes and awareness influence firms' innovativeness. A firm's environmental commitment can lead into the development of unique green products, competitive advantage and the improvement of a firm's performance (Katsikeas et al., 2016). In this research, the four owners are continuously analyzing their customers' needs, new trends, and stakeholders' pressure, for the development of new green goods and strategies. In other words, the owners attract new consumers who share similar environmental values (Fraj-Andrés et al., 2009).

Furthermore, the manager's environmental attitudes influence marketing plans, green solutions for problems, and the exploitation of eco-friendly opportunities at the firm level (Ceptureanu et al., 2017). For instance, entrepreneur A diversified its customers after obtaining the green certification. Firm C met the customers' needs when they used glass



bottles instead of plastic, and natural herbs as an alternative to chemical flavors. Owner D started the process of green accreditation based on the use of organic cocoa. Specifically, for firms C and D, the use green marketing strategies is important to emphasize the unique characteristics of their products. Environmental marketing strategies include decisions about the use of green arguments in firms' advertising campaigns (Fraj-Andrés et al., 2009). Lastly, the four companies are constantly innovating, designing and selling goods that satisfy their customers' needs. In other words, the firms' environmental commitment may have an influence on the relationship between market orientation and eco-innovation (Dibrell et al., 2011). Based on the previous discussion we, establish the following proposition:

2. *Managers' environmental engagement directly impacts the degree of environmental commitment within their organizations, the adoption of green strategies, exploitation of green opportunities, and the development of new eco-products and services.*

Nevertheless, this investigation also found that the managers' green attitude commitment is undoubtedly necessary, but not a sufficient condition when adopting environmental strategies. In the case of the four exporting Ecuadorian SMEs, human and financial resources are very important as well. The four managers said that communication between managers and employees is relevant, workers have to know about the environmental actions and goals the firm is implementing. By doing so, the personnel can transmit new ideas that can be used to develop new green strategies and eco-friendly goods.

Both firms A and B hired an employee to create the compost and teach other workers how to deal and manage these processes. Managers C and D taught their suppliers the importance of not using chemical fertilizers in *horchata* and cocoa, they trained farmers on the use of natural fertilizers and compost for growing plants. These findings support the results by Liu et al. (2014) who emphasize that employee training should lead to a work force that has a high commitment to the strategic goals regarding environmental commitment. Managerial support is necessary for enhancing the employees' green motivation (Junsheng et al., 2020).

Even though entrepreneurs are willing to keep implementing environmental strategies, financial constraints are a significant barrier. The relationship between managers' environmental attitudes and companies' actions is not positive all the time. The adoption of proactive and sustainable environmental strategies might have high costs, and not all

the firms are willing or able to assume these expenses in the short term. The four owners mentioned that after obtaining enough financial resources (export revenue) they can start implementing other environmental strategies, seeking green certifications, and applying environmental management systems (ISO 14000 family).

Furthermore, they declared that subsidies or any kind of governmental help is limited. Therefore, it is difficult to obtain these financial resources for investing in environmental plans. This finding supports the idea of Ye et al., (2020) who asserted that many developing regions lack a policy framework to support green initiatives. Based on our cases, the lack of resources, especially financial ones, negatively impacts the relationship between managers' environmental attitudes and their firms' eco-friendly actions. The findings show that a manager's positive attitude towards nature does not always translate into their firm's environmental commitment and practices, thus supporting the results of Cassells & Lewis, (2011), who stated that actions do not always reflect attitudes. Thus, we suggest the following proposition:

3. *The availability of human and financial resources might moderately have a negative effect on a firm's commitment towards the environment and green opportunity exploitation in the case of Ecuadorian exporting SMEs.*

When the owners were asked if they consider their business a sustainable entrepreneurship the answers were all the same: the main purpose of having their own business was primarily financial gains; however, and over the years, they have been increasingly adopting environmental strategies. Ceptureanu et al. (2017); Dean & McMullen (2007) developed the idea of conventional entrepreneurship with a distinct focus on environmentally friendly and responsible business activities. This approach explores how conventional entrepreneurship can satisfy growing ecological needs while simultaneously retain its focus on the identification of opportunities leading to profit.

The four SMEs implemented actions to reduce their negative environmental impact while trying to maintain or increase their profits. In the case of firm A, after obtaining the green certification, their export sales grew. Firm B reduced its water and energy consumption due to the reservoir and new irrigation system. Firm C entered a very competitive niche of beverages, but their competitive advantage allowed them to keep growing and selling their products in other East Coast cities in the USA. Finally, firm D bought new technology which reduces water waste, and applied the idea of circular economy for

organic waste. The four companies engaged into corporate environmental responsibility initiatives, thus improving their reputation, minimizing costs, and comply with local and international legislations.

The information obtained through the interviews was corroborated through the companies' websites, Agrocalidad, and PROECUADOR. Additionally, for companies A and B, the data was verified in MSD Global Flowers, a global supplier of roses around the world. The number of employees and the percentage of sales cannot be verified by other institutions because this information is restricted.

It is important to highlight that all the case studies in this chapter are exporting Ecuadorian SMEs. Companies with international operations may act differently than the ones with only national operations, especially in developing countries. Businesses A, B, and C have environmental practices that comply with the ecological regulations of the USA, Canada, and European countries, which are stricter than the ones in Ecuador. Additionally, foreign customers and stakeholders of these regions are more aware of the companies' environmental damage and prefer products derived from eco-friendly processes. Hence, entrepreneurs from Ecuador can commit to adopt green strategies within their firms to also fulfill their customers' needs, gain new clients, and enter other international markets more successfully.

## **6. IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH**

The results have implications for scholars, managers, and policymakers. Managers and entrepreneurs with environmental attitudes and commitment should consider the positive benefits associated with environmental strategies. It is necessary for top management teams to understand the potential benefits that adopting environmental initiatives may bring (Spencer et al., 2013). Entrepreneurs must see green strategies as a long-term investment, rather than a high short-term expense. Therefore, owners should understand that to be green pays off, but only if the commitment is real, and with continuous learning processes. According to Jahanshahi & Brem,(2017), the generation of novel ideas within firms tends to be higher in teams with younger members. Entrepreneurs might employ younger workers with similar environmental values and attitudes to improve their firm's performance.

From an academic perspective, this study extends IE literature mixing it with sustainable entrepreneurship literature (Zolfaghari Ejlal Manesh & Rialp-Criado, 2017) and

managerial attitudes towards the environment. Our study has implications for researchers interested in top managerial commitment towards the environment in Ecuador and elsewhere. We examine the relationship between prior knowledge (industry, internationalization, market, and the environment) and managers' environmental attitudes and commitment in exporting Ecuadorian SMEs. These four companies operating in international markets are exposed to know-how through experience and can obtain new knowledge, consider stakeholder pressure, comply with international regulations, etc., and have a higher disposition to implement environmental strategies.

Moreover, we analyzed the managers' environmental attitudes and commitment and their relationship with the adoption of environmental strategies. The findings show that even though the entrepreneurs have environmental attitudes and values, they cannot always adopt environmental strategies due to the lack of financial resources, help from public institutions, among other things. In Ecuador, there is limited governmental programs dedicated to help SMEs to adopt proactive environmental strategies. Policymakers in developing regions, including Ecuador, should encourage entrepreneur awareness regarding the environmental impacts of their firms and the market opportunities derived from a proactive environmental strategy, and at the same time, create institutions that support SMEs in the adoption of eco-friendly strategies.

The implications for the government and policymakers lie in the idea that governments from developing countries should implement stricter environmental regulations and provide incentives to encourage firms to adopt environmental actions which would provide them with intangible assets, like international legitimation and reputation. Policy makers can develop regulations that allow companies to partner with universities and educational centers to develop applied courses for the managers and employees of exporting firms. In addition, cooperation with national, regional, and local financial institutions can provide specific credit lines for exporting firms that are interested in incorporating environmental activities into their products. Banking systems should improve the incorporation of environmental criteria in their risk assessments, taking into account the positive effects of environmental practices on a firm's risk profile (Testa et al., 2016).

The study also has certain limitations. First, the values, beliefs, and orientations of entrepreneurs may depend on cultural or environmental factors. In addition, the socio-cultural factors influence entrepreneurial and environmental actions (Jahanshahi et al.,

2017). Even within a country, environmental values and attitudes can be diverse, depending on the region. The case studies in this chapter are all from the Andean region, but the environmental commitment in firms from the coast of Ecuador, and the Amazon (oil-oriented) may be different. Also, it is necessary to study SMEs in the Galapagos Islands, where environmental regulations are different and stricter than in the continental territory. Second, we cannot generalize the results as being applicable to all exporting Ecuadorian SMEs using only four case studies. Further research is needed to support the results in this investigation, the use of quantitative methods can be useful in this situation. Researchers could also consider incorporating the findings of this study into their quantitative measures; for example, including prior knowledge, and adding prior jobs and prior projects as aspects of entrepreneurial knowledge. Also, more studies are required to gain a better understanding of how knowledge management can contribute to improved environmental performance. Other aspects, such as sharing knowledge within the organization and its efficient interpretation and use, must also be considered (Roy & Thérin, 2008). Third, we only focused on exporting Ecuadorian SMEs of the agro-industrial sector, which is one of the most sensitive to environmental issues due to the intensive use of pesticides and fertilizers, irrigation practices, a high degree of mechanization or improper land use, greenhouse problems, water contamination (Altieri, 2004; FAO & OMS, 2012), among other practices that can lead to environmental degradation. It is necessary to analyze and compare other sectors of the economy, such as construction, textile, services, among others.

## 7. REFERENCES

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## CHAPTER 4

# ECUADORIAN SMES EXPORT ACTIVITIES AND ENVIRONMENTAL STRATEGIES: ANALYZING THEIR RELATIONSHIP

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**Abstract:** The aim of this chapter is to light how the relationship between firms' internationalization and environmental responsibility. We expected firms with export activities might adopt proactive environmental strategies, eco-innovation plans, and improve environmental performance. A sample of 100 exporting Ecuadorian SMEs was used to test these relationships. The results show that export ratio does not influence or have a significant relationship with the adoption of environmental strategies, eco-innovation plans, and environmental performance. However, top management commitment and organizational learning capability have shown a positive link with the three dependent variables.

**KEYWORDS:** knowledge-based view, export activities, top management commitment, organizational learning capability, developed countries, environmental strategies, eco-innovation, environmental performance.

### 1. INTRODUCTION

The pursuit of economic benefits without taking into account sustainability for the good of the planet has been the usual trend for companies throughout history. Nowadays, companies over the world have become increasingly aware of the environmental damage associated with their activities and have made efforts to reduce this damage (Cole et al., 2006). The growth of a new ecological market segment around the world, the competition among firms to become the eco-friendliest company, the increasing role of communication and social media in spreading information and data about good or bad practices on a global scale (Leonidou et al., 2015) have all pushed international companies to focus on and improve their environmental policies and plans.

Nevertheless, several authors mention that export activities have a positive relation in the adoption of environmental management and strategies (Gómez-Bolaños et al., 2019; Aguilera-Caracuel et al., 2016; Aguilera-Caracuel, Hurtado-Torres, & Aragón-Correa, 2012; Chan & Ma, 2016). A company's commitment to the natural environment has become an important factor in local, international, and global scenarios for several

reasons: legislations are becoming stricter and are imposing severe penalties on firms not abiding by the law, consumers' growing environmental concern leads them to reward companies with green initiatives and to punish those without them, and firms carry out green activities to achieve competitive advantage. Rapid changing market conditions about the environment provide new opportunities for small and medium firms (SMEs) to exploit (Gómez-Bolaños et al., 2019; Leonidou et al., 2016). This phenomenon has encouraged companies to adopt environmental values and practices to increase their competitiveness and performance.

Moreover, apart from export activities, a manager's commitment or willingness to adopt eco-friendly strategies is an important driver for green plans. In other words, a firm's environmental commitment is related to the entrepreneurs' emotional attachment to environmental concerns and the obligation they feel to be involved in sustainable business practices (Galkina, 2021). For example, González-Benito & González-Benito, (2006) stated that the higher the environmental commitment of top managers, the higher the importance for implementing sustainable policies and plans within the firm. This chapter will consider export activities and top managerial commitment as key elements in the adoption of environmental plans.

The literature in International Business (IB) and International Entrepreneurship (IE) that analyses the relationship between internationalization and environmental strategies in SMEs has failed to present a convincing argument on how the firms' international expansion affects the environment (Aragon-Correa et al., 2016; Boar-Boar & Oliveras-Villanueva, 2019). It is important to study this phenomenon because there is an increased presence of SMEs in the international market, and SMEs have been "barely considered in the context of international business scholarship," (Ghauri et al., 2021; p:1) which is surprising, taking into account that about 90% of businesses and more than 50% of employment worldwide are represented by SMEs (The World Bank, 2021).

Similarly, research on managerial commitment towards the environment in SMEs is limited (Galkina, 2021; Martin-Tapia et al., 2008). However, it is extremely important to analyze this relationship because SMEs use different ways of internationalization (mainly export activities), and the firm's values, ways of organization, vision and mission, etc. are a reflection of the owners' or managers' behavior. Additionally, problems (financial, organizational, environmental, performance, among others) can be solved faster in small and medium companies because there are less bureaucratic processes than in large o

multinational firms. Finally, top managerial commitment towards the environment is highly related to the knowledge acquired by the owner.

Lund-Thomsen et al., (2014) stated that there is still a critical lack of knowledge about the extent to which SMEs may contribute to the achievement of broader sustainable and equitable development goals in developing regions. Prieto-Carrón et al., (2006) pointed out that, even though many developing countries have relatively advanced environmental and social laws, these are often not implemented. In other words, developing country governments and companies tend to be more concerned with the promotion of economic development than environmental or social protection.

On the other hand, SMEs are under increasing societal pressure to become more environmentally sustainable. Entrepreneurs addressing not only profit and societal aspects but also environmental ones is becoming a necessary consideration in business operations even in SMEs. Moreover, when considering which foreign markets to enter, firms also need to respect and obey the environmental regulations and sustainability goals of each specific market they enter (Ruzzier et al., 2020).

In the case of developing regions, international entrepreneurial activities are crucial for countries' economies, but also for coping with environmental damage (Bu et al., 2011; Peña-Vinces & Delgado-Márquez, 2013). For instance, international diversification of SMEs contributes to the exploration and search for new knowledge through interacting with new cultures, demographics, regulations, and technologies; and to the development of organizational capabilities (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010). Also, companies with international operations might use more advanced technology and cleaner production procedures, adopt environmental strategies and international certifications, and improve the firms' environmental performance (Bu et al., 2011). Duque-Grisales et al., (2019), Sandhu, Smallman, Ozanne, & Cullen, (2012), Suriyankietkaew & Petison, (2020) and Urban & Govender, (2012) stated that little attention has been paid to environmental strategies and internationalization in emerging markets, and research should focus on these territories (Latin America, India and South Africa).

Therefore, this chapter is going to analyze exporting SMEs from Ecuador, a developing country in South America where the economy depends on the sales of primary goods to USA, China, Europe, etc. In 2019 Ecuador exported fish, shrimp, prawn, bananas, roses, cocoa, fruits, among others. Around \$6.712 billion came from the United States, and



about \$3.108 billion came from the European Union (Secretaría General de la Comunidad Andina, 2020). Additionally, it is worth mentioning that Ecuador is considered one of the most biodiverse territories in the world. In relation to its total area, the country has more species per square kilometer than any other country on Earth according to the Ministry of the Environment in its National Biodiversity Strategy 2015-2030. Regarding flora, there are 18,198 species of vascular plants registered, of which 17,748 are native and 4,500 are endemic. Regarding fauna, over 4,800 species have been counted, 1,642 of them are birds (18% of the total number of recognized birds in the world), and 382 of them are mammals (7% of the total number of recognized mammals on Earth).

Taking into account export activities, top management commitment, and environmental responsibility within SMEs, this chapter's objective and research question are respectively as follows: to investigate if international export activities and top management commitment have a positive and significant influence over the adoption of environmental strategies in Ecuadorian SMEs; and how does international diversification influence the adoption of environmental strategies and environmental performance in Ecuadorian exporting SMEs?

The analysis of exporting Ecuadorian SMEs and environmental responsibility and strategies is important due to the country's biodiversity and due to how internationalized firms handle preserving flora and fauna while earning profits and revenues.

There are several contributions in this study. First the analysis of exporting SMEs in a developing region, which may have lax environmental regulations. Some authors argue that when firms from an emerging economy expand their activities to international markets, they may be able to exploit the firm-specific advantages developed in their home country, therefore obtaining an advantage when they enter new markets (Gómez-Bolaños et al., 2019). Second, it is interesting to determine whether, and to what extent, export intensity can influence the adoption of green strategies and eco-innovation, and improve a firm's environmental performance (Galdeano-Gómez et al., 2011). There is debate regarding the extent to which firms' internationalization fosters efforts to implement environmental practices, and procedures, and/or facilitates reaching better environmental performance records (Gómez-Bolaños et al., 2019). Therefore, our study contributes to shedding light on this debate. The investigation has the following structure: theoretical background and hypothesis, methodology, results and findings, discussion and conclusion, and limitations and future research.

## **2. LITERATURE REVIEW**

To lay the groundwork for this study, we used the knowledge-based approach to analyze whether the firm's knowledge acquired in international experiences and operations may promote the adoption of green actions within the firm. Additionally, we summarized the conceptualizations of internationalization, environmental responsibility, and environmental strategies. This will later help us see how these concepts and strategies interact among one another, and the causality of their relationship.

This chapter considers that the company's knowledge acquired in international markets is essential to improve or generate environmental strategies and eco-innovation. According to Aguilera-Caracuel et al., (2012), a more complex international experience facilitates the generation of more tacit, ambiguous and unique sources of environmental value for the organization.

### **2.1. Knowledge-based approach, internationalization, environmental responsibility, and organization learning capability**

The knowledge-based view considers knowledge to be a firm's most strategically significant resource. Knowledge-based resources and capabilities are among the main drivers of sustained competitive advantage among firms (Barney, 1991, 2001). Supporters of the knowledge-based view/approach (KBV) consider knowledge the most important strategic resource within a firm because it can improve a company's performance, support the implementation of best practices, foster permanent progress and operational problem solving, and increase its ability to innovate (Grant, 1996). Moreover, KBV incorporates the idea of knowledge acquisition or organizational learning, which explains how new information is assimilated to improve a firm's performance (Hörisch et al., 2015).

Roy & Thérin, (2008) stated that in relation to SMEs' environmental commitment, knowledge is an essential element for creating competitive advantage, since the use of information is important for eco-innovation and performance. Moreover, the authors found that environmental knowledge comes from external sources, such international markets, stakeholders, and suppliers. It can be expected that knowledge on sustainability management tools is not available by coincidence, but it has to be actively acquired. (J. Alberto Aragón-Correa et al., 2008)

As a firm internationalizes, it gains knowledge and experience about technologies,

institutions, competitive environments, suppliers, and markets. Indeed, by competing in a foreign market, export firms are exposed to knowledge that is unavailable to firms whose operations are confined to domestic markets (Aguilera-Caracuel et al., 2012). The knowledge acquired is considered a resource and a capability that will be useful to the company.

The organizational capabilities of a firm may be defined as the processes by which this input is deployed, combined, and transformed into market value offerings (Leonidou et al., 2017). This is especially true for organizational learning capabilities, as they allow managers to adapt the knowledge gained from their diverse international markets to their companies (C. Casillas et al., 2009; J. C. Casillas et al., 2010). Hence, organizational learning capability is an important element when determining if companies can successfully adapt the knowledge, specifically environmental information, gained from their international operations.

Furthermore, organizational learning capability has an important role in the development of proactive environmental strategies (PES). PES has a dynamic capacity to develop and design new operations, processes and products that reduce the negative impact towards the environment (Sharfman et al., 2004; Sharma & Vredenburg, 1998). However, these changes are based on new knowledge and the ability of managers and employees to adapt information to new environmental strategies; in other words, they are based on the need for organizational learning capability. For example, Russo & Fouts, (1997) showed that the implementation of adequate environmental strategies was the result of environmental innovations supported by capabilities such as learning and employee participation. Sharma & Vredenburg, (1998) found that Canadian firms identified three capabilities - stakeholder integration, ongoing learning, and continuous innovation- related with the adoption of proactive environmental strategies.

Increasing regulations on the protection of the natural environment in developed regions have led companies to rethink their corporate environmental responsibility. This concept refers to an enterprise's active reduction of environmentally adverse behaviors and participation in environmentally beneficial activities in its daily business activities (Li et al., 2017; Wong et al., 2018; Zeng et al., 2019). Some responsible activities are the elimination of waste and emissions, maximization of efficiency and productivity, and minimization of practices that negatively affect resources (He & Chen, 2009). Firms with international operations are expected to combine their wish for financial gains with the

fulfillment of the SDGs. When companies are in international markets, they develop the necessary capabilities to meet the needs of different customers, and gain knowledge that can be useful when committing to the environment. Managers with enough knowledge will apply environmental systems and will try to pursue sustainability in their enterprises. Additionally, exporters recognize new opportunities for eco-innovative products and benefit from the technological expertise of their international buyers and customers.

Other important aspect in the knowledge-based view is learning by exporting. It refers to mechanism whereby a firm's performance improves after entering export markets (Loecker, 2013). The exposure to foreign markets leads to improvements to existing products, but also new product development. Also, this exposure to foreign markets enhances a firm's technological and marketing knowledge, which lead to further innovations (Love & Ganotakis, 2013). In this sense, learning by exporting will help firms to obtain new knowledge, eco-technology, and developed new eco-friendly products and processes.

Girma et al. (2008) found that exporting stimulates R&D for Irish firms, but not for British firms. They also find that exporting status, not exporting intensity, matters for its effect on R&D. Also, Salomon & Shaver (2005) using a panel data of Spanish manufacturing firm showed that learning by exporting increased product innovation and patent counts. They concluded that this benefit comes largely from exporting firms processing consumer feedback rather than receiving technological knowledge.

International enterprises are exposed environmental regulations imposed by importing countries, and have to comply with the strictest environmental regulations prevailing in the largest export market (Christmann & Taylor, 2001). In other words, internationalized enterprises tend to define their environmental policies according to the most strict country in which they compete (González-Benito & González-Benito, 2010), they develop proactive environmental strategies that guarantee entry to other markets no matter how strict the environmental regulations are.

The growing awareness about the natural environment has led to the development and creation of international guidelines, policies, and regulations, which include norms and regulations for companies. In 2000, the Millennium Development Goals (MDGs) we established. In 2015, the 2030 Agenda was introduced. It includes the Sustainable Development Goals intended to achieve sustainable development in a balanced and integrated manner across its three dimensions: economic, social, and environmental

(United Nations Department of Economic and Social Affairs & Development, 2021). On top of this, there have been conferences and declarations like the Rio Declaration on the Environment and Development, the Paris Agreement, the United Nations Global Compact, among others.

Other supranational organizations have made reports about the environment as well. According to the Environmental report of The World Bank Group, (2012) the private sector, specially companies, plays an important role in influencing environmental performance and long-term environmental sustainability. Moreover, NGOs, like Greenpeace forced Nestlé to completely stop using Indonesian palm oil in its food products, including their popular chocolate, after being confronted by the organization for destroying the environment (Holtbrügge & Dögl, 2012).

In sum, firms with international operations: first, are exposed to information, new notions, ideas, trends from different foreign customers, stakeholders, distributors, etc., and can acquire and leverage new knowledge. Second, can identify the advantage of having environmental standards to work in other countries (Ayuso & Navarrete-Báez, 2018). Third, might improve their innovation capabilities, adopt green management and proactive strategies, or obtain international certifications (Peng et al., 2009). Through innovation, firms can achieve competitive advantage, improve their performance, and enter into new and larger markets (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010). Lastly, international firms with environmental strategies will improve their reputation among consumers, competitors, and stakeholders, and legitimize their position in foreign markets (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Martín-Tapia et al., 2010).

## **2.2. Top management commitment**

Top management commitment towards the environment is understood as the extent to which management is committed to, supports, and leads the company's pursuit of environmental preservation and deployment of eco-friendly practices (Katsikeas et al., 2016). According to Tata & Prasad (2015), perceptions and beliefs about sustainability can lead to the adoption of green and social initiatives which helps the natural environmental and communities. Also, environmentally responsible managers enable long-term sustainable development, which may align with the new needs of customers, stakeholders, etc. (Schaltegger & Wagner, 2011).

Additionally, authors such as Lopez-Gamero et al. (2011) and Woo & Kang (2020) had proven that managers' interpretations, preferences or decisions significantly influence the environmental commitment of their firms; plus, the adoption of eco-friendly strategies can help gain competitive advantage associated with environmental actions, and promote eco-innovation to mitigate complex issues. In sum, managers' environmental engagement reflects the whole business environmental policies (Liu et al., 2014)

When owners are continuously gaining new knowledge and increasing their commitment toward the environment, they can face new challenges and problems in the international markets. For instance, managers are constantly analyzing customers' changing needs to meet their requirements: eco-friendly packaging, organic products, green certifications, waste management, etc.

Furthermore, top management's commitment to environmental sustainability can facilitate the organization of green strategies and demonstrate the important of environmental issues to employees (Banerjee et al., 2003). Also, environmental engagement allows managers to communicate firms' environmental goals and activities and empower the rest of the employees (Graves et al., 2019).

### **3. HYPOTHESIS DEVELOPMENT**

#### **3.1. Internationalization/export activities, management commitment, and environmental strategies**

Internationalized firms are exposed to new and different ideas from diverse contexts and several social, cultural, and environmental challenges (Ayuso & Navarrete-Báez, 2018; Shu et al., 2020). According to KBV, knowledge is a company's most important resource to improve or bring about necessary changes in the overall company performance. Firms with international experience can recognize the value of achieving high environmental standards since it helps them obtain their license to operate in foreign countries (Ayuso & Navarrete-Báez, 2018).

The accumulation of knowledge on green practices and technologies gained through export operations can be viewed as an intangible and complex resource needed to overcome problems (Aguilera-Caracuel et al., 2012) and improve environmental performance (Galdeano-Gómez et al., 2011; Peñasco et al., 2017).

If a firm adopts environmental strategies, it may limit the negative effects on the environment and meet the requirements from governments, international consumers,

society, and individuals (Do et al., 2019; Ko & Liu, 2017). Firms dealing with environmental situations in foreign markets can prepare and develop a set of best environmental practices that ensures entry to any market. In addition, exporting may create incentives and capabilities for a firm to adopt more environmentally proactive strategies in an attempt to comply with environmental regulations and customers' requirements (Aguilera-Caracuel et al., 2012; Darnall et al., 2008).

Bansal (2005) analyzed a sample of Canadian companies in the gas, oil and mining industries, and her results showed that firms' international operations and experiences have a positive relationship with sustainable development. Ayuso & Navarrete-Báez, (2018) found that internationalization had positive and significant effects on sustainable development practices, specifically on environmental practices. Suarez-Perales et al., (2017) argued that internationalized firms acquire know-how that allows them to implement environmental strategies that comply with the most demanding legislations worldwide. Also, Leonidou et al., (2015) demonstrated that environmentally friendly business strategies are more likely to be developed in foreign markets characterized by high-intensity competition (developed regions), mainly because customers are confronted with many options to satisfy their needs. Firms try to set themselves apart through the implementation of eco-friendly strategies. An increasing number of firms operating in export markets attempt to promote an environmentally friendly image in order to compete more effectively. It is now imperative to deploy similar or better ecological business practices.

Firms with foreign operations can reinforce their environmental strategies through their environmental international diversification and can acquire a set of valuable environmental capabilities. Finally, companies with international businesses are exposed to international pressure related to environmental issues, thus companies must adopt eco-friendly practices. Therefore, we propose the following:

*Hypothesis 1.a: a firm's export activities have a positive influence on the adoption of proactive environmental strategies.*

An important driver for the adoption of eco-friendly plans is top management commitment towards the environment. Hart (1995) stated that strong leadership is an important element for developing environmental capabilities. Buil-Fabregà, Alonso-Almeida, & Bagur-Femenías, (2017) asserted that top managers capabilities can become competences classified into sensing (identification and evaluation of opportunities),

seizing (carrying out the identified sustainable opportunity to create value), and transforming (continued eco-innovation), vital for implementing sustainable and eco-friendly plans in the enterprise. These capabilities are important not only to adopt environmental strategies, but to identify and exploit opportunities in new markets, where consumers are becoming more eco-friendly every year.

Top management commitment is relevant for a firm's environmental issues, because managers are the ones that set the objectives, policies, plans, and procedures that guide the adoption of green initiatives within an organization (Leonidou et al., 2015). Also, managers are the ones that cultivate green values and facilitate actions such as collecting environmental information from international markets and complying with the new needs and requirements of foreign customers (Stone et al., 2004). Additionally, managers can coordinate environmental initiatives by hiring or assigning the right employee to supervise a company's eco-friendly activities (Banerjee et al., 2003).

In international markets the role of managers in environmentally friendly strategies is fundamental because of the differences in regulations, policies, and cultures between the company and the host country. To cope with or face these differences, managers need skills and capabilities to identify and exploit environmental opportunities in foreign markets and adjust their export strategy (Katsikeas et al., 2016; Leonidou et al., 2015; Setiadi et al., 2017). Finally, a manager's environmental attitudes influence marketing plans, green solutions for problems, and the exploitation of eco-friendly opportunities at the firm level (Ceptureanu et al., 2017). Hence, we propose the following:

*Hypothesis 1b: top management commitment to environmental preservation has a positive effect on the adoption of proactive environmental strategies.*

### **3.2. Internationalization/export, management commitment, and eco-innovation**

The knowledge-based view mentions that the competitive advantage of a firm depends on valuable, rare, hard-to-imitate, and non-substitutable resources (Barney, 1991). Knowledge can be considered an intangible valuable resource. From new sustainable knowledge firms can eco-innovate and improve their competitive advantages and environmental performance. According to Pujari et al., (2003) and Tariq et al., (2017) eco-innovation is the development and creation of new products and processes that provide customers and businesses value but significantly decrease environmental impact.



The development of new products and processes is based on knowledge and how a firm uses that information.

Branzei et al., (2002) and Roy & Thérin, (2008) stated that specific knowledge is the main component of environmental innovation and improvement. The ability to acquire and use knowledge has been identified as an essential aspect of the innovation process and performance. Moreover, the growing complexity and uncertainty of green technological development and its increasing costs, have led firms to obtain information from external sources, of which the most influential are international stakeholders, competitors, and foreign consumers (Roy & Thérin, 2008).

Investment in eco-innovation enables firms not only to gain a privileged market position but also to maintain this position in the long term. If firms are unable to compete through cost, they can compete through innovation (Choi & Yi, 2018; Lin et al., 2013; Rodríguez-García et al., 2019). Companies exposed to several technological and regulatory environments while competing in different international regions and targeting multiple market segments are expected to operate differently to those that compete only in domestic markets (Lee et al., 2014).

Learning by exporting has become an important element when improving competitive advantage and performance. Companies after entering foreign markets obtained knowledge that is vital for innovation, productivity, and performance. Firms can upgrade their products quality, and deal with foreign stakeholders and buyers. Internationalization could allow firms to access more advanced technologies through the transfer of knowledge from foreign firms to their domestic counterparts and through technological spillovers from foreign capital (Hojnik et al., 2018; Peñasco et al., 2017).

International technology transfer is an important element for the development of new products. It can be obtained through foreign direct investment (FDI), or other international operations, which makes it possible to reach new eco-technologies, and, through international cooperation, companies increase their R&D expenditure (Ciborowski & Skrodzka, 2019). All eco-innovation initiatives, geared toward a greater environmental commitment, share an essential need to acquire expertise and knowledge to adequately evaluate and implement these solutions (Roy & Thérin, 2008).

Cainelli et al., (2012) and Christmann & Taylor, (2001) found that internationalization encourages eco-innovation, and environmentally concerned governments have an

additional motive to support such process. Lee et al., (2014) demonstrated a positive relationship between internationalization and eco-innovation in a sample of Korean companies. Hojnik et al., (2018) found that internationalization had a significant and positive influence on eco-innovation among Slovenian companies. Choi & Yi, (2018) revealed that export intensity has a positive effect on environmental process innovations. Enterprises from emerging economies use internationalization as a tool to obtain technology, knowledge, and other resources to meet the demand for eco-innovation (X. Zhang & Xu, 2019). Hence, we present the following hypothesis:

*Hypothesis 2a: export activities and international operations positively influence eco-innovation.*

Furthermore, top management commitment plays an essential role in the eco-innovation process. Managers' strong environmental attitudes can lead into innovativeness because employees can participate in the development of eco-products and support the process of eco-innovation with new ideas (Dibrell et al., 2011). The same authors also mentioned that top managers' green attitudes and commitment may allow the firm to focus on minimizing negative environmental impacts and start innovating.

Managers' environmental commitment adjusts and improves eco-innovation, environmental performance, and competitive advantage over competitors, especially in foreign markets (Burki & Ersoy, 2019). Additionally, the adoption of eco-innovations requires policies and guidelines that come from the top management because it needs investments and new business strategies (Siagian et al., 2022). Pujari et al. (2003) mentioned that top management engagement to the environment has a positive and significant influence in the eco-innovation process and eco-performance. Finally, Katsikeas et al. (2016) stated that strong top management commitment to greater environmental sustainability can facilitate the coordination of environmental activities vital for eco-innovation within the firm. Therefore, we propose:

*Hypothesis 2.b: top management commitment to environmental preservation has a positive effect on eco-innovation.*

### **3.3. Internationalization, top management commitment, and environmental performance**

When a firm has internationalized and adopted green strategies, the result might be an improvement in its exports and environmental performance. Kennelly & Lewis, (2003)

demonstrated that a company's level of internationalization has a positive relation to environmental performance. Bu et al., (2011) analyzed Chinese companies and demonstrated that openness has a positive relationship with corporate environmental performance. The authors specified that foreign investment is the variable that influences the most in environmental performance. Companies that export might feel pressured by the environmental standards of foreign customers because environmental damage could threaten their legitimacy and reputation. Hence, these companies implement environmental strategies and boost their environmental performance. Andonova, (2003) pointed out that for firms under reputation pressure in international markets establishing a green image is important. The pressure could be internalized by the exporting firms and improve environmental performance.

Sharfman et al., (2004) showed that internationalized firms that adopt global environmental standards that match the strictest regulations of the countries in which they operate attain better environmental performance. Marano et al., (2017) said that internationalization exposes firms to scrutiny by their stakeholders and causes an improvement in their environmental impacts. Gómez-Bolaños et al., (2019) stated that a higher level of internationalization in developing countries may improve firms' environmental performance as firms pursue global legitimacy and reputation. Therefore, we propose the following hypothesis:

*Hypothesis 3a: a firm's international operation/ export activity is positively related to its environmental performance.*

Furthermore, top management environmental commitment is likely to affect the environmental performance of the firm. In other words, managers' and/or owners' attitudes towards environmental change, their knowledge of the benefits of environmental practices, and their relations with the external environment will influence their companies' eco-friendly performance (Mensah & Blankson, 2014). Also, international pressure from governments, stakeholders, consumers, etc. have has an impact on the managerial commitment towards the environment. Currently, managers must take environmental strategies seriously if they want to improve their performance and competitive advantage. A way to show this commitment is through environmental performance. Managers should have knowledge about options available to improve environmental performance, and how these changes might impact a firm's whole performance (Roy & Thérin, 2008).

If top management has a high commitment to strategic green orientation, employee training should lead to a workforce highly committed to strategic goals regarding environmental commitment, which in turn should improve a firm's sustainable performance (Liu et al., 2014). Additionally, Roy & Thérin, (2008) and Jebolise Chukwuka & Peace Nwakoby, (2018) suggested that superior environmental performance requires organizational learning capabilities to process new information, to improve internal structures and approaches, to develop new products, and to adapt the organization to new contexts, and this process must start from managements' commitment. Hence, we propose that:

*Hypothesis 3b: top management environmental commitment will positively affect the environmental performance of a firm.*

### **3.4. Proactive environmental strategies, eco-innovation and environmental performance**

Environmental performance is the result of adopting green plans within the firm. For example, if a firm possesses environmental manuals, green commitment, R&D, the staff includes environmental aspects in the development of process and products, eco-technology, etc. the result will be shown in the reduction of energy and water consumption, the use of non-ecological productions, the decrease of pollution, among others, which can be an improvement of environmental performance. Some authors, like Darnall et al., (2008); Leonidou et al., (2017); Luan et al., (2016); and Menguc et al., (2010) examined environmental performance. Their findings showed that enterprises that introduce green processes among other green activities for better performance (Luan et al., 2016). Furthermore, González-Benito & González-Benito, (2005) found that environmental proactivity can have certain positive effects on performance, and these effects depend on the degree of the environmental proactivity. If companies have high standards regarding environmental strategies, their performance will be higher than that of their competitors, because their goods or services have a competitive advantage and characteristics unique to the firm.

Also, Borsatto & Amui (2019), concluded in their research that green innovation and technologies are considered as important steps for companies seeking to achieve environmental performance and international competitiveness in global markets. Siagian et al. (2022) highlighted that the manufacturing industry in Indonesia suggested that innovation is becoming an essential strategy in sustaining competitive advantage, and the

environmental and business performance. Finally, companies with different levels of green innovation could achieve greater environmental performance. By adopting sustainable actions, companies can improve their performance and achieve greater competitiveness (Macchion et al., 2017). Thus, we proposed:

*Hypothesis 4a: Proactive environmental strategies have a positive and significant relationship with environmental performance.*

*Hypothesis 4b: Eco-innovation positively influences on the environmental performance of the firm.*

### **3.5. Organizational learning capability, export activities, environmental strategies and eco-innovation**

Organizational learning capability suggests that a firm needs to maximize knowledge use in order to perform effectively (Easterby-Smith & Lyle, 2003). The final output of this process is the creation of new products, systems, and strategies. In other words, organizational learning helps companies create, acquire, integrate knowledge and experience, and continuously learn (Yusoff et al., 2019). Also, Salim & Sulaiman (2011) noted that in order to cope with a competitive business environment, firms need to acquire new knowledge and skills, thus improving their performance (financial, export, and environmental) and competitive advantage. Additionally, Bıçakcıoğlu et al., (2018) mentioned that the capabilities firms use to adopt green strategies are organizational learning, market orientation, absorptive capacity, and technological sensing.

Several authors have highlighted the importance of a firm's organizational learning capability as an antecedent of a proactive environmental strategy (Hart, 1995; Marcus & Geffen, 1998; Sharma & Vredenburg, 1998). In this sense, this chapter suggest that firms that have international operations may have gained valuable knowledge of environmental issues that will affect the adoption of eco-friendly strategies and environmental performance. A high-level organizational learning capability might boost the assimilation of the knowledge on eco-friendly matters that comes from their export activities and that information can be used to improve a firm's performance. According to Aguilera-Caracuel et al., (2012); and Fraj et al. (2015) and if a firm has a robust learning capability it would generate an opportunity for environmental improvement, because this capability allows the new knowledge from foreign markets, stakeholders, governments, NGOs, international customers, suppliers, etc. to be implemented within the firm. Organizational

learning supports creativity, inspires new knowledge and ideas and increases the potential to understand and apply environmental strategies (Y. Zhang et al., 2018).

International firms with high level of organizational learning will be to coordinate a set of understandings and knowledge into new products and strategies. In other words, companies with higher levels of learning capabilities can be more likely to assimilate and exploit knowledge and opportunities related to the environment, compared to firms with weaker learning skills (Fraj et al., 2015). For example, proactive environmental strategies involve changes in management and strategies, which need learning capability for implementing these changes. Firms that have international operations with low organizational capability may not be able to organize the advance knowledge to exploit new opportunities, including the environmental plans (Aguilera-Caracuel et al., 2012).

Moreover, firms that know how to integrate new international environmental information using organizational learning capability can create new knowledge and adopt new eco-friendly strategies and even improve productivity and eco-innovation. In sum, firms with learning capabilities can integrate the environmental knowledge obtained from international operations. Finally, Yusoff et al., (2019) mentioned that organizational learning is an important features towards sustainability, especially the environmental aspect. Hence, we proposed:

*Hypothesis 5a: organizational learning capability has a positive effect on the extent to which the firm deploys proactive environmental strategies*

*Hypothesis 5b: organizational learning capability has a positive effect on the extent to which the firm deploys eco-innovation plans.*

#### **4. DATA AND METHODOLOGY**

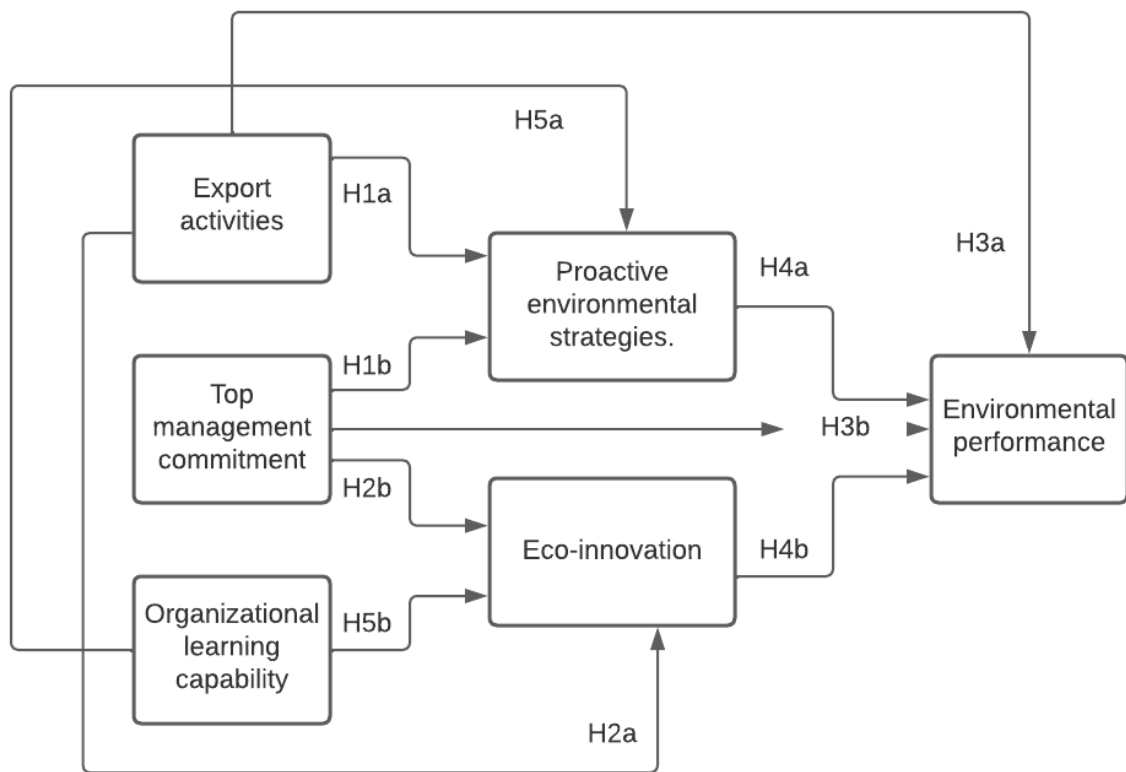
In this section, we describe the sample and the design and measurement of the independent, dependent and control variables. In the next section we present the analytical methods, the model used to test the hypotheses, and the results of the estimation.

##### **4.1. Sample and data collection**

The empirical study presented in this chapter is part of the research conducted between January and May 2021 on a sample of SMEs from diverse industries operating in Ecuador. We choose Ecuadorian SMEs because the Ecuadorian economy has been supported mainly by oil's exports since the late 70s. Between 2000 and 2018 the mean of oil's exportations represented around 50% of the total exports. The other 50% came from the

sale of non-oil products and services (Banco Central del Ecuador, 2018). This sale of non-oil products and services has been increasing from 2.48 billion dollars to 12.20 billion dollars between 2000 and 2017 (Ibid). Moreover, according to information from the Ecuadorian Central Bank and the Ministry of International Trade, in 2010, 31% of non-oil exports came from SMEs. In 2017, 1.250 billion dollars came from the international sale of products from SMEs (Ministerio de Comercio Exterior e Inversiones, 2018), and 68% of the exporting firms are SMEs. Also, small and medium enterprises employ around 40% of the economically active population, and contribute to 13% of the GDP (Araque Jaramillo & Argüello Salazar, 2016).

Figure 1: theorethical model



Source: Own created

The research method applied was an e-mail survey, using the public database of exporting firms of PROECUADOR. First, we contacted the companies via e-mail. We included an introduction explaining the objective and background of the study and we incorporated the link to the website with the online survey. There are 2000 SMEs in the PROECUADOR database, and we obtained 100 valid answers, in other words, only the 5% of managers respond the questionnaire. A possible explanation for this low response rate: the COVID-19 crisis, which affected the exporting Ecuadorian SMEs. As the

consequence of the COVID-19 the Ecuadorian economy shrank around -8% in 2020. Additionally, exports had negative figures of -5.2% in 2020 (Useche Aguirre et al., 2021). Low reply rate may be partially explained by the fact that companies from developing countries are hesitant to answer surveys (Peña-Vinces & Delgado-Márquez, 2013).

However, authors such as Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres (2010); Aguilera-Caracuel et al. (2012); Keshminder & del Río (2019); Peña-Vinces & Delgado-Márquez (2013); Rao & Holt (2005); and Urban & Govender (2012) used sample with less than 110 valid answers. Also, Murphy et al., (2014), in their statistical books mentioned that the minimum valid answers for a statistical technique is 100 valid answers.

The survey instrument was developed using the existing literature of internationalization and proactive environmental strategies. The instrumented was pre-tested for content validity. We approached four managers in charge of international operations and environmental plans with a request to review the questionnaire and comment on its clarity, possible ambiguities, readability, and structure. After reviewing the comments, we decided to modify the survey and sent the invitation to the 2000 Ecuadorian SMEs. We aimed to address the CEO or manager, or the person in charge of the environmental and international operations. The respondents were mainly company directors or owners. The hypotheses proposed were tested by employing OLS regressions in STATA.

#### **4.2. Variable measurement**

The questionnaire was prepared based on the review of the literature, which was slightly adapted to the geographical context of a developing country. The seven-point Likert-type scales (1—strongly disagree/much worse; 7—strongly agree/much better) were used throughout the questionnaire.

*Proactive environmental strategies* are the identification and analysis of all-natural environmental aspects of a firm's products and services, and the establishment of comprehensive management programs (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al., 2010). We adopted the 7 items used in Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, (2010) and in Leonidou et al., (2017) related to green business strategies. Using a 7-point Likert scale, interviewees were asked to assess their firm's degree of development in relation to their environmental activities. The final value of the PES was calculated using the mean of these 7 items (Cronbach's alpha= 0.9093). A confirmatory analysis using STATA 14



showed a single factor model fitting the data well ( $\chi^2/df= 13.75$ ; P value= 0.1317; RMSEA= 0.073; Probability RMSEA= 0.275; CFI= 0.988; TLI=0.979; SMRS=0.028). These items were treated as indicators of the degree of PES developed by the firm.

*Eco-innovation* was measured using 6 items adapted from Hojnik et al., (2018). Respondents were asked to evaluate statements about green technology, eco-products and services, recycling, reducing waste, etc. Also, a 7-point Likert scale was used, the scale was 1—strongly disagree; and 7—strongly agree. A confirmatory factor analysis using STATA 14 was made for the creation of Eco-innovation (Cronbach Alpha= 0.91) ( $\chi^2/df= 15.30$ ; P value= 0.0830; RMSEA=0.084 Probability RMSEA= 0.198; CFI= 0.986; TLI=0.976; SMRS=0.026).

*Environmental performance* refers to the environmental impact that an enterprise's activity has on the natural environment and it could also be assessed through emission reduction, waste elimination, or resource conservation (Gómez-Bolaños et al., 2019). Environmental performance included questions related to international certifications, recycling system, use of plastic and chemical substances, amount of waste, recycling, among others. We adapted the questions from Aragon-Correa et al., (2016) and Bu et al., (2011). The final value of Environmental performance was calculated using the mean of these 7 items (Cronbach Alpha= 0.9018). Using STATA 14 a confirmatory factor analysis was made ( $\chi^2/df= 10.37$ ; P value= 0.3217; RMSEA= 0.039; Probability RMSEA= 0.509; CFI= 0.996; TLI= 0.993; SMRS= 0.023).

*Internationalization and/or export activities of a firm* refers to the extent to which its activities are conducted outside the home country. Following the literature of Gómez-Bolaños et al., (2019); Martín-Tapia et al., (2008); and Martín-Tapia et al., (2008), we measured internationalization and/or export activities using an export sales ratio and market foreign destination. The ratio shows the real importance of export activity for the firm, rather than managers' satisfaction with exports. Specifically, we used export intensity, defined as the value of exports as a fraction of the total sales.

*Top management commitment* is understood as the extent to which top managers demonstrate commitment to protecting nature, drive the firm's environmental strategy, and support its environmental initiatives (Graves et al., 2019). We adopted 5 of items used in Katsikeas et al. (2016); and Leonidou et al. (2015). A 7-point Likert scale was used to measure this variable. A confirmatory factor analysis using STATA 14 was made

(Cronbach Alpha= 0.9635) ( $\chi^2/df= 7.11$ ; P value= 0.2129; RMSEA= 0.065; Probability RMSEA= 0.340, CFI= 0.997, TLI= 0.993; SMRS= 0.009).

*Organizational learning capability* is a complex multidimensional construct. We adopted 3 items from Aguilera-Caracuel et al., (2012) and Leonidou et al. (2016). The final value of the organizational learning of each firm was calculated using the mean of these 3 items (Cronbach's alpha = 0.8554). A high average score would indicate a high degree of organizational learning.

*Control variables:* Firm size is an important determinant of environmental conduct (Juan Alberto Aragón-Correa, 1998). Size was measured as the natural logarithm of the total number of employees in 2021. Foreign market destination is shown to be an important issue because exports destined to developed countries may comply with stricter environmental regulations than exports sold to developing regions. A dummy variable was created, developed regions vs developing regions. We divided the regions based on the report of the World Bank.

The industrial sector is shown to be important in the analysis (Bu et al., 2011). The research includes agriculture, agroindustry, commerce, construction, textile, technology, tourism, services, and others. To control for industry effects, we used dummy variables.

Table 1: Constructs and factor loadings

Construct and item wording	Factor loading	Alpha	CR	AVE
<b>Proactive environmental strategies</b>		<b>0.90</b>	<b>0.93</b>	<b>0.69</b>
Natural environmental aspects in administrative work (paper, toner recycling, etc.).	0.70			
Prevention systems to cover possible environmental accidents and emergencies caused by the organization.	0.83			
The firm has incorporated environmental issues in its strategic planning process	0.86			
The firm has the ability to seek solutions for environmental issues from different angles	0.91			

Employees offer valuable ideas for improving our firm's ability to achieve its green objectives in foreign markets.	0.83			
We try to promote environmental protection as the objective of all departments in our company.	0.81			
<b>Eco-innovation</b>		<b>0.91</b>	<b>0.94</b>	<b>0.72</b>
The firm is committed to develop products and processes that minimize environmental impact	0.87			
The company uses modern, friendly-to-the-environment equipment and technology for the production of ecological products for export markets	0.85			
The firm takes into account the protection of the environment when developing new products, processes, services and technologies for foreign products.	0.91			
Recycling of the water used by the organization with the purpose of re-using it in other processes and/or before evacuation down the drain.	0.82			
Natural environmental analysis of the product life cycle (LCA).	0.84			
The company has specialized staff who are engaged in the development of eco-friendly products for abroad	0.83			
<b>Top management commitment</b>		<b>0.96</b>	<b>0.96</b>	<b>0.86</b>
The managers pay attention to ecological issues	0.89			
Managers and employees always agree to adopting the right environmental procedures	0.93			
Managers have clear instructions to implement environmental goals.	0.95			
Managers have clear instructions to implement environmental goals.	0.93			
The managers put a lot of effort in understanding the green aspects of the activities.	0.94			

<b>Environmental performance</b>		<b>0.90</b>	<b>0.67</b>	<b>0.92</b>
Systematic control of energy consumption so as to reduce the organization's demand.	0.76			
The firm has Increased use of recycled resources.	0.87			
The company has reduced water consumption.	0.81			
The firm has reduced quantities of overall waste produced	0.84			
The firm has reduced the use of packaging (plastic) in the production process and/or sales.	0.83			
The firm systematically reduces the use of non-ecological substances in the production process.	0.79			
<b>Organizational learning capability</b>		<b>0.85</b>	<b>0.77</b>	<b>0.91</b>
The organization has learnt and acquired new and important knowledge in the last five years.	0.89			
The organization's performance has been positively influenced by knowledge acquisition in the last three years.	0.90			
The new members of the organization have learnt critical abilities in the last three years	0.85			

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Source: Own created

## 5. ANALYSIS AND RESULTS

First, we will explain the results of the measurement model. Later the structural results of the model with regard to each of the direct effects hypotheses. Finally, we analyze the results of the control effects.

To assess the validity of our measures we employed structural equation modeling in STATA 14. First, we used confirmatory factor analysis (CFA) in which we restricted each item to load on the specified factor. It revealed that all factors loaded highly on their

assigned constructs (Leonidou et al., 2015). The goodness of the fit estimates was the following:  $\chi^2/df= 2.35$   $p= 0.30$ ; RMSEA= 0.40;  $pclose= 0.39$ ; CFI= 0.99; TLI= 0.99; SRMR= 0.00. The results showed good fit of the model.

All the factors had composite reliability values and Cronbach's alphas greater than 0.70, indicating a reliable measurement of the theoretical construct as an element of the structural model. For the convergent validity the standardized loadings were above 0.5, and all standard errors of the estimated coefficients were low. The average variance extracted (AVE) in all of the constructs was greater than or equal to 0.50. There was also evidence for discriminant validity, because the squared correlation for each pair of constructs never exceeded their average variance extracted.

Also, we reviewed potential common method variances (CMVs), given that we assessed all of the variables using a single source. First of all, we ensured confidentiality and anonymity of the respondents, which were employees with maximum responsibility, this reduced the possibility of respondents answering in a dishonest manner (Fraj et al., 2015; Podsakoff et al., 2003). For statistical techniques, performed Harman's single factor test by subjecting all of the items in our study to exploratory factor analysis (EFA). This revealed 3 distinct factors, and that the highest portion of variance explained by one single factor was 36%. This suggested that one factor did not accumulate the majority of the variance. The results of the test suggested that CMV was not a concern for this study. Additionally, we performed the correlations matrix analysis and the correlation among all the constructs was found less than 0.9 (Tehseen et al., 2017). Therefore, CMV did not seem to be a concern for this study.

We estimated a structural model to test the hypothesized links between the constructs. The  $X^2/df= 1.62$ ;  $P=0.44$ ; RMSEA= 0.00;  $pclose= 0.52$ ; CFI=1.00; TLI=1.00; SRMR= 0.004. The value of the fit induces were satisfactory. Table 2 shows the descriptive statistics and correlations. Table 3 presents the standardized path coefficients for each hypothesis with the corresponding p value.

Our results did not support H1a and H2a using this sample data, export ratio did not have a positive and significant relation with the adoption of proactive environmental strategies and eco-innovation. However, export ratio had a positive and significant relationship with environmental performance. ( $\beta = 0.06$ ;  $p= 0.10$ ), supporting H3a. This means that the higher export ratio the firm will have better environmental performance.

Second, top management commitment had a positive and significant relation with PES ( $\beta= 0.39$ ;  $p= 0.00$ ), eco-innovation ( $\beta= 0.62$ ;  $p= 0.00$ ), and environmental performance ( $\beta=0.33$ ;  $p= 0.00$ ). Consequently, H1b, H2b and H3b are supported by our data. This means the environmental values, knowledge, and engagement of the top managers in exporting Ecuadorian SMEs are an important driver for becoming eco-friendlier.

Looking at results above, we suspected of a mediation effect between TMC  $\rightarrow$  eco-innovation  $\rightarrow$  environmental performance. We used the medsem package to analyze the mediation and the Baron and Kenny approach to testing mediation showed the following: TMC  $\rightarrow$  Eco-innovation was significant ( $\beta= 0.81$ ;  $p=0.000$ ); Eco-innovation  $\rightarrow$  Environmental performance was significant ( $\beta= 0.28$ ;  $p= 0.001$ ); TMC  $\rightarrow$  Environmental performance was significant as well ( $\beta= 0.33$ ;  $p= 0.000$ ). This means that the partial mediation effect is significant. Using the RIT test (Indirect effect / Total effect), 41% of the effect of top management commitment on environmental performance is mediated by eco-innovation. However, PES did not mediate the relationship between top management commitment and environmental performance.

Third, organizational learning capability was positively related to PES ( $\beta= 0.49$ ;  $p= 0.00$ ) and eco-innovation ( $\beta= 0.20$ ;  $p= 0.00$ ), as a consequence H5a and H5b are supported by our sample. The results showed that there could be partial mediation effect of eco-innovation between organizational learning capability and environmental performance. We used the medsem package to analyze the mediation and Baron and Kenny approach to testing mediation showed the following: OLC  $\rightarrow$  Eco-innovation was significant ( $\beta= 0.71$ ;  $p= 0.00$ ); Eco-innovation  $\rightarrow$  environmental performance was significant ( $\beta= 0.48$ ;  $p= 0.00$ ); and OLC  $\rightarrow$  environmental performance was significant as well ( $\beta= 0.13$ ;  $p= 0.04$ ). There is partial mediation: OLC  $\rightarrow$  Eco-innovation  $\rightarrow$  Environmental performance. Later, the RIT test (Indirect effect / Total effect) indicated that 72% of the effect of organizational learning capability on environmental performance is mediated by eco-innovation.

When we tested the individual mediation effect of PES between OLC and environmental performance, the result was positive. PES mediated the relationship between learning capability and environmental performance. The outcome was the following: OLC  $\rightarrow$  PES significant ( $\beta= 0.82$   $p=0.00$ ); PES  $\rightarrow$  environmental performance was significant ( $\beta= 0.22$ ;  $p= 0.02$ ), and OLC  $\rightarrow$  environmental performance was significant ( $\beta= 0.29$ ;  $p= 0.00$ ). These results demonstrated there was partial mediation. The RIT test (Indirect effect /

Total effect) revealed that 39% of the effect of OLC on environmental performance is mediated by PES.

Fourth, eco-innovation had a positive and significant relation with environmental performance ( $\beta = 0.28$ ;  $p = 0.01$ ) supporting the H4b. PES did not have a significant link with environmental performance; thus, we did not support H4b. However, the correlation between the three variables was equal or above 0.80, this could suggest possible mediation effects. We decided to test the mediation effect of Eco-innovation between PES and environmental performance. The outcome was positive. PES  $\rightarrow$  eco-innovation was significant ( $\beta = 0.76$ ;  $p = 0.00$ ), Eco-innovation  $\rightarrow$  environmental performance was significant ( $\beta = 0.51$ ;  $p = 0.00$ ); and PES  $\rightarrow$  environmental performance was not significant ( $\beta = 0.09$ ;  $p = 0.17$ ). This means that there is a complete mediation. The RIT test (Indirect effect / Total effect) indicated that 80% of the effect of PES on environmental performance is mediated by eco-innovation. Tsai & Liao (2016) mentioned that firms who adopt PESs that pursue eco-innovation are more likely to seize opportunities, gain competitive advantage and improve the environmental performance.

Within the analysis of the control effects, we found that firm size is important when adopting proactive environmental strategies ( $\beta = 0.64$ ;  $p = 0.10$ ) and eco-innovation ( $\beta = 0.09$ ;  $p = 0.01$ ). This means that firm size was positively related to the adoption of a proactive environmental strategy and eco-innovation. The last decades have shown that even though SMEs do not have the same financial and human resources of large companies, being small or medium is not an obstacle to acquire innovation capacities (Frey et al., 2013), adopt PES and increase performance and export activities. On the other side, it also means that use of green strategy was stronger in the case of medium than smaller firms. This could indicate that compared with their smaller firms, medium and large exporters: have more competent management and better skills to deal with environmental issues; possess more financial, personnel, production, and allied resources that are important to support environmentally friendly strategies; can achieve economies of scale in adopting environmental initiatives in foreign markets; and are more likely to take risks associated with environmental projects, due to the possession of more knowledge and information on the subject (Leonidou et al., 2015).

Foreign market destination was not significant in any relationship. A possible explanation for this result is that no matter the destination, exporting Ecuadorian SMEs implement green plans and comply with the environmental international regulations, and do not

affect the final destination of the products and services. Finally, industry was not significant with PES and eco-innovation. Nevertheless, with environmental performance it was positive and significant ( $\beta=0.02$ ;  $p=0.02$ ). It is important to mention that some industries have stricter environmental regulations than others, for example oil and petroleum do not have to comply with the same rules of the agroindustry sector. The environmental performance will depend about the industry and the regulation of that specific sector.

## **6. DISCUSSION AND CONCLUSIONS**

There is an open debate in literature regarding the extent to which firms' internationalization fosters the adoption of green actions and practices and facilitates the improvement of environmental performance. The majority of the literature have focused on firms from developed regions or countries, which have stricter environmental regulations than companies in developed regions, and the results have shown a positive relationship between internationalization and environmental strategies (Aguilera-Caracuel et al., 2012; Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al., 2010; Aguilera-Caracuel & Guerrero-Villegas, 2018; Aguilera-Caracuel et al., 2011; Ayuso & Navarrete-Báez, 2018; Bıçakcıoğlu et al., 2018; Fraj-Andrés et al., 2009; Gómez-Bolaños et al., 2019; González-Benito & González-Benito, 2006).

The first contribution of this paper is to use data from a developing country considered the most biodiverse territory in the world. It was necessary to analyze if these exporting Ecuadorian firms have adopted environmental plans to reduce their negative impact on the natural environment and the exploitation of unique natural resources, and which industries are more committed to help the environment.



Table 2: Descriptive statistics and correlations

	Mean	Standard deviation	PES	Eco-innovation	EP	Export ratio	TMC	OLC	Firm size	FD	Industry
PES	3.99e-09	1.42	1.00								
Eco-innovation	3.36e-09	1.33	0.81***	1.00							
Environmental performance (EP)	-9.95e-09	0.99	0.70***	0.80***	1.00						
Export ratio	42.09	28.08	0.11	0.00	-0.08	1.00					
Top management commitment (TMC)	2.49e-09	1.44	0.85***	0.88***	0.81***	0.007	1.00				
Organizational learning capability (OLC)	4.92	1.50	0.87***	0.80***	0.72***	0.03	0.81***	1.00			
firm size	3.05	1.74	0.27***	0.25***	0.14	0.44***	0.15	0.19**	1.00		
Foreign destination (FD)	0.55	0.5	0.04	0.03	-0.02	0.40***	-0.03	0.06	0.33***	1.00	
Industry	5.71	4.45	-0.30**	-0.27	-0.32***	-0.14	-0.25***	-0.28**	-0.36***	-0.26***	1.00

Source: Own created. †p < 0.10; \*p < 0.05; \*\*p < 0.01, \*\*\*p < 0.001

Table 3: Results SEM

Hypothesis	Hypothesized Path	Coefficient (B)	p-Value	Status
H1a	Export activities → PES	0.003	0.12	Not supported
H1b	TMC → PES	0.39	0.00***	Accepted
H2a	Export activities → Eco-innovation	-0.00	0.17	Not supported
H2b	TMC → Eco-innovation	0.62	0.00***	Accepted
H3a	Export activity → EP	0.06	0.10†	Accepted
H3b	TMC → EP	0.33	0.00***	Accepted
H4a	PES → EP	-0.31	0.67	Not supported
H4b	Eco-innovation → EP	0.28	0.01**	Accepted
H5a	OLC → PES	0.49	0.00***	Accepted
H5b	OLC → Eco-innovation	0.20	0.00***	Accepted
Control	Size → PES	0.64	0.10†	Accepted
	Size → Eco-innovation	0.09	0.01**	Accepted
	Size → EP	-0.00	0.81	Not supported
	MD → PES	-0.10	0.44	Not supported
	MD → Eco-innovation	0.06	0.60	Not supported
	MD → EP	-0.02	0.81	Not supported
	Industry → PES	-0.00	0.66	Not supported
	Industry → Eco-innovation	0.00	0.91	Not supported
	Industry → EP	0.02	0.02*	Accepted

Source own created

†p < 0.10;

\*p < 0.05;

\*\*p < 0.01,

\*\*\*p < 0.001

The second contribution sheds light on the relationship between managers' environmental commitment and environmental practices. It is necessary to analyze the extent of managers' attitudes and green plans within a firm, especially in SMEs from a developing country for two reasons. The first, because managers' attitudes, behavior, and values reflect the objective, goals, and motivations of small and medium companies. And second, because developing countries are known for having lax environmental regulations, and companies mostly depend on the willingness of its managers to implement eco-friendly practices.

The third contribution is that we have included several environmental practices in the study. Most investigations only include one type; for instance, only PES, or only eco-innovation, or have focused on environmental performance. This chapter included these three aspects. By incorporating these three aspects and relating them with export activities, we expand the literature of international entrepreneurship, corporate environmental responsibility, and sustainability. Additionally, we analyzed if PES and eco-innovation influence environmental performance. The results showed that eco-innovation had a positive relationship with environmental performance, because it might help reduce the use of plastic, water, and energy consumption, among others. However, proactive environmental strategies were not significant in this sample. Further research is needed using these three environmental practices.

Fourth, the chapter enriches the literature about knowledge-based view related to environmental practices and internationalization. The study offers evidence showing that knowledge from international markets may help managers and employees to implement eco-friendly plans, and that having learning capabilities within the firm is necessary. Roy & Thérin, (2008) found that knowledge plays a significant role in SMEs' efforts to increase their environmental commitment. These authors stated that firms with greater environmental commitment are more open to external knowledge about environmental issues and marketing aspects. When owners are continuously gaining new knowledge, they can face new challenges and problems in international markets. Finally, the last contribution is related to organizational learning capability, the results show that the learning capability of a firm is a key element when adopting environmental plans.

As it was mentioned, this study used data from exporting Ecuadorian companies, a developing country, and the results were quite different from the studies from developed countries. In this sample, internationalization expressed as export ratio, did not have a

positive and significant relationship with the adoption of proactive environmental strategies and eco-innovation. But its influence on environmental performance, this result is similar to the one from Kennelly & Lewis, (2003), who stated that internationalization does have positive influence over environmental performance. They used a sample of 148 U.S.-based MNEs from diverse industries. However, the results of this research in relation to export activities and environmental performance is not similar to the ones from Gómez-Bolaños et al. (2019). The authors stated that there is not a positive relationship between those two variables. Literature has not reached a consensus about this relationship; further investigation is needed in developed countries as in developing ones.

Surprisingly foreign destinations did not have a positive relation with PES and eco-innovation and environmental performance. These results do not support the paper from Ayuso & Navarrete-Báez, (2018) who stated that firms with international experience and knowledge can recognize the value of achieving high environmental and social standards. However, the knowledge from international markets might influence the commitment of the Ecuadorian managers. Managers have acquired knowledge necessary for implementing green practices. An explanation for the foreign market destination is that no matter the destination of the products, exporting Ecuadorian SMEs comply with the international environmental regulations. Firms exporting to developed regions or countries might adopt environmental and eco-innovation strategies because they have to comply with strict environmental regulations (Taherdangkoo et al., 2017; Union, n.d.) to expand their international sales. Firms that have international operations try to seek legitimacy and reputation by exhibiting strong green plans (Gómez-Bolaños et al., 2019).

Even though, our results did not display a positive nexus between foreign market destination, PES and eco-innovation, it is really necessary to mention that recent literature states that export activities alert how strong the competition in foreign markets can be, and forces firms to improve both products and processes and thus remain competitive. The more active firms are in foreign markets, specially developed countries, the more likely to be efficient and productive than firms which operate solely in domestic markets (Love & Ganotakis, 2013). In this sense, the approach learning by exporting is a key element for SMEs to start implementing environmental plans, eco-innovating products and processes and improve environmental performance. The knowledge obtained in international markets, allows the firms to start doing significant changes within their

companies. They are aware of the new eco-trends in developing countries, the environmental requirements, the eco-technology, among others, and it boosts the adoption of environmental strategies, and environmental performance. Love & Ganotakis (2013), suggested that firms benefit from the knowledge which entry into export markets brings, and that this helps firms overcome the hurdle of introducing new-to-market products. It is necessary to use a bigger sample of exporting Ecuadorian SMEs to compare and contrast the results of this investigation.

Top managerial commitment towards the environment has shown a positive relationship with PES, eco-innovation, and environmental performance like in the paper of Katsikeas et al., (2016), who empirically found a positive influence of top management commitment on corporate environmental responsibility and eco-innovation development. In this sample of exporting Ecuadorian firms, without management's commitment, the adoption of environmental strategies, the eco-innovation process and improvement in environmental performance would not be possible. These results reveal that managers' environmental knowledge that come from foreign markets, especially in developed countries, is an essential element in the development of green practices. Without environmental knowledge managers would not be aware of the damage their firms might cause, new eco-technology, international regulations, etc. This top management commitment leads the environmental practices within the firm, motivates employees to implement green actions and develop new products and processes (Menguc et al., 2010). Also, a manager or owner with stronger pro-environmental attitudes is more likely than an entrepreneur with weaker pro-environmental values to perceive a sustainable opportunity that influences the natural environment positively (Leonidou et al., 2015; Ploum et al., 2018).

Moreover, the result of this investigation confirms previous studies that demonstrated that managers' environmental commitments are responsible for adopting plans and policies within the company; their sensibility towards ecological issues is an important element when exporting to developed countries (Banerjee et al., 2003; Katsikeas et al., 2016; Leonidou et al., 2015; Stone et al., 2004). In sum, top management environmental commitment is an essential element behind changes made in a firm that needs constant support and coordination to be effectively. Managers' commitment encourages firms' activities to be more eco-friendly.

An interesting finding in the research is the mediation effect of eco-innovation between top management commitment and environmental performance. Though, this effect was not hypothesized in the analysis, we decided to carry out a new test to corroborate the mediation. The results were positive: eco-innovation mediate the relationship between management commitment and environmental performance. This suggests that top management commitment is a critical driver for exporting Ecuadorian SMEs to improve their performance, the willingness of the manager to become green leads the eco-innovation plans in order to attain competitive advantage.

Organizational learning capability had a positive relation with PES and eco-innovation. A possible reason for this finding could be that firms with high learning capability will adopt PES and start eco-innovation processes because they have gained knowledge from international markets and have the skills and tools to transform knowledge into plans, actions, and strategies. This finding is consistent with the results from Aguilera-Caracuel et al. (2012) mentioning that high learning capability within a firm can generate valuable environmental management strategies. Also, the results are similar to the ones of Fraj et al. (2015) which stated that proactive environmental strategies in the hotel industry depend on complementary organizational capabilities related to learning. Yusoff et al. (2019) demonstrated that learning capabilities have a positive relation with business sustainability. Zhu et al. (2012) stated that organizational learning capability and experience may help firms from developing countries to improve environmental performance.

Other important finding that was not considered at first was the mediation of PES and eco-innovation between organizational learning capability and environmental performance. We tested the mediation effects of PES and eco-innovation. The results were significant and positive, the variables mediate the relationship between learning capabilities and environmental performance. This suggests that learning capability is a critical skill to apply knowledge correctly to implement eco-innovation and environmental strategies in order to achieve environmental performance and competitive advantage. Also, without strong eco-friendly strategies and green innovation plans, knowledge creation abilities may provide no value when it comes to achieving the performance (Fraj et al., 2015).

Finally, it is worth mentioning the mediation effect of eco-innovation between PES and environmental performance. Eco-innovation mediates the 80% of the effect of proactive

environmental strategies over environmental performance. Environmentally proactive firms are likely to design or alter products and processes to avoid negative environmental effects, in order to gain competitive advantages and improve performance (Tsai & Liao, 2016).

In relation to the knowledge-based view, the results of this investigation support the idea that knowledge is an essential and unique resource that cannot be imitated. The knowledge that managers acquired and was taught to the rest of the employees can improve a company's performance, support the implementation of best practices, foster permanent progress and operational problem solving, and increase its ability to innovate (Grant, 1996). Also, the accumulation of information allows the firm to improve or develop new business strategies, like export plans, environmental practices, green marketing plans, etc. Export firms working in markets with different environmental institutional profiles gain a background of complex knowledge that is positively related to the adoption of a proactive environmental strategy.

## **7. IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH**

The results have implications for scholars, managers, and policymakers. The academic implications are important in this investigation because the results related to export ratio, PES, eco-innovation, and environmental performance are not the same from previous literature. Firms from developing countries do not act the same way as companies from developed regions. The results of this research confirm this idea. Even though, exporting Ecuadorian SMEs have implemented environmental practices, their export ratio is not significant enough for the adoption of PES, eco-innovation, and environmental performance. However, the destination of their exports does influence their proactive environmental strategies and eco-innovation. Knowledge obtained from export activities might have influenced how firms recognize and implement green practices, because companies that export to developed countries must comply with strict environmental regulations.

Managers should focus on developing new strategic environmental actions that satisfy the international market, stakeholder pressure, and minimize their harmful impact on the natural environment. At the same time, implementing environmentally friendly strategies is crucial to obtain a product differentiation advantage among internal competitors. According to Leonidou et al., (2015) the commitment to green issues must be shown in the exporting department. Top managers need to persuade their employees to adopt a set

of green values to facilitate the firm's green policies. Managers must acknowledge environmental activities as a long-term investment rather than a short-term expense. Finally, top managers have to develop learning capabilities among their employees to adequately formulate environmental practices within the firm.

The implications for the government and policymakers lie in the idea that they should create and facilitate financial resources for SMEs to keep investing in green practices. Cooperation with national, regional, and local financial institutions can provide specific credit lines for exporting firms that are interested in incorporating environmental activities into their products. Banking systems should improve the incorporation of environmental criteria in their risk assessments, taking into account the positive effects of environmental practices on a firm's risk profile (Testa et al., 2016). There are industries such as agro-industry, agriculture, textile, or construction, which have a negative relation with PES, eco-innovation, and environmental performance, because implementing eco-friendly strategies is too expensive and firms prefer not to adopt new green practices or buy new eco-technology. Also, public institutions should assist firms lacking environmental policies by providing technical expertise, organizing knowledge-based sustainability training programs across industries, and offering assistance in implementing voluntary environmental policies and procedures (Katsikeas et al., 2016). Finally, policymakers and the government should communicate the benefits of becoming green based on strategic rather than legislative and ethical issues. In other words, stimulate the interest in environmental practices.

There are several limitations in the research. First, due to lack of public information about exporting Ecuadorian SMEs' environmental issues, we used a questionnaire. The main disadvantage of this method is that responses might be influenced by managers' perceptions. Second, we performed our analysis using only one cross sectional data. Further research is needed using a longitudinal panel data sample for finding new results in the evolution of firms in time. Additionally, future research can include a bigger number of firms in the study. Third, we caution against generalizing our results, given the industries and home country of our sample. Further research is needed using samples from other developing countries with similar environmental regulations and internationalization activities. Due to time limitations and the COVID-19 crisis it was not possible to include more exporting Ecuadorian SMEs in the data set. Moreover, it is completely necessary to use another measure of export activities, in this case export ratio



was not significant. The development of the International Diversification Index is necessary in future research. However, the difficulty in obtaining information for this index in Ecuador is high.

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## CHAPTER 5

### DO ENVIRONMENTAL STRATEGIES IMPROVE THE EXPORT BEHAVIOR OF ECUADORIAN SMEs?

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**Abstract:** This paper explores the relationships between proactive environmental strategies (PES), eco-innovation, international certification, eco-friendly orientation and export activities in a developing country from Latin America, Ecuador. Drawing on the natural resource-based view and using a sample of 100 listed firms in 2021. We found that exporting Ecuadorian SMEs with eco-innovation, international certification and environmental orientation are associated with higher export revenues. Our results also reveal that firm's size positively moderates the relationship between PES and export activities. The independent variables provide the SMEs with the opportunity to integrate valuable knowledge and expertise and thus to take advantage of greater levels of internationalization. This study expands understanding of how environmental strategies influence internationalization of firms in the Latin American business context.

**Key words:** PES, eco-innovation, international certification, eco-friendly orientation, export revenues, Ecuadorian SMEs, size

#### 1. INTRODUCTION

The growing awareness and concerns about the exploitation of natural resources and the decline of biodiversity around the world have led companies to find new ways of engaging with environmental issues. Corporate attention is focusing on responses such as reducing waste and emissions, reducing the consumption of energy and water, recycling solid waste, conserving natural resources, and reducing business impact on ecosystems (Menguc & Ozanne, 2005). SMEs, large, and multinational companies seek to adopt green strategies and to improve their environmental performance to develop competitive advantages (Aragon-Correa & Sharma, 2003; Bansal, 2005; Molina-Azorín et al., 2009). Environmental knowledge, management and strategies become key elements for this.

Proactive environmental strategies (PES) are a valuable competency that can bring firms various business benefits (Duque-Grisales et al., 2019; Sharma & Vredenburg, 1998), such as entering new foreign markets and having competitive advantage. Additionally, environmental management may be a tool that helps companies improve their competitiveness (Molina-Azorín et al., 2009). Companies are realizing the need and advantages of developing eco-innovation for the support of dynamic competition and public environmental awareness (Tsai & Liao, 2016). Also, eco-innovation may play an important role in a firm's achieving positive returns by using unique resources. In fact, pursuing eco-innovation typically connects with strategies that facilitate firms' efforts to effectively assign resources and gain competitive advantages (Rizzi et al., 2013).

Moreover, PES help firms integrate stakeholders' interests (Christmann, 2004) and build a solid reputation and legitimacy to rise above business rivals in host country markets (P. H. Chen et al., 2016; López-Gamero et al., 2009). The adoption of environmental actions may improve the expansion of a firm's international operations and reach a solid corporate status (Aguilera-Caracuel & Guerrero-Villegas, 2018; Duque-Grisales et al., 2019).

Furthermore, corporate environmental responsibility may have a positive and significant relation to internationalization and export activities. Environmental actions are characterized as dynamic capabilities because they allow a firm to implement new strategies to adapt to internal and external changes, and international competitiveness (Martín-Tapia, Aragón-Correa, & Rueda-Manzanares, 2008). Environmental actions generate intangible assets (capacity to innovate and understand different stakeholders' interests and international knowledge) essential to exporting processes (Martin-Tapia et al., 2008).

Additionally, environmental strategies can have an influence on a firm's competitive advantage through product differentiation and by increasing its reputation and legitimation. In developed countries, the demand for ecological products has been increasing and it seems like this trend will keep growing. In this context, firms should exploit this opportunity. Companies with these unique ecological products and good reputations among large suppliers can enter these international export markets easily (Duque-Grisales et al., 2019).

However, much of the contemporary literature about environmental strategies, eco-innovation and their relationship with export activities and internationalization tend to

focus on developed-country firms and large companies, thereby offering very limited or no insights on small firms in developing nations (Danso et al., 2019). This happens despite small businesses constituting the vast majority of businesses and forming the economic backbone of developing economies in terms of employment, investment, and their overall contributions to gross domestic product (Roxas et al., 2017). Besides, small businesses in developing countries often lack key financial resources to implement proactive environmental strategies and have non-existent or poor legal enforcement systems, which hamper their ability to compete (Mair & Marti, 2009). On the other hand, small firms have greater flexibility to be proactive and innovative, including the adoption of environmentally sustainable strategies (Roxas et al., 2017).

Moreover, environmental strategies are important in an international business context for several reasons, such as the increasing regulations protecting the natural environment; the rising role of ecological market segments, especially in industrialized countries; and the growing role of communication and social media in the rapid spread of information about firms' good or bad green practices on a global scale (Rajan, 2014).

In most of the literature, size has been used as a control variable and has shown a statistically significant effect in studies of green strategies (Aguilera-Caracuel et al., 2012; Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al., 2010; Chan & Ma, 2016; Gómez-Bolaños et al., 2019; Martín-Tapia et al., 2008; Peña-Vinces & Delgado-Márquez, 2013). Nevertheless, it is important to analyze the relevance and real impact of a company's size in the relationship between corporate environmental responsibility and export activities. According to McKeiver & Gadenne (2005) and Mir & Feitelson (2007), there are important differences in the environmental approaches among micro, small and medium enterprises. For example, capabilities, competitive advantage, and adoption of environmental strategies may differ depending on the size of the firm (Martín-Tapia et al., 2010).

In this sense, the research question of this chapter is: Do environmental activities impact the implementation of export activities in Ecuadorian SMEs? The objective of the paper is to analyze if environmental strategies have a positive relation to the adoption of export activities in Ecuadorian SMEs. These firms are especially important in the international market due to their competitiveness in both costs and knowledge-intensive activities. Resource-based view and product differentiation can be used to examine if Ecuadorian

SMEs become more internationally oriented based on their environmental strategies, and if size plays an important role in this process.

This paper makes several key contributions. First, it contributes to the existing literature on international business by expanding NRBV and product differentiation approach of firms to analyze the influence of PES on export activities in the context of Ecuadorian SMEs. Second, this paper makes a unique contribution to the literature by combining corporate environmental responsibility and international entrepreneurship. Third, although this issue has recently attracted growing research interest, most empirical results are based on large and multinational firms from developed countries, little attention has been paid to SMEs from emerging economies. This study analyses the phenomenon using a sample of exporting Ecuadorian SMEs, as Latin America can offer an interesting context for testing hypotheses and provide new insights about environmental responsibility and export activities.

The article is organized into six sections. Following this introductory section, we review the literature and theoretical framework. We then illustrate the conceptual model of the study and develop the research hypotheses. This is followed by an explanation of the research methodology used to carry out the study. In the next section, we present the results of testing our hypotheses. Finally, the key findings of the study are summarized, and conclusions are drawn for companies and public policymakers.

## **2. THEORETICAL FRAMEWORK**

### **2.1. The Natural resource-based view**

According to the resource-based view a firm's resources are valuable, rare, non-substitutable and inimitable and these can lead to achieve sustained competitive advantage (Barney, 1991, 2001). However, Hart (1995) mentioned that the resource-based view had a serious omission. Specifically, even though the RBV included several potential resources within a firm, it ignored the interaction between an organization and its natural environment. Also, the RBV does not adequately address how firms can renew their sources of competitiveness, especially in rapidly changing environments. From this asseveration the author developed the approach natural resource-based view (NRBV).

The NRBV suggests that firms can gain competitive advantage by considering the problems caused by the natural environment. In other words, a firm's ability to develop an environmental sustainability strategy to avoid the constraints of the natural

environment (ecosystem degradation and resource depletion) would enable it to achieve competitive advantage. Also, the NRBV considers innovative environmental solutions as key elements in the generation of organizational capabilities that require firms to go beyond reactive strategies. These capabilities are related to modern and innovative strategies like product stewardship, pollution prevention technologies, and the adoption of an organizational culture based on the principles of sustainable development. Thus, the proactive integration of environmental issues into strategic management seeks to convert potential threats to the natural environment into competitive opportunities for organizations (Fraj et al., 2013; Hart, 1995; Hart & Dowell, 2011). In sum, the NRBV highlights the connection between ecological policies, green organization capabilities, and competitiveness at firm level (Tariq et al., 2017).

The design and adoption of environmentally sustainable business practices can be a potential source of competitive advantage because they are strategic resources that are valuable, rare, inimitable, and non-substitutable, which can differentiate a firm from its competitors (Chan, 2005). In this sense, proactive environmental strategies and eco-innovation can be considered strategic capabilities because they are organizational abilities that can coordinate heterogeneous resources in order to reduce environmental impacts while simultaneously maintaining or increasing a firm competitiveness (Martin-Tapia et al., 2008). Furthermore, these capabilities allow firms to enter new markets with different standards, environmental regulations, and competitive environments.

## **2.2. Environmental orientation, green strategies, and export activities**

Large firms and SMEs in developing economies have to compete not only among themselves, but with foreign firms. According to Leonidou et al. (2017), when a business expands beyond its national borders, the need to green its strategy becomes more pronounced. Their ability to formulate and implement viable competitive strategies (Danso et al., 2019), such as having green orientation and adopting environmental strategies is vital for their survival. Environmental orientation refers to the extent to which managers and employees recognize the crucial importance of environmental issues that firms are facing (Banerjee, 2002). Menguc & Ozanne (2005) emphasized the importance of environmental orientation as a unique internal organizational resource in implementing environmental management activities. It directly influences the consequences of company decisions and makes the adoption of environmental practices easier. Also, green firms are

more likely to internationalize according to a study of US manufacturers of environmental products, and entrepreneurs driven by non-economic motivations are significantly more likely to export (Neumann, T. 2022).

Moreover, according to Leonidou et al. (2016), eco-friendly orientation can be considered an organizational value that: 1. denotes respect and responsibility for the environment, as well as a firm's acknowledgement of the need to reduce any harmful effects on it. 2. sets standards of ethical behavior and shows long-lasting commitment to protecting the environment. 3. understands and responds to the needs of external stakeholders, international customers, governments, etc. 4. acts as a good company with the responsibility to sustain the environment for future generations. The adoption of environmental orientation is expected to increase significant gains for SMEs, such as cost savings, improved reputation, and the attraction of new customers (Menguc & Ozanne, 2005).

Duque-Grisales et al. (2019) mentioned that the adoption of proactive environmental strategies by developing corporate green practices (new capabilities) has an influence on the internationalization strategy. Improving their competitive position can enable *multilatinas* not only to access new markets but also to enhance their technology, production, and trade. Additionally, Bıçakcıoğlu et al. (2019) stated that firms need to have the necessary resources and capabilities in order to improve their export competitiveness based on green strategies.

Furthermore, other studies have analyzed the relationship between firms' environmental performance and their export activity, finding a positive relation between them. These authors assume that the firms' adoption of advanced environmental management practices improves their international competitiveness (Christmann & Taylor, 2001). Also, as SMEs are usually less resource-intensive than large firms, they have to use intangible assets to compete in global markets. There are several intangible assets which help in the exporting processes of SMEs, such as the capacity to innovate, the capacity to understand different stakeholders' interests, knowledge intensity, flexibility, and reputation (Martin-Tapia et al., 2008).

When companies adopt and develop PES, they are voluntarily investing resources to achieve their goals. These firms are more likely to design eco-products and eco-processes to avoid negative environmental effects (Porter & Kramer, 2006) and obtain competitive advantage which allows firms to enhance their legitimacy and reputation among new and



old international customers, stakeholders and competitors, increase the number of markets a company may enter (Bıçakcıoğlu et al., 2019; Schnittfeld & Busch, 2016), and achieve higher levels of internationalization (Murray et al., 2011).

Besides, within proactive environmental practices, international certifications are important. International certifications are interested in designing standards that facilitate international trade in goods and services by making it easier for customers to evaluate the environmental performance of their foreign suppliers (Christmann & Taylor, 2002). Holding an international certification often constitutes a passport for companies wanting to sell their products and services in foreign countries, since these certifications guarantee good practices for process handling, customer and clients satisfaction, good relationships with employees, suppliers and the community, among others (Peña-Vinces & Delgado-Márquez, 2013). Also, international certifications show foreign clients that a firm's products and services are good quality, that it respects the natural environment, and is committed to help the community.

Other key element of corporate environmental practices is eco-innovation. Firms that are willing to green their operations and products/services are more likely to gain knowledge of new practices and technologies (Boiral, 2002; Lin et al., 2013). Furthermore, the development of eco-innovation knowledge allows firms to find new ways of being productive and to explore new market opportunities (Katsikeas et al., 2016). An eco-innovative approach is useful for SMEs to compete in foreign markets with large firms with more financial and human resources (Martin-Tapia et al., 2008).

### **3. HYPOTHESIS DEVELOPMENT**

#### **3.1. Proactive environmental strategies and export activities**

As Aragón-Correa (1998) and Hart (1995) mentioned, proactive environmental strategies are seen as essential resources of a firm. These resources can allow firms to improve their competitive advantage, intensify their international operations and enter new markets, gain reputation and legitimize their position. SMEs, large and multinational corporations with greater environmental commitment may gain recognition, and expand their activities easily in different countries and regions with stricter institutional, political, and environmental regulations (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013).

The literature shows that the adoption of PES has an influence on the level of internationalization. For example, Duque-Grisales et al. (2019) showed that proactive

environmental strategies from *multilatinas* have a positive effect on geographic international diversification. This means that *multilatinas* that have implemented PES are more likely to reap the benefits of internationalization. This study explains that companies from Latin America (countries with lax environmental regulations) must implement environmental strategies to enter European or North American markets, which have more strict environmental regulations. Companies need to change their environmental procedures in order to enter foreign markets and expand their sales (Taherdangkoo et al., 2017).

When firms adopt environmental plans or actions, they use resources and knowledge that make it easier to have new international operations. Environmental certifications are also a plus when attracting new foreign customers and stakeholders. Some clients in developing countries prefer products and services that are green or have reduced negative impact on the natural environment. When SMEs include environmental plans in their business strategies, they will improve their competitive advantage and export activities and performance.

Martín-Tapia et al. (2008) also drew the same conclusion: PES have a positive influence on internationalization, and environmental strategies push firms to develop intangible assets, such as reputation, knowledge and stakeholder integration. Additionally, the results showed that SMEs' limitation of resources is not an obstacle for improving environmental and international issues.

Companies have been pressured into responding to strict environmental regulations in developed regions, to increased regulatory pressure, and to public concern with the adoption of environmental plans seeking to protect the natural environment (Bıçakcıoğlu et al., 2019), such as, obtaining environmental certifications (ISO 14001, Rainforest, etc.).

Furthermore, Martin-Tapia et al. (2008) found that corporate environmental strategies can generate numerous capabilities that facilitate export processes for SMEs; for example, environmental approaches favor the capability to innovate and assume risks, which is essential to successfully compete in international markets. The outcomes were a positive relation between environmental strategies and export activities. Green strategies become crucial in reducing natural resource use and achieving superior performance and improve export activities (Dangelico & Pontrandolfo, 2013). These results show the positive interactions between environmental strategies and internationalization processes for Ecuadorian SMEs. Therefore, we propose:

*Hypothesis 1: Proactive environmental strategies positively influence internationalization and/or export activities.*

### **3.2. Eco-innovation and export activities**

Eco-innovation is considered a firm's capability and an intangible resource as well. It may help with a company's competitive advantage, performance, and international operations. When a firm starts the process of eco-innovation, it involves modifying products, processes, and organizational practices to reduce impact on the environment while maintaining economic profit. In addition, eco-innovation, when considered a resource, helps to reduce costs, exploit international opportunities, and strengthen the creation of differentiation strategies (Rodríguez-García et al., 2019).

Moreover, firms that eco-innovate before internationalizing have competitive advantage over the rest. Companies that start eco-innovating can create new green products that contribute to gaining international reputation and loyal customers, and exploitation opportunities in other international markets. After entering new markets, firms obtain new knowledge, new investors, and new stakeholders, which allow the firm to keep growing and implementing new technologies and environmental strategies. For instance, when the environmental regulations imposed by importing countries are stricter than the ones in their home countries, these firms can address such problems by developing eco-practices and products that allow them to comply with the strictest environmental regulations prevailing in the largest export market (Christmann & Taylor, 2001).

The adoption of advanced environmental practices increases a firm's environmental productivity and consequently it encourages both product and process innovation and influence export intensity (Galdeano-Gómez et al., 2011). Dangelico (2016) mentioned that market performance (sales, market shares, and customer outcomes) and export operations also have a positive relation to eco-innovation. The success of eco-innovation depends on reducing environmental impact as well as being successful in the international market (Tariq et al., 2017). According to Dangelico (2016), another eco-innovation outcome is improved economic and financial performance, given that thanks to increased international sales, the company obtains higher profits and a better reputation, which can also represent an increase in exports and higher productivity. Therefore, we propose:

*Hypothesis 2: Eco-innovation has a positive influence on the expansion of export activities and/or internationalization.*

### **3.3. International certifications and internationalization activities**

Exporting is, usually, the first stage of the process of internationalization and is the most common foreign market entry mode among SMEs, because of the greater flexibility and lower business risk (Pacheco et al., 2022). The constant changes in the market, governmental regulations, and foreign customer and stakeholder pressures are forcing SMEs and large companies to create green products and services.

Currently, SMEs are facing several challenges in the international arena: the COVID-19 crisis, lack of information, new market tendencies, exporting experience, limited resources, etc., all of which make it difficult to seize and explore new opportunities. A way of coping with this problem is the adoption of international certifications. Internationally recognized certification seals issued from third-party entities can be seen as a way to address market failures and help firms surpass the liability of foreignness (Pacheco et al., 2022). Besides, empirical evidence reveals that firms holding international quality certifications, such as ISO, Rainforest, etc., perform better than those that do not (Briscoe et al., 2005).

Moreover, firms decide to acquire quality and environmental certifications because they need to adhere to better practices in manufacturing, environmental, and social processes (Peña-Vinces & Delgado-Márquez, 2013). Additionally, certification reinforces a firm's competitive advantage, because it creates resources and capabilities that are hard to copy (Barney, 1991; Birger, 1984). International certifications can be considered drivers of international operations and can reinforce the protection of a firm's competitive advantage. These certifications are voluntary instruments adopted to obtain internal benefits, like organizational, environmental, legal, and regulatory compliance. (Hillary, 2004; Tarí et al., 2012).

According to Ciliberti et al. (2009), the adoption of international certifications can increase the bilateral exports of goods and services, especially in developing countries or regions. Similarly, Lefebvre & Lefebvre (2000) showed in a large sample of Canadian manufacturing SMEs that the adoption of ISO 9001 increased the export ratio of the firms. Likewise, by obtaining international certifications, the wood industry of Chile became one of the most competitive around the world, proving the strong and positive impact of such certifications. (Peña-Vinces & Delgado-Márquez, 2013). Hence, we set the following hypothesis:

*Hypothesis 3: Holding international certifications will positively influence firms' export operations.*

### **3.4. Environmental orientation, PES, eco-innovation, and export activities.**

Environmental orientation is an important element for formulating and implementing environmentally friendly business practices within an organization (Leonidou et al., 2016). It refers to a firm's responsibility towards the natural environment. Eco-friendly orientation reflects the degree of environmental values within a company's culture. It can be shown through environmental objectives and goals that have to be shared by all employees (Chan & Ma, 2016; Fraj-Andrés et al., 2009).

According to Miles & Munilla (1993) and Stone et al. (2004), when firms are environmentally oriented, they are characterized by: 1. Goals focused on producing eco-friendly products that can create consumer brand preferences in international markets. 2. Systems monitoring sensitivity toward ecological and green market trends and segments. 3. Green values centered around international customer satisfaction by offering eco-friendly processes, products, services, and activities. 4. Behaviors such as pursuing ecological intelligence, sharing green information across different areas and departments, and responding to foreign consumers' eco-friendly needs. Environmental orientation enables the company to enhance operational efficiencies and cost savings, by adopting green strategies and eco-innovation. Environmental orientation is an antecedent of green strategies, with opportunity discovery and exploitation drawn from environmental and market imperfection (Sung & Park, 2018). A firm's environmental orientation shapes a firm's strategic vision and motivates employees to engage in environmental issues (Kang & He, 2018).

Literature has shown that being environmentally oriented will improve a company's performance (J. Alberto Aragón-Correa et al., 2008; Leonidou et al., 2016). Companies in emerging markets are required to improve their environmental orientation within the organization (Zhu et al., 2008, 2012). Furthermore, Bıçakcıoğlu et al. (2019) stressed how paramount employee environmental orientation is in achieving export success. Chan & Ma (2016) also demonstrated the role of environmental orientation in conducting proactive environmental strategies, which have a positive influence on SMEs' export performance. Hence, we hypothesize the following:

*Hypothesis 4a: High levels of company eco-friendly orientation will lead to high levels of export activities.*

*Hypothesis 4b: Proactive environmental strategies serve as a partial mediator for environmental orientation and export activities.*

*Hypothesis 4c: Eco-innovation serves as a partial mediator for environmental orientation and export activities.*

### **3.5. Size, environmental strategies and export activities**

There are several internal company factors related to exporting commitment. There is a consensus in the literature that a firm's size is positively and significantly related to its propensity to export (Bekteshi, 2020; Bonaccorsi, 1992; Pedro, 2013; Shepherd, 2020). This chapter will not analyze the relation between a firm's size and its export intensity directly, because a positive relation has already been proven to exist; however, we will analyze a possible change in the relation between environmental strategies and export activities depending on the size of the organization. In this sense, this investigation uses size as a moderator in the relation between environmental practices and export activities.

The adoption of proactive environmental strategies creates diverse capabilities and competitive advantage, vital for rising international operations, but the size of the company might influence or moderate that relationship. For instance, companies make substantial internal changes—organizational, operational, product—when implementing eco-friendly strategies. Still, financial and human resources are needed, and smaller companies might find it difficult to completely commit to the adoption of green actions due to the lack or scarcity of those resources, knowledge or experience. According to Mir & Feitelson (2007: 386), “micro-enterprises may be reluctant to invest in environmentally friendly technologies without anticipating direct unambiguous benefits.” In other words, micro-enterprises are less likely to implement green actions to obtain higher levels of export intensity, unless there are fairly confident of profits and revenues.

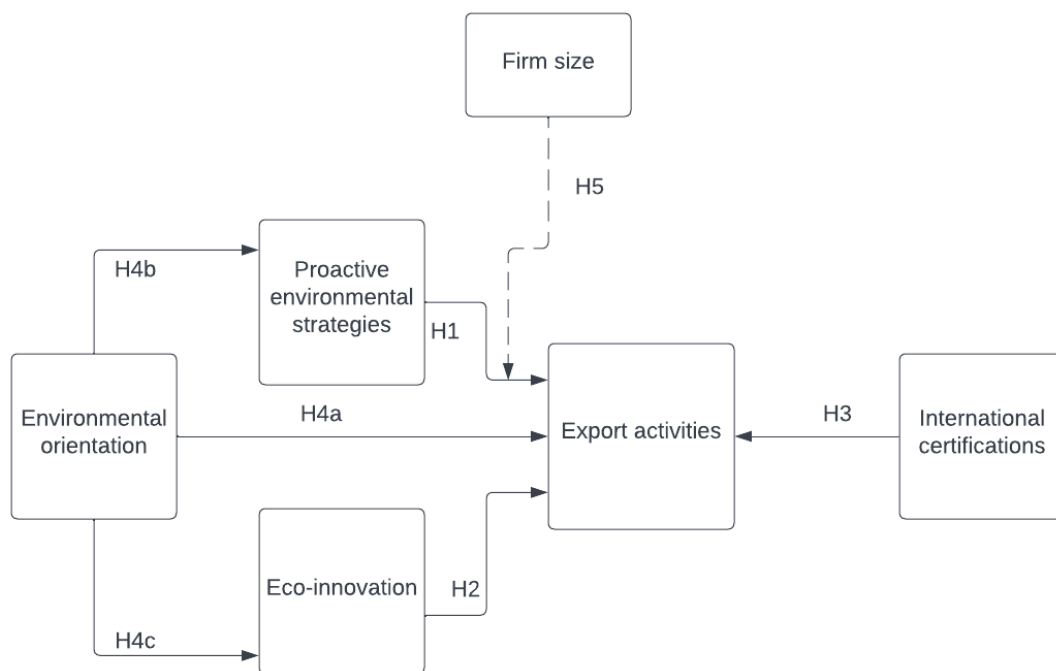
In addition, Martín-Tapia et al. (2008) mentioned that small firms, rather than integrate the eco-friendly requirements of all their clients and stakeholders, will be more likely to comply with the specific environmental requirements of their main customer and/or stakeholder, not showing their real intention to use green plans to understand their stakeholders better and stimulate more exports. Consequently, the application of environmental proactive strategies may not materialize.

SMEs might not consider all information from all customers and stakeholders and can fail to recognize new business opportunities in current or new markets (Oviatt & McDougall, 1994, 2005). Also, not all small and medium companies have the adequate tools and resources to correctly interpret information (Shane & Venkataraman, 2000) like environmental issues in developed countries.

Finally, SMEs that want to improve their reputation and legitimize their position among competitors, can obtain international certifications. Nevertheless, very small companies may not find it relevant to establish a sustainable reputation for their export activities and this reduces their interest in using a proactive environmental strategy. This behavior can be linked to micro-enterprises rather than small, medium, or large ones. (M. Chen & Hambrick, 1995). Therefore, we established the following hypothesis:

*Hypothesis 5: Firm size moderates the relation between SMEs' environmental strategies and export intensity, making it stronger the bigger the enterprise.*

Figure 1: theoretical model



Source: Own created

#### **4. DATA AND METHODOLOGY**

In this section, we describe the sample and the design and measurement of the independent, dependent and control variables. In the next section we present the analytical methods, the model used to test the hypotheses, and the results of the estimation.

##### **4.1. Sample and data collection**

The empirical study presented in this chapter is part of the research conducted between January and May 2021 on a sample of SMEs from diverse industries operating in Ecuador. We choose Ecuadorian SMEs because the Ecuadorian economy has been supported mainly by oil's exports since the late 70s. Between 2000 and 2018 the mean of oil's exportations represented around 50% of the total exports. The other 50% came from the sale of non-oil products and services (Banco Central del Ecuador, 2018). This sale of non-oil products and services has been increasing from 2.48 billion dollars to 12.20 billion dollars between 2000 and 2017 (Ibid). Moreover, according to information from the Ecuadorian Central Bank and the Ministry of International Trade, in 2010, 31% of non-oil exports came from SMEs. In 2017, 1.250 billion dollars came from the international sale of products from SMEs (Ministerio de Comercio Exterior e Inversiones, 2018), and 68% of the exporting firms are SMEs. Also, small and medium enterprises employ around 40% of the economically active population, and contribute to 13% of the GDP (Araque Jaramillo & Argüello Salazar, 2016).

The research method applied was an e-mail survey, using the public database of exporting firms of PROECUADOR. First, we contacted the companies via e-mail. We included an introduction explaining the objective and background of the study and we incorporated the link to the website with the online survey. There are 2000 SMEs in the PROECUADOR database, and we obtained 100 valid answers, in other words, only the 5% of managers respond the questionnaire. A possible explanation for this low response rate: the COVID-19 crisis, which affected the exporting Ecuadorian SMEs. As the consequence of the COVID-19 the Ecuadorian economy shrank around -8% in 2020. Additionally, exports had negative figures of -5.2% in 2020 (Useche Aguirre et al., 2021). Low reply rate may be partially explained by the fact that companies from developing countries are hesitant to answer surveys (Peña-Vinces & Delgado-Márquez, 2013).

However, authors such as Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres (2010); Aguilera-Caracuel et al. (2012); Keshminder & del Río (2019); Peña-Vinces & Delgado-



Márquez (2013); Rao & Holt (2005); and Urban & Govender (2012) used sample with less than 110 valid answers. Also, Murphy et al., (2014), in their statistical books mentioned that the minimum valid answers for a statistical technique is 100 valid answers.

The survey instrument was developed using the existing literature of internationalization and proactive environmental strategies. The instrumented was pre-tested for content validity. We approached four managers in charge of international operations and environmental plans with a request to review the questionnaire and comment on its clarity, possible ambiguities, readability, and structure. After reviewing the comments, we decided to modify the survey and sent the invitation to the 2000 Ecuadorian SMEs. We aimed to address the CEO or manager, or the person in charge of the environmental and international operations. The respondents were mainly company directors or owners. The hypotheses proposed were tested by employing OLS regressions in STATA.

#### **4.2. Variable measurement**

The questionnaire was prepared based on the review of the literature, which was slightly adapted to the geographical context of a developing country. The seven-point Likert-type scales (1—strongly disagree/much worse; 7—strongly agree/much better) were used throughout the questionnaire.

*Internationalization and/or export activities of a firm* refers to the extent to which its activities are conducted outside the home country. We measure export activities using the natural logarithm of the total revenues of export sales. We use this measure to solve the problem of heteroscedasticity in the econometric model.

*Proactive environmental strategies* are the identification and analysis of all-natural environmental aspects of a firm's products and services, and the establishment of comprehensive management programs (Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al., 2010). We adopted the 7 items used in Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, (2010) and in Leonidou et al., (2017) related to green business strategies. Using a 7-point Likert scale, interviewees were asked to assess their firm's degree of development in relation to their environmental activities. The final value of the PES was calculated using the mean of these 7 items (Cronbach's alpha= 0.9093). A confirmatory analysis using STATA 14 showed a single factor model fitting the data well ( $\chi^2/df= 13.75$ ; P value= 0.1317;

RMSEA= 0.073; Probability RMSEA= 0.275; CFI= 0.988; TLI=0.979; SMRS=0.028).

These items were treated as indicators of the degree of PES developed by the firm.

Table 1: constructs and factor loadings

Construct and item wording	Factor loading
<b>Proactive environmental strategies</b>	
Natural environmental aspects in administrative work (paper, toner recycling, etc.).	0.70
Prevention systems to cover possible environmental accidents and emergencies caused by the organization.	0.83
The firm has incorporated environmental issues in its strategic planning process	0.86
The firm has the ability to seek solutions for environmental issues from different angles	0.91
Employees offer valuable ideas for improving our firm's ability to achieve its green objectives in foreign markets.	0.83
We try to promote environmental protection as the objective of all departments in our company.	0.81
<b>Eco-innovation</b>	
The firm is committed to develop products and processes that minimize environmental impact	0.87
The company uses modern, friendly-to-the-environment equipment and technology for the production of ecological products for export markets	0.85
The firm takes into account the protection of the environment when developing new products, processes, services and technologies for foreign products.	0.91
Recycling of the water used by the organization with the purpose of re-using it in other processes and/or before evacuation down the drain.	0.82
Natural environmental analysis of the product life cycle (LCA).	0.84
The company has specialized staff who are engaged in the development of eco-friendly products for abroad	0.83
<b>Eco-friendly orientation</b>	

All of the employees have a very clear idea about the firm's environmental objectives in foreign markets.	0.83
The protection of the environment contributes to a great extent to maintain its good image.	0.90
The firm has a clear policy to promote environmental conscious in all business areas.	0.91
In the firm, we put an effort in making each employee understand the meaning of environmental protection.	0.92
In the company, the employees and the manager put all the effort in connecting the environmental objectives with the other goals of the company	0.86
Environmental protection is a top priority issue in the company	0.66

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Source: Own created

*Eco-innovation* was measured using 6 items adapted from Hojnik et al., (2018). Respondents were asked to evaluate statements about green technology, eco-products and services, recycling, reducing waste, etc. Also, a 7-point Likert scale was used, the scale was 1—strongly disagree; and 7—strongly agree. A confirmatory factor analysis using STATA 14 was made for the creation of Eco-innovation (Cronbach Alpha= 0.9244) ( $\chi^2/df= 15.30$ ; P value= 0.0830; RMSEA=0.84 Probability RMSEA= 0.198; CFI= 0.986; TLI=0.976; SMRS=0.026).

*International certifications* are the procedure by which a third party gives written assurance to the consumer that a product, process, service, or management system conforms to specified requirements (Font, 2002). In this chapter international certifications were measure as a dummy variable, if the SMEs have it or not.

*Eco-friendly orientation* was measured using 6 items adopted from Bıçakcıoğlu et al. (2019); and Leonidou et al. (2016) (Cronbach's alpha= 0.90). The validation process started with an exploratory factor analysis of the measurement scales, which will reveal their reliability through Cronbach's alpha and correlation. The factor loadings of each item were significant (>0.5) and the Kaiser–Meyer–Olkin parameters were within the required values, justifying the application of this technique (see table 1). A confirmatory analysis using STATA 14 showed a single factor model fitting the data well ( $\chi^2/df (9)= 17.50$ ; P value= 0.049; RMSEA= 0.09; Probability RMSEA= 0.119; CFI= 0.982; TLI=0.971; SMRS=0.025).

*Firm size* is an important determinant of environmental conduct. *It* was measured as the number of full-time employees as a proxy variable for firm size because it represents the firms' direct activity (Martín-Tapia et al., 2010). We use the calculation of its logarithm in order to fulfil the condition of normality required by our methodology.

*Control variables:* The industrial sector is shown to be important in the analysis (Bu et al., 2011). The research includes agriculture, agroindustry, commerce, construction, textile, technology, tourism, services, and others. To control for industry effects, we used dummy variables.

Foreign market destination is shown to be an important issue because exports destined to developed countries may comply with stricter environmental regulations than exports sold to developing regions. A dummy variable was created, developed regions vs developing regions. We divided the regions based on the report of the World Bank.

## 5. ANALYSIS AND RESULTS

To test our hypotheses, we used hierarchical multiple regression analysis. The aim of using a hierarchical regression is to detect whether the independent variables explained (significantly or not) to the dependent variable and the additional moderation effect. Due to the nature of our variables and considering that all of them comply with the prerequisites of the ordinary least squares (OLS) regression, we first, centered the independent and the control variables to avoid the multicollinearity problem. The variance inflation factor (VIF) values in the three models were all  $<5$ , indicating that the results are not biased due to multicollinearity as recommended by the literature (Hair et al., 2008). The three models showed good fits, with an adjusted  $R^2$  value above 0.20. In the three models we used the RESET<sup>2</sup> test to rule out misspecification; the IMTEST<sup>3</sup>, White to rule out heteroscedasticity, as well as the Breusch-Pagan/Cook-Weisberg<sup>4</sup> test for heteroskedasticity, and Spearman to discard collinearity. Table 2 shows the

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<sup>2</sup> The *ovtest* command runs the RESET for omitted variables. The RESET tests the model to ensure that omitted variables are not causing model misspecification. The Ramsey Regression Equation Specification Error Test (RESET) is a general specification test for the linear regression model. More specifically, it tests whether non-linear combinations of the fitted values help explain the response variable.

<sup>3</sup> The General White is a test for linear forms of heteroskedasticity, e.g., as  $\hat{y}$  goes up, the error variances go up. This test is more general because it adds a lot of terms to test for more types of heteroskedasticity. For example, adding the squares of regressors helps to detect nonlinearities such as the hourglass shape.

<sup>4</sup> Breusch-Pagan / Cook-Weisberg tests the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables.

descriptive statistics and correlations. Table 3 shows the results of the regression analyses testing the hypotheses.

Also, we assessed potential common method variances (CMVs), given that we assessed all of the variables using a single source. First of all, we ensured confidentiality and anonymity of the respondents, which were employees with maximum responsibility, this reduced the possibility of respondents answering in a dishonest manner (Fraj et al., 2015; Podsakoff et al., 2003). For statistical techniques, performed Harman's single factor test by subjecting all of the items in our study to exploratory factor analysis (EFA). This revealed 3 distinct factors, and that the highest portion of variance explained by one single factor was 40%. This suggests that one factor did not accumulate the majority of the variance. The results of the test suggested that CMV was not a concern for this study. Additionally, we performed the correlations matrix analysis and the correlation among all the constructs was found less than 0.9 (Tehseen et al., 2017). Therefore, CMV did not seem to be a concern for this study

In model 1, the control variables “industry” and “foreign market destination” were included. There were sectors such as food, tourism, and pharmaceutical that had a negative relation to export revenues. The adoption of environmental strategies is too expensive and reduces profits and revenues. However, foreign market destination had a positive and significant relation to export revenues. This means that firms exporting to developed countries will have higher export revenues.

In model 2, the independent variables were introduced. Industry and foreign market destination were not significant. Nonetheless, firm size ( $\beta=8.95$ ;  $p<0.001$ ), PES ( $\beta=8.95$ ;  $p<0.10$ ), eco-innovation ( $\beta=8.95$ ;  $p<0.10$ ), and eco-friendly orientation ( $\beta=8.95$ ;  $p<0.05$ ) have a positive and significant relation to export revenues. Also, there was a statistically significant increment in the variance explained ( $\Delta R^2 = 0.35$ ) between model 1 and model 2.

Table 2: Mean, standard deviation, correlation

Source: Own created. †p < 0.10; \*p < 0.05; \*\*p < 0.01, \*\*\*p < 0.001

	Mean	Standard deviation	Expor revenues	Industry	Size	Foreign market destination	International certification	Eco-friendly orientation	PES	Eco-innovation
Expor revenues	11.84	2.13	1.00							
Industry	5.71	4.45	-0.29***	1.00						
Size	3.05	1.74	0.73***	-0.36***	1.000.					
Foreign market destination	0.54	0.5	0.31***	-0.26***	0.33***	1.00				
International certification	0.55	0.50	0.31***	-0.27***	0.23**	0.09	1.00			
Eco-friendly orientation	2.87e-09	1.49	0.19*	-0.24**	0.20**	0.10	0.31***	1.00		
PES	3.99e-09	1.42	0.18†	-0.30***	0.27***	0.04	0.41***	0.84***	1.00	
Eco-innovation	3.36e-09	1.33	0.15	-0.27***	0.25***	0.03	0.37***	0.84***	0.81***	1.00

Table 3: Results of the regression analysis (total sample)

	Model 1	Model 2	Model 3
Industry			
Agro-industry	-0.32 (0.62) (0.22)	-0.50 (0.45)	-0.48 (0.45)
Food	-3.29† (1.18 ) (0.00)	-0.82 (0.98)	-0.58 (0.97)
Commerce	-0.01 (0.64) (0.84)	-0.12 (0.50)	-0.13 (0.50)
Services	-1.57** (0.60) (0.01)	-0.27 (0.47)	-0.47 (0.47)
Textile	0.48 (0.89) (0.24)	0.98 (0.68)	0.92 (0.67)
Tourism	-2.39*** (0.82) (0.00)	-1.3***9 (0.74) (0.00)	-1.11 (0.74)
Construction	-0.70 (0.97) (0.64)	-0.54 (0.73)	-0.55 (0.72)
Pharmaceutics	-3.38† (1.52) (0.08)	-1.37 (1.50)	-0.82 (1.51)
Metal-mechanic	-1.93 (1.94) (0.26)	-1.53 (1.43))	-1.52 (1.41)
Technology	-0.53 (1.43) (0.89)	-0.40 (1.08)	0.20 (1.12)
Equinos	-1.58 (1.94) (0.91)	1.48 (1.48)	1.19 (1.47)
Size (lnemployees)		0.86*** (0.10) (0.00)	0.84*** (0.10) (0.00)
Size* PES			0.11† (0.06) (0.07)
Foreign market destination	1.15** (0.43) (0.01)	0.07 (0.36)	0.08 (0.35)
International certification		0.92*** (0.34) (0.00)	1.01* (0.33) (0.04)

Eco-friendly orientation		0.47* (0.23) (0.04)	0.53* (0.23) (0.02)
PES		0.39† (0.21) (0.07)	-0.07 (0.28)
Eco-innovation		0.40† (0.24) (0.10)	0.46† (0.24) (0.06)
Intercept	9.55*** (0.50) (0.00)	8.95** (0.54) (0.00)	9.03*** (0.53) (0.00)
R2	0.30	0.65	0.66
R2 adjusted	0.21	0.57	0.59
VIF	1.32	2.21	2.57

Note: N = 100; non standardized regression coefficients are shown. First parenthesis standard error. Second parenthesis when P value significant.

†p < 0.10;

\*p < 0.05;

\*\*p < 0.01,

\*\*\*p < 0.001

Table 4: mediation effects

Hypothesis	From	To	P value
H4b	Eco-friendly orientation	PES	0.00***
	PES	Export activities	0.661
H4c	Eco-friendly orientation	Eco-innovation	0.00***
	Eco-innovation	Export activities	0.777

†p < 0.10;

\*p < 0.05;

\*\*p < 0.01,

\*\*\*p < 0.001

In model 3, the moderator effect was included as the multiplication of size (lnemployees) and proactive environmental strategies. Like in model 2 the control variables were not significant. Still, size ( $\beta=9.03$ ;  $p<0.001$ ); international certification ( $\beta=9.03$ ;  $p<0.05$ );



eco-friendly orientation ( $\beta=9.03$ ;  $p<0.02$ ); eco-innovation ( $\beta=9.03$ ;  $p<0.10$ ); and the moderation effect, size, ( $\beta=9.03$ ;  $p<0.10$ ) were significant

Finally, H1 was partially accepted because in model 2 PES had a significant relation with export revenues; but in model 3 the hypothesis 1 was rejected. H2 was not rejected in model 2, nor model 3, which means that eco-innovation might have an influence on export revenues in exporting Ecuadorian SMEs. Also, H3 was accepted in both models, showing that international certifications positively affect export revenues. Moreover, eco-friendly orientation was positively related to export revenues in models 2 and 3, thus we accepted H4a. The moderation effect was significant, firm size plays a moderating role in the relation between proactive environmental strategy and export revenues, accepting H5.

For the mediation effects we used the package medsem from STATA and the pathway of the SEM for confirmation. At first, we developed the pathway for the model; the path between Eco-friendly  $\rightarrow$  PES was significant, however, the pathway PES  $\rightarrow$  Export activity was not significant. Second, we used the medsem package to corroborate the information. The Baron and Kenny approach showed that PES did not mediate the relationship between eco-friendly orientation and export activities, therefore we did not support H4b. Similarly, H4c was not supported, eco-innovation did not mediate the relationship between eco-friendly orientation and export activities. Nevertheless, eco-friendly orientation did have a positive and significant relationship with PES and eco-innovation.

When analyzing the eco-friendly orientation, PES and eco-innovation, we identified that the correlations between the three of them were above 0.80. Mediation effects were used to see if there was some intervention between the variables. The results showed that PES mediate the relationship between eco-friendly orientation and eco-innovation. Around 35% of the effect of ecofriendly orientation on eco-innovation is mediated by PES.

In sum, the regression's results showed that proactive environmental strategies, eco-innovation, international certifications, eco-friendly orientation, and size had a positive and significant influence on the export revenues in exporting Ecuadorian SMEs. In other words, when firms improve or develop new environmental strategies, eco-products, and processes and hold international certifications like ISO, Rainforest Alliance, etc., it is more likely that these companies will increase their revenues related to their export activities. The moderation effect was significant as well, and it indicates that the positive

influence of proactive environmental strategy on export intensity gets stronger as firm size increases.

## **6. DISCUSSION AND CONCLUSIONS**

This study contributes to the growing literature about green business strategy and international operations. This chapter draws upon the insights of the NRBV and enhances the understanding of how environmental actions impact on the exporting operations of companies from emerging economies. The study findings point to the need for small firms to adopt an ecological perspective in their business as one way to enhance export performance. This is crucial nowadays due to a growing ecological sensitivity by both internal and external stakeholders.

The link between PES, eco-innovation, international certification and eco-friendly orientation and export revenues in exporting Ecuadorian SMEs was explored. It suggests a relation between SMEs that deploy higher levels of environmental strategy and operations with higher degrees of export activities. Like Martin-Tapia et al. (2008), who found a positive and significant relation between PES and export operations by SMEs in a developed country (Spain).

This study suggests that small and medium companies adopting green plans are more likely to increase or pursue the benefits of international operations. Additionally, the results showed that firm size moderates the relationship between proactive environmental strategies and export revenues. This effect is stronger for medium enterprises than for smaller ones. An important aspect of these results is that SMEs from an emerging economy have similar behavior to SMEs and large companies from developed countries, in the sense that PES and eco-innovation help in export activities, and can be more intense when a firm's size increases (Bellesi et al., 2005; Christmann & Taylor, 2001; Martín-Tapia et al., 2010). Even though previous literature has mentioned that small and medium businesses in developing countries do not have enough tangible and intangible resources to implement proactive environmental strategies, and non-existent or poor legal enforcement systems, which hamper their ability to compete (Mair & Marti, 2009), these results showed that SMEs' limitation of resources is not an obstacle in achieving progress in environmental and foreign issues.

Eco-innovation has a positive and significant relation with export revenues. This could demonstrate that changes in process, products, and/or services are vital to fulfill the

requirements of international customers and stakeholders and have a direct influence on the growth of export revenues. Green innovation can help reduce costs, exploit foreign opportunities, and improve competitive advantage (Rodríguez-García et al., 2019). Also, SMEs with eco-innovation plans might gain greater international presence through reputation, and legitimation. The results of this paper are similar to what was stated by Dangelico, (2016), Galdeano-Gómez et al. (2011); Hojnik et al. (2018), and Tariq et al. (2017), eco-innovation of both products and processes influence export intensity; green innovation can lead to better financial and export performance, and gain competitive advantage which is helpful in increasing export activities and revenues.

The findings on eco-friendly orientation were positive and significant. In other words, companies with green orientation influence export revenues. This might imply that eco-friendliness helps small and medium firms save costs significantly, while at the same time boosting sales and improving market share (Leonidou et al., 2016). According to Duque-Grisales et al. (2019), firms that develop environmental corporate responsibility take into consideration eco-friendly orientation first. In other words, SMEs express their commitment towards the natural environment through compliance with international and local environmental policies; they present themselves as agents of change, and this could attract new foreign customers and stakeholders. Moreover, companies from emerging markets are required to comply with strict environmental regulations. To do so it is necessary to initiate employee skill development programs, to enhance their environmental orientation at all management levels within an organization (Zhu et al., 2008). Scholars have stressed the importance of this orientation in achieving export success (Bıçakcıoğlu et al., 2019).

In relation with holding international certifications, the outcome of the analysis was that exporting Ecuadorian SMEs with these certifications will increase their export revenues. International certification is a way of ensuring good customer-supplier-company relationships. These accreditations prove the quality of the products, their processes, and the origin of the supplies. However, our results are not quite similar to the ones Peña-Vinces & Delgado-Márquez (2013) found. The authors analyzed if holding international certifications, specifically ISO, has a positive influence on foreign entrepreneurial activities. Their results showed that there was not a significant relationship.

Although Peru and Ecuador are neighboring countries, their small and medium companies differ regarding environmental certifications. A possible explanation is the type of

international certification. Our studies included all types of environmental certifications, not only ISO, which cover an extensive variety of aspects within a firm. Further investigation is needed in this area to have a clear picture of the relation between holding international certifications and foreign entrepreneurial activities.

Finally, the theoretical framework was useful for analyzing this investigation. The NRBV involves green activities through the value chain and the integration of ecological factors in product design and process (Hart & Dowell, 2011). From this perspective, we said exporting Ecuadorian SMEs have developed diverse environmental sustainability strategies to avoid the constraints of the natural environment (ecosystem degradation, resource exploitation, etc.). With these strategies these companies might achieve competitive advantage, reputation, legitimation, increase export profits and revenues, and improve their performance.

Exporting Ecuadorian SMEs might develop innovative eco-friendly solutions to comply with international environmental regulations, and with foreign customers' and stakeholders' requirements. A firm with an environmental plan, and eco-innovation process and products is likely to convert the threats of the natural environment into new business opportunities (Fraj et al., 2013). In other words, SMEs need to develop or improve organizational capabilities to face the challenges of the environment and international markets. Additionally, these capabilities enable a firm to explore new initiatives and ideas, share insights and successful practices internally, and work with partners to learn from experience (Katsikeas et al., 2016).

This chapter has several contributions. The first one is that it sheds light on the relation between environmental strategies and internationalization. This nexus has been studied in large companies from developed regions. However, the results of this research showed similar findings to those analyzing companies from developed countries. This could mean that SMEs worldwide are adopting environmental plans to overcome problems and improve their export performance.

This study further contributes to the existing international business literature by using the NRBV to analyze the influence of environmental plans in the internationalization processes of Ecuadorian SMEs. Most studies have focused on the institutional theory, corporate social responsibility, and stakeholder theory to analyze this relation, but it is necessary to study it from a different perspective. The NRBV explains how enterprises develop different capabilities to overcome natural environmental problems, especially in

Ecuador, the most biodiverse territory in the world, and how firms innovate to reduce their damage to the natural environment, while maintaining or increasing their profits, revenues, and international operations.

Third, it includes international certifications as an independent variable. This is essential to understand the actual importance of these certifications in the relationship between environmental practices and export activities. Most studies include international certifications as part of environmental performance. However, in this chapter we have shown that companies holding international certifications related to environmental aspects might increase their export revenues.

Finally, this investigation has included firm size as a moderator effect between proactive environmental strategies and export revenue. Firms' size increases the probability of a positive relation PES-export revenues. Medium companies might obtain more advantages from the adoption of environmental strategies in the internationalization process of exporting than small and micro-enterprises (Martín-Tapia et al., 2010). We have carried out an in-depth analysis of the importance of size rather than use it only as a control variable.

## **7. IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH**

The research has several implications for scholars, managers and policymakers. From the academic perspective this analysis improves our understanding of firms from developing markets, which are characterized by weak infrastructures and institutions. Second, we reveal conditions that affect the influence of environmental strategy on export revenues. Third, we have shown the importance of the firm size, in the literature of environmental practices and export activities. It boosts the relationship between PES and export revenues.

From a managerial perspective, the investigation demonstrates the importance of eco-friendly aspects on a company's export activities. Managers and employees need appropriate knowledge, guidance, and training to develop adequate environmental and export plans within a firm. Furthermore, managers must be aware of how having green strategies, like holding international certifications, may influence internationalization and export strategies, reputation, and legitimation; build a solid green image of the firm; and gain competitive advantage in foreign markets. Managers must be motivated to devote

efforts and resources to long-lasting environmental practices (Duque-Grisales et al., 2019).

The implications for policymakers are related to the creation of programs and assistance to Ecuadorian SMEs for improving their environmental commitment. Additionally, the government should create incentives for SMEs to implement green strategies, for example, tax reduction or tax-free import of eco-friendly materials for their products. Policymakers together with public and private institutions should also organize international fairs to promote Ecuadorian SMEs around the world.

This study is not without limitations. This research only examines the relations between environmental strategy dimensions and exports for a single country. For this reason, we caution against generalizing the results too widely, further research is needed in other developing countries. Moreover, the relation between variables was established with the help of cross-sectional data, which constitutes a limitation from a causality perspective. Future longitudinal analyses should empirically reinforce the theoretical logic of the hypotheses. Also, due to lack of public information about exporting Ecuadorian SMEs' environmental issues, we used a questionnaire, and the answers can be biased with the owners and managers assessments. The sample size is also a limitation since we had only 100 valid answers; this issue limits the scope of the results obtained. Further investigation should include more valid answers, considering the COVID crisis is over, and public policies are focusing on economic reactivation. Also, future research can only focus on one industry to analyze deeply the results of the SMEs in just one sector of the economy.

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## **CHAPTER 6**

### **CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH**

#### **1. INTRODUCTION**

This chapter gives a general overview of the contributions, conclusions, and future research of the previous investigations. The structure of the chapter is the following findings, academic and policymakers' implications; limitations that have reached out along the analysis of the four papers that constitute the doctoral dissertation; finally possible future investigations.

#### **2. CONCLUSIONS AND CONTRIBUTIONS**

This doctoral dissertation has several contributions. The first one, is analysis of topics that at first sight are quite different, internationalization and/or export activities and corporate environmental responsibility, however the four chapters have proven a positive and significant relationship between the two variables. Along the investigation different methodologies and tools have been used to analyze the link between export activities and environmental strategies. The study analyses the SMEs context built on similarities and integrate theoretical underpinnings from both research stream in one study. The second contribution is the study of exporting SMEs from an emerging and developing country. The majority of the literature analyzing this relationship has focused on large companies from developed regions (Kennelly & Lewis, 2003), and SMEs have been left a side, even though around 90% of the companies are small and medium (Martin-Tapia et al., 2008). Third, in chapters 2 and 3, different conceptual frameworks were developed to explain the relationship, and qualitative methodologies were used to analyze the topic. Fourth, chapters 3 and 4 use quantitative methods to test hypotheses. In sum, both qualitative and quantitative methodologies are applied in the doctoral dissertation, this is an important aspect because we did not only focus on data from the survey, but included important points of view, knowledge and experience from Ecuadorian managers.

The theoretical contribution of the doctoral dissertation is to show that there is a positive relationship between internationalization/export activities and environmental practices. Nowadays, more and more companies are adopting environmental strategies. We have expressed that internationalization has an effect on the establishment of environmental

actions. Firms that operate in international markets have a higher disposition to implement environmental strategies, because of their acquisition of know-how through experience. On the other hand, environmental practices allow firms to intensify their export activities, or enter new foreign markets, deal with the pressure of international stakeholders, gain legitimation and reputation. Additionally, the findings extend the research on SMEs and corporate environmental responsibility (Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al., 2010; Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres, 2010; Aguilera-Caracuel et al., 2012; Aguilera - Caracuel et al., 2011; Aragón-Correa et al., 2008; Ayuso & Navarrete-Báez, 2018; Bıçakcıoğlu et al., 2018; Chan & Ma, 2016; Darnall et al., 2008; Galdeano-Gómez et al., 2011; Gómez - Bolaños et al., 2019; Katsikeas et al., 2016; Leonidou et al., 2016, 2017; Martín-Tapia et al., 2008; Martín-Tapia et al., 2010). The results show that there are internal factors such as capabilities, managers' commitment, firms' resources eco-innovation processes; and external factors like stakeholder and customers pressure, environmental regulations, international organizations that influence on the internationalization strategy and environmental plans.

The dissertation also highlights the advantage of using international entrepreneurship, knowledge-based view, natural resource-based view and corporate environmental responsibility to analyze the relationship between the variables, because it studies how exporting SMEs can use the natural resources, knowledge and capabilities to implement and improve their environmental strategies, eco-innovation processes and obtain international certifications. Additionally, the results showed that in the case of exporting firms of developing countries export activities do not influence in the adoption of proactive environmental strategies, however, it positively influences in the eco-innovation aspect. Top management commitment is a driving factor for the implementation of environmental plans and activities, these findings support the results of (Arru, 2020; Galkina, 2021; Mensah & Blankson, 2014; Ploum et al., 2018; Testa et al., 2016). Finally possessing international certifications is a key driver for exporting SMEs to improve the export performance and international diversification.

*Chapter 2: FIRMS' INTERNATIONAL BEHAVIOR AND ENVIRONMENTAL SUSTAINABILITY: A SYSTEMATIC LITERATURE REVIEW AND A FUTURE RESEARCH AGENDA*

The findings show that there is an undeniable number of articles analyzing environmental practices, drivers, and outcomes in the last two decades. In these 20 years clients, stakeholders, governments, NGOs, international organizations, and citizens have changed their way of thinking and acting regarding the natural environment. In this sense, companies have been re-structuring their goals to survive and comply with environmental regulations. In the early 2000s, the literature was only focused on environmental responsibility of large companies of developing countries with enough resources to implement environmental practices. But, in recent years, SMEs have attracted the attention of scholars, and have proven that being a small or medium companies is not an obstacle to become green (Frey et al., 2013). In other words, SMEs that are both involved in environmental responsibility and have international operations may have advantages in terms of competitive and international performance.

Moreover, environmental strategies are an important aspect within the company. As the literature review shows there are several driving factors that have an influence on the implementation of green strategies for example: internationalization, management attitude, environmental orientation, and stakeholder pressure. Additionally, firm's size and industry can be factors that have positive or negative influence on the adoption of eco-friendly practices. An important aspect to mention is that internationalization can be consider as a driving factor because it may help in the development of environmental activities, allow to cope with international stakeholder pressure, and improve reputation. On the other hand, having green practices will lead to a diversification of international markets and a growth in export performance.

Finally, knowledge is a factor to take into consideration. SMEs and large companies need knowledge to exploit local and international opportunities. Through knowledge companies can create new products, implement processes and improve the environmental performance. The improvement of environmental strategies is not only a response to an environmental requirement from external actors, but also the motivation that a firm has to strengthen their competitive advantage and performance indicators (Darnall et al., 2008). Firms with international operations might gain new knowledge that is useful for the firm's environmental practices. According to Leonidou et al. (2016), the more internationalized a firm is, the greater the opportunity is for both, the development of environmental knowledge, and the dispersion of superior environmental standards, processes, and practices.



*Chapter 3: MANAGERS' ENVIRONMENTAL ATTITUDES, GOALS, AND COMMITMENT TOWARDS THE ADOPTION OF ENVIRONMENTALLY FRIENDLY STRATEGIES: THE CASE OF EXPORTING ECUADORIAN SMES*

A qualitative methodology was used in chapter 3, it was useful because it provided a micro-perspective of individual owners who base their actions on their emotions, green value systems, experiences, and commitments (Zolfaghari Ejlal Manesh & Rialp-Criado, 2017). The findings show that the owners' prior knowledge, green values and attitude engagement, have a positive relationship with the companies' environmental commitment, adoption of eco-friendly strategies, and green opportunity exploitation.

According to Hanohov & Baldacchino, (2018); and Muñoz & Dimov, (2017) the manager's prior knowledge is interconnected with values and attitudes about the environment. Ceptureanu et al. (2017), and Roy & Thérin (2008), and mentioned that prior knowledge and environmental values influence positively the way entrepreneurs exploit opportunities. Owners might know about actions hurting the natural environment but if they do not have the willingness to reduce the company's negative effect towards the nature, the company will probably not implement green actions. On the other hand, if managers have the information, motivation, and resources, their companies may adopt green strategies. The findings of the paper support these propositions. For instance, the owners mentioned that without prior market knowledge they would not have identified changes in trends, customers' requirements, and environmental regulations. Also, the owners recognized and understood new knowledge, assimilated this information, and identified new green opportunities.

Moreover, entrepreneurs may influence on the degree of environmental commitment of their organizations. Dibrell et al. (2011) stated that top managers' environmental attitudes influence firm's eco-innovation and environmental performance. A firm's environmental commitment can lead into the development of unique green products, competitive advantage and the improvement of a firm's performance (Katsikeas et al., 2016). The manager's environmental attitudes influence marketing plans, green solutions for problems.

Nonetheless, the analysis also found that the managers' green attitude commitment is undoubtedly necessary, but not a sufficient condition when adopting environmental strategies. Even though entrepreneurs are willing to keep implementing green plans, financial and human constraints are a significant barrier. The adoption of environmental

strategies might have high costs, and not all the firms are willing or able to assume these expenses in the short term. This finding supports the idea of Ye et al., (2020) who asserted that many developing regions lack a policy framework to support green initiatives.

#### *Chapter 4: ECUADORIAN SMES EXPORT ACTIVITIES AND ENVIRONMENTAL STRATEGIES: ANALYZING THEIR RELATIONSHIP*

The aim of chapter 4 was to analyze if export activities have a positive and significant with the adoption of environmental plans within the firms. To test the hypothesis, we used a SEM analysis, using a sample of 100 exporting Ecuadorian SMEs. The findings show that internationalization expressed as export ratio, did not have a positive and significant relationship with the adoption of proactive environmental strategies and eco-innovation- However, it had a significant relation with environmental performance. The analysis between export activities and environmental performance partially follows the results from Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres (2010); Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al. (2010); and Gómez-Bolaños et al. (2019) who demonstrated that internationalization does have a positive and significant influence over the adoption of green strategies and environmental performance.

Also, top management commitment was found to be significant with the adoption of PES, eco-innovation and environmental performance. The willingness and desire of the top management to become green is an essential factor to adopt eco-friendly strategies within the firm. This result is similar to the one from Katsikeas et al. (2016) who stated that top management commitment positive influence on corporate environmental responsibility and eco-innovation. Top management commitment leads the environmental practices within the firm, motivates employees to implement green actions and develop new products and processes (Menguc et al., 2010). Also, eco-innovation mediates the relationship between management commitment and environmental performance.

Finally, organizational learning capability had a positive and significant relation with PES and eco-innovation. Additionally, PES and eco-innovation mediate the relationship between organizational learning capability and environmental performance. If firms with high learning capability will implement environmental plans easily due to the knowledge they have gained from international markets and if the companies have the tools to transform knowledge into plans.

In sum, the knowledge obtained from international operations, specially from developed countries is a key factor for the implementation of environmental plans within the firm. According to the knowledge-based view the information obtained is a unique resource that allow companies to adopt new strategies, create new products and services, improve the performance, competitive advantage, and reputation. Also, the knowledge that managers acquired and was taught to the rest of the employees can improve a company's performance, support the implementation of best practices, foster permanent progress and operational problem solving, and increase its ability to innovate (Grant, 1996). In this sense, the organizational learning capability plays an important role in how the firm's employees and managers transform the knowledge into actions and improve the performance (Hörisch et al., 2015).

*Chapter 5: DO ENVIRONMENTAL STRATEGIES IMPROVE THE EXPORT BEHAVIOR OF ECUADORIAN SMEs?*

Chapter 5 studied if exporting Ecuadorian firms with eco-friendly orientation, green strategies (PES and eco-innovation) and international certifications might influence in their export activities. As well as in chapter 4, we used the quantitative tools to test the hypothesis. The results showed that eco-friendly orientation, eco-innovation and international certifications have a positive relationship with export activities, which is represented as export revenues. In other words, firms with green values, eco-innovation strategies and international certifications (environmental certifications) might improve their export revenues. SMEs with green plans can sell their products and services easily to customers in developed countries because they comply with the environmental regulations and the requirements of the customers.

Additionally, the results demonstrated that firm size moderates the relationship between proactive environmental strategies and export revenues. This means larger companies, in this case medium enterprises are more likely to invest in the adoption of proactive environmental strategies. This results are similar to the ones of SMEs from Spain and the United States; in the sense that PES and eco-innovation help in export activities, and can be more intense when a firm's size increases (Bellesi et al., 2005; Christmann & Taylor, 2001; Martín-Tapia et al., 2010). This finding proves that even though SMEs do not have the same resources (tangible and intangible) than large companies, they are capable of adopting environmental plans and increase their export revenues.

Finally, the theoretical approach used in the chapter was the Natural Resource-based view, which mention that a firm's ability to develop an environmental sustainability strategy to avoid the constraints of the natural environment (ecosystem degradation and resource depletion) would enable it to achieve competitive advantage (Fraj et al., 2013) . In this chapter, we showed that the exporting Ecuadorian SMEs have implemented eco-innovation processes and obtained international certifications to reduce their damage towards the environment and achieve competitive advantage.

Figure 1: Conclusions and contributions

	Chapter 2: FIRMS' INTERNATIONAL BEHAVIOR AND ENVIRONMENTAL SUSTAINABILITY: A SYSTEMATIC LITERATURE REVIEW AND A FUTURE RESEARCH AGENDA	Chapter 3: MANAGERS' ENVIRONMENTAL ATTITUDES, GOALS, AND COMMITMENT TOWARDS THE ADOPTION OF ENVIRONMENTALLY-FRIENDLY STRATEGIES: THE CASE OF EXPORTING ECUADORIAN SMES	Chapter 4: ECUADORIAN SMES EXPORT ACTIVITIES AND ENVIRONMENTAL STRATEGIES: ANALYZING THEIR RELATIONSHIP	Chapter 5: DO ENVIRONMENTAL STRATEGIES IMPROVE THE EXPORT BEHAVIOR OF ECUADORIAN SMES?
Conclusions	<ol style="list-style-type: none"> <li>1. There is a positive relationship between internationalization and environmental practices.</li> <li>2. Internationalization, proactive environmental strategies and eco-innovations can be driving factors or strategies to improve outcomes. It depends on the context of the country, environmental regulations, pressure, knowledge, resources, among others.</li> <li>3. Recent literature shows a new type of entrepreneurship which considers environmental aspects since the beginning, ecopreneurship. Further research is needed.</li> </ol>	<ol style="list-style-type: none"> <li>1. The managers' prior knowledge, environmental attitude and commitment facilitate the adoption of environmental strategies within the firm, specially in SMEs from developing countries, which have lax environmental regulations.</li> <li>2. The constraints of financial and human resources within SMEs are a limitation at the moment of implementing green plans inside the company.</li> <li>3. The way managers recognize and exploit sustainable opportunities will depend on their values and knowledge.</li> </ol>	<ol style="list-style-type: none"> <li>1. Export activities do not have positive and significant relationship with the adoption of proactive environmental strategies, and eco-innovation. However, it has a positive relation with environmental performance.</li> <li>2. Top management commitment and organizational learning capability influence on the adoption of PES, eco-innovation plans, and environmental performance.</li> <li>3. PES and eco-innovation mediate the relationship between learning capabilities and environmental performance</li> </ol>	<ol style="list-style-type: none"> <li>1. Eco-innovation plans and international certifications have a positive relationship with export revenues. The independent variables show that having eco-innovation strategies and environmental certifications may increase export revenues.</li> <li>2. Firm size moderates the relationship between PES and export revenues. This means that the larger the firm, the more resources and knowledge to implement eco-friendly plans and improve the export activities and performance.</li> </ol>
Contribution	<ol style="list-style-type: none"> <li>1. The integration of two theories, corporate environmental responsibility, and internationalization/international entrepreneurship/export behavior. The combination of these approaches lets us understand the importance of international strategies, knowledge, etc. in the corporate environmental practices.</li> <li>2. The inclusion of a new topic into the research agenda: ecopreneurship. Literature has focused on theoretical aspects of the topic. Scholars have attempted to define the term but have failed to test it empirically.</li> </ol>	<ol style="list-style-type: none"> <li>1. This chapter provides the micro-perspective of individual owners who base their actions on their emotions, green value systems, experiences, and commitments. This micro-level analysis has been largely neglected in IE; therefore, this study analyses the necessity to understand what is making some exporting SMEs becoming eco-friendly and extend the IE domain forward.</li> <li>2. It considers several types of prior knowledge in the research: about the industry, internationalization, the market, and the environment. Other articles analyzing prior knowledge and management attitudes to the environment only take into consideration environmental knowledge.</li> </ol>	<ol style="list-style-type: none"> <li>1. We have included several environmental practices in the study, PES, eco-innovation, and environmental performance. Most investigations only include one type. By incorporating these three aspects and relating them with export activities, we expand the literature of international entrepreneurship, corporate environmental responsibility, and sustainability.</li> <li>2. It enriches the literature about knowledge-based view related to environmental practices and internationalization. The study offers evidence showing that knowledge from international markets may help managers to implement green plans.</li> </ol>	<ol style="list-style-type: none"> <li>1. This nexus has been studied in large companies from developed regions. However, the results of this research showed similar findings to those analyzing companies from developed countries. This could mean that SMEs worldwide are adopting environmental plans to overcome problems and improve their export performance.</li> <li>2. This investigation has included firm size as a moderator effect between PES and export revenue. Medium companies might obtain more advantages from the adoption of environmental strategies in the internationalization process than small and micro-enterprises</li> </ol>

Source: own created

### 3. IMPLICATIONS

The findings of the thesis present some academic implications. Literature has showed that internationalization has an effect on the establishment of environmental actions. Organizations with international operations have higher disposition to implement environmental strategies, because of their acquisition of know-how through experience. On the other hand, environmental practices allow firms to intensify their export activities, or enter new foreign markets, deal with the pressure of international stakeholders, gain legitimation and reputation. Additionally, the study extends the existing literature of International Entrepreneurship, sustainable entrepreneurship, corporate environmental responsibility, managerial attitudes and commitment, knowledge-based view, and natural resource-based view, by taking into consideration exporting SMEs from a developing country. The dissertation has demonstrated that SMEs from emerging countries adopt environmental practices as SMEs and large corporations from developed regions. The knowledge firms have and obtain is a key issue at the moment of implementing eco-friendly strategies, without it, managers and employees cannot identify the needs, requirements and regulations from their international customers and stakeholders. Also, information is necessary to create new eco-technology, processes, products and services, and improve the competitive advantage and performance.

Moreover, in the dissertation we tried to analyze the bidirectional of the relationship between internationalization strategies and green plans within the firm. The results shed the light about this nexus. The majority of the literature Aguilera-Caracuel et al. (2011, 2012); Aguilera-Caracuel, Aragón-Correa, & Hurtado-Torres (2010); Aguilera-Caracuel, Aragón-Correa, Hurtado-Torres, et al. (2010); Aguilera - Caracuel et al. (2011); Aragon-Correa et al. (2015); J. Alberto Aragón-Correa et al. (2008); Chan & M, (2016); Gómez - Bolaños et al. (2019); Kennelly & Lewis (2003); Leonidou et al. (2015, 2016) studied the influence of internationalization over green practices. However, authors such as Bıçakcıoğlu et al. (2018); Danso et al. (2019); Darnall et al. (2008); Duque - Grisales et al. (2019); Martín-Tapia et al. (2008); Martín-Tapia et al. (2010) studied the other side of the relationship, the influence of the eco-friendly plans on the internalization strategies. Our study deepens this analysis and demonstrate that for exporting Ecuadorian SMEs having environmental strategies within the firm is really important for improving the

export revenues. A possible explanation for the phenomenon is that for entering into new international markets and increase their export revenues, SMEs must comply with international regulations and requirements from the new and old customers. Having environmental plans help allow them to be more competitive in the international area. Still, there are important factors like top management commitment and foreign market destination that impulse SMEs to adopt environmental strategies.

The results of this dissertation offer practical guidelines for the SMEs' owners and managers. The findings of the thesis have demonstrated that SMEs want to involve into international operations and environmental practices. Both plans require investments, resources (financial and human), and not all companies have them, especially companies from developing regions and countries. However, implementing environmental and internationalization strategies is worthwhile because SMEs improve organizational capabilities and performance.

First, managers should gain specific knowledge about the industry, international operations, market, environmental regulations, etc. to satisfy the requirements of stakeholders, customers, governments, NGOs, among others, and to minimize their harmful impact on the natural environment. The owners and/or the managers can start adopting green strategies by applying lifecycle analysis to products; recycling and waste management; reducing negative impact; preventing natural resources exploitation and damage; international certifications; and employing clean technologies. At the moment of implementing this strategies firms could obtain product differentiation, competitive advantage, reputation, legitimation among their competitors.

Through a simultaneous increase in both environmental actions and internationalization, firms can have higher financial returns and a positive impact on the natural environment, society, and economy. According to Leonidou et al. (2015) the commitment to eco-friendly issues must be shown in the exporting department. Top managers need to persuade, encourage, and motivate their employees to adopt green values in order to facilitate the firm's green policies and strategies. Also, transparency and accountability related with environmental issues are essential for the company to build trust with stakeholders and customers in different countries; especially, for SMEs from developing countries which may have lax environmental regulations.

Firm's owners should look for cooperation with research centers, financial partners, trade associations and public entities can help organizations overcome difficulties, and help them develop and offer eco-innovative products and services, to be competitive at an international level (Frey et al., 2013). Finally, managers must acknowledge environmental activities as a long-term investment rather than a short-term expense.

External influences from policy maker and governments can have great impacts on overall organizational strategies. These external factors can affect how organizations internally make decisions, plan and consider integrating sustainability-oriented strategies to care for all three sustainability-oriented dimensions (i.e., environmental protection, social responsibility, and economic performance) (Porter & Linde, 1995; Suriyankietkaew & Petison, 2020). The implications for policymakers and governments are related with the creation of stricter environmental regulations, mainly in developing countries. At the same time, the government should provide incentives (subsidies) to encourage firm to become eco-friendly, which in turn would provide intangible assets that influence positively in the firm's performance. Also, governments and policy makers ought to create public institutions that support and guide SMEs in the process of becoming green.

Moreover, policy makers can develop regulations that allow companies to partner with universities and educational centers to develop applied courses for the employees of export firms (Paes, 2012). In addition, cooperation with national, regional, and local financial institutions can provide specific credit lines for export firms that are interested in incorporating environmental activities into their products. These programs can help firms improve the environmental standards needed to enter foreign markets.

#### **4. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH**

This dissertation has empirically explored business responsibility in SMEs using different research methods (quantitative and qualitative), still the thesis has several limitations. In the second chapter, the articles included in the literature review only were from 1999 until 2019, and do not include the word corporate social responsibility, because we wanted to focus on environmental responsibility. Future investigations can include corporate social responsibility and only chose the articles related with environmental strategies, also include papers from the years 2020-2021-2022.



The investigation is limited to the primary data collected from one point in time in the three empirical papers. Future research may employ a longitudinal study concerning SME internationalization along the adoption and development of eco-friendly practices among SMEs over time. This research only examines the relations between environmental strategy dimensions and exports for a single country. We use a specific empirical context of Ecuador, which cannot be generalized across all developing countries. As well, the limited number of valid questionnaires the findings cannot be generalized to other developing countries. Further research is needed with more valid answers, and from companies of other developing countries to compare the relationship among SMEs from different emerging economies.

Another limitation is the inclusion of only exporting Ecuadorian SMEs with international operations; for future research, the inclusion of SMEs with domestical or local operations could produce further insights into how far the impact of environmental responsibility goes. Also, it is really necessary to consider ecopreneurship in future investigations, it is compulsory to analyze and compare SMEs that since the beginning include environmental strategies, how they act, implement new strategies; with SMEs that have incorporated after years of operations eco-friendly plans.

In chapter 3, due to the lack of time there were only four case studies analyzed. However, it is really necessary to include more case studies from different regions of Ecuadorian territory, not only the Andean Region. Additionally, research using mix methodologies would be completely compulsory, there is a need in literature to use quantitative and qualitative techniques to test the hypothesis and understand how and why the phenomenon is happening.

Finally, in the dissertation we do not consider the influence of firms' stakeholders in our models when studying firms' environmental strategy, which is a key element in the area of corporate environmental responsibility. Further investigation can include the institutional perspective, in other words to consider the local and national environmental regulations, and how public institutions influence in the adoption of green strategies within the firms in developing regions.

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# APPENDIX

## APPENDIX 1

AUTHORS YEAR	OBJECTIVE	THEORETICAL/ CONCEPTUAL FRAMEWORK	METHOD	DATABASE AND SAMPLE		SECTOR	INDEPENDENT VARIABLES	DEPENDENT VARIABLES	OTHER VARIABLES	FINDINGS
Aguilera-Caracuel, Javier; Guerrero-Villegas, Jaime 2018	To examine the influence of geographical diversification and of MNEs' operations in developing regions on the relationship between MNEs' corporate social performance and corporate reputation.	Stakeholder theory	Quantitative	1. Standard and Poor's 2. KLD American MNEs (N=118)	Survey	Chemical Energy Industrial Machinery	Corporate Social performance. Fortune. Geographical diversification. MNE's operations in developing regions.	Corporate reputation.	Industry type. Size. Slack financial resources. Performance.	There is a positive relationship between MNEs' CSR and their corporate reputation. Operating in developing regions can help MNEs to take advantage of their CSR to improve their corporate reputations. <sup>7</sup> We did not find evidence for a moderating effect of geographical diversification on the relationship between CSR and corporate reputation.
Aguilera-Caracuel, Javier; Aragón-Correa, J. Alberto; Hurtado-Torres, Nuria Esther; De La Torre-Ruiz, José Manuel 2010	To analyze and better understand whether the international activity and the firm's capability of organizational learning have an effect on the development of an advanced environmental approach in internationalizing firms.	Knowledge-based	Quantitative	1. Dun and Bradstreet Spanish firms (n=106)	Survey	Food industry	Environmental international diversification. International experience. Organizational learning.	Proactive environmental strategy.	Size.	Internationalizing firms can benefit from their international expansion process and their learning ability to be environmentally proactive.
Aguilera-Caracuel, Javier; Aragón-Correa, Juan Alberto; Esther Hurtado-Torres, Nuria 2011	To explain the different international environmental strategies that multinational enterprises (MNEs) can adopt.	Country-specific advantages/firm-specific advantages framework	Theoretical	Did not mention	N/A	N/A	N/A			Low environmental institutional distance between headquarters' and subsidiaries' countries contributes to creating environmental standards within the company. MNEs with high availability of slack resources are willing to standardize their environmental practices



Aguilera-Caracuel, Javier; Aragón-Correa, Juan Alberto; Hurtado-Torres, Nuria Esther 2010	To analyze the influence of environmental international diversification on the adoption of a PES.	International diversifications	Quantitative	1. Dun and Bradstreet Spanish SMEs (n=106)	Survey	Food industry	SMEs' environmental International diversification.	Proactive environmental Strategy.	Firm size. SMEs' financial performance. SMEs' international experience.	High degree of environmental international diversification leads these firms to take advantage of different environmental competitive advantages from the different locations where they operate, and consequently integrate environmental proactive practices and programs within their organizational strategy.
Aguilera-Caracuel, Javier; Escudero-Torres, María Ángeles; Cordón-Pozo, Eulogio; Hurtado-Torres, Nuria Esther 2011	To analyze whether the internationalization process by itself may contribute to increasing the SMEs' innovativeness and to determine whether this innovativeness has a positive influence on the adoption of an advanced and proactive posture to environmental issues.	Proactive environmental strategies, innovativeness, international diversification.	Quantitative	1. Dun and Bradstreet Spanish SMEs (n=155)	Survey	Food industry	International diversification. International learning orientation.	Proactive environmental strategy. Innovativeness		Internationalizing SMEs can reinforce their level of innovativeness through international expansion. Operating in diverse regions and having an international learning orientation for the supply chain are two valuable sources of international knowledge that have a very positive influence on the SME's innovativeness. High levels of innovativeness can be translated into adoption of a more proactive environmental approach.
Aguilera-Caracuel, Javier; Hurtado-Torres, Nuria Esther; Aragón-Correa, Juan Alberto 2012	To examine whether the knowledge acquired through firms' different experiences overseas may promote more environmentally friendly strategies for those firms.	Knowledge-based	Quantitative	1. Dun and Bradstreet Spanish SMEs (n=106)	Survey	Food industry	Years of export activity. Environmental international diversification. Organizational learning capability.	Proactive environmental strategy.	Firm size. Firm's financial performance.	The involvement in markets with diverse environmental institutional situations is positively associated with a proactive environmental strategy. The knowledge acquired through environmental international diversification is highly relevant for those firms that have low organizational learning capability and want to develop a proactive environmental strategy.

Aragón-Correa, J. Alberto; Hurtado-Torres, Nuria; Sharma, Sanjay; García-Morales, Víctor J. 2008	To develop an organizational size-dependent perspective that links the unique strategic characteristics of SMEs to the organizational capabilities that they are likely to develop and deploy to generate proactive environmental strategies	Strategic management Resource based view	Quantitative	Spanish SMEs (n=108)	Survey	Automotive garages	Shared vision. Stakeholder management. Strategic proactivity.	Innovative preventive practices. Eco-efficient practices. Performance.	Size. Dealer affiliation.	SMEs can adopt proactive environmental practices and that these practices can lead to superior financial performance via specific capabilities based on the unique strategic characteristics of SMEs
Aragón-Correa, J. Alberto; Markus, Alfred; Hurtado-Torres, Nuria 2016	To answer the following questions: Do multinational companies pollute more or less than similar firms without an international orientation? Do they provide more or less environmental information on their operations?	Pollution heaven hypothesis	Quantitative	1. SCOPE research group 2. Bloomberg Environment, Social, and Governance International nonfinancial companies (n=100)	Database	Consumer discretionary Consumer staples Energy Healthcare Information technology Telecommunication, Utilities	Emissions. Use of resources. Environmental behavior.	Environmental disclosure. Environmental performance.		Top international firms have better records of environmental disclosure, but their environmental performance is worse than that of other firms in the industry and matched pairs of firms that do not have an international orientation.
Aragón-Correa, J.A., Martín-Tapia, I.; de la Torre-Ruiz, J.M. 2015	To review the main literature on the relationship between the natural environment and management in hospitality and tourism firms and uses strategic lenses to propose a general framework and a map for future research.	Environmental management. Corporate strategy. Production strategy.	Theoretical	Did not mention	N/A	N/A	N/A	N/A	N/A	There is a high volume of research in the last decade related to environmental management of hospitality and tourism firms, especially compared with the minor attention that this issue has traditionally received in other service-related industries.
Aragón-Correa, Juan Alberto 1998	To establish a link between the strategic proactivity of firms and their natural environmental approaches.	Corporate approaches	Quantitative	Business magazine Actualidad Economica Spanish firms (n=105)	Survey	Food, beverages, and tobacco Automotive Banks Construction	Business strategy proactivity. Annual turnover	Information and education. Traditional/regulated correction.	Number for employees.	The firms with the most proactive business strategies employed both traditional corrective and modern preventive natural environmental approaches.

						Electricity, water, and natural gas Petroleum Electronic equipment Chemicals Retail trade		Modern/volun- tary prevention.		
Ayuso, Silvia; Navarrete-Báez, Francisco Ernesto 2018	To shed light on the relationship between entrepreneurial behavior of SMEs and their commitment to SD.	Resource based view Sustainable development	Quantitativ e	National Statistical Directory of Economic Units Spanish and Mexican SMEs (n=579)	Survey	Primary sector Goods production Commerce Services	Entrepreneurial orientation. Internationalization.	Environmenta l practices. HRM practices. Community practices.	Size. Industry. Age.	SME internationalisation exerts a positive influence on SD engagement, although weaker than the effect of EO and context bound. Internationally oriented SMEs of developing countries face the need to conform to international environmental and social standards and to export responsibly produced goods
Bae, Hee Sung; Grant, David B. 2018	To develop precedent variables to have an effect on environmental collaboration and to analyze the effects of them on environmental performance	Organizational culture	Quantitativ e	Korean exporting firms (n=119)	Survey	Chemistry Rubber Electricity Electronics Metal and Non-metal Machine Fiber Cloth and leather Wood Paper Furniture	Organizational culture Learning capability	Environmenta l collaboration Environmenta l performance		Exporting firms can improve environmental capabilities and performance through shared learning with supply chain partners and ensuring they are internally disseminated in the focal organization.
Barin Cruz, Luciano; Boehe, Dirk Michael;	To show why and how a CSR-based differentiation strategy can help export firms based in developing	Strategy Tripod CSR-based Differentiation Strategy	Quantitativ e	FUNCEX Small, medium, and large	Survey	Chemicals Lumber and wood Food and kindred	Innovation capabilities. Export intensity.	CSR-based differentiation strategy at the product-level.	Economic Freedom Index. Environmental sustainability	Innovation capabilities, international market exposure, and institutional pressures significantly influence product-level CSR

Ogasavara, Mario Henrique 2015	countries overcome competitive disadvantages within the global marketplace.			Brazilian export firms (n=214)		industrial machinery and equipment Agriculture Other industries.		CSR-based differentiation strategy at the firm-level.	index. Multinational corporations. Firm size (staff). Industry. International sales channels.	
Bıçakcıoğlu, Nilay; Theoharakis, Vasilis; Tanyeri, Mustafa 2018	To explore the factors which encourage companies to implement green business strategies and how these factors, in turn, lead to several outcomes among exporting manufacturing firms	Green business strategies	Qualitative	Small, medium, and large Turkish exporting firms	Interview	Manufacture	Network-based factors. Stakeholder pressures. Resources. Capabilities.	Green business strategies. Competitive advantage. Firm's performance.		Exporting companies necessitate the deployment of certain resources (i.e., tangible and intangible resources) and generation of particular capabilities (i.e., strategic, organizational, relational, knowledge based) while adopting environmentally friendly activities in a more effective manner within the boundaries of the firm.  Two internal (i.e., capabilities and resources) and four external stimulating forces (i.e., stakeholder pressures, institutional-based, network-based, and external factors) that encourage companies to implement green business operations, which were also classified under six functional themes.
Bıçakcıoğlu, Nilay; Theoharakis, Vasilis; Tanyeri, Mustafa 2019	To investigate the boundary conditions of green business strategy on the export financial performance of firms from an emerging economy.	Contingency theory	Quantitative	Turkish Exporters' Assembly. (n=224)	Survey	Manufacture	Green business strategy	Export financial performance	Environmental orientation. Green product differentiation. Green human resource assets. Cost leadership. No of employees.	The results of the study demonstrate that green business strategy has a strong and positive relationship with export financial performance.  Environmental orientation and cost leadership play a significant and positive moderating role in this relationship.

									No of exporting countries. Company age. International experience.	
Boehe, Dirk ; Michael Cruz, Luciano Barin 2010	To analyze the performance of exporters based in developing countries and, furthermore, with the influence of novel types of product differentiation, embracing corporate social responsibility (CSR), on export performance.	Resource based view Institutional theory	Quantitative	FUNCEX Medium- and large-sized Brazilian exporting firms (n=252)	Survey	Electronics Automotive parts, Food industry, Construction Chemicals Others	Quality product differentiation. Product innovation differentiation. CSR product differentiation.	Export performance improvement.	Company size. Vertical export market scope. Horizontal market scope.	CSR product differentiation predicts export performance better than product quality differentiation and almost as well as product innovation differentiation. A positive and significant effect of CSR product differentiation on export performance is likely to be contingent on the number and type (developing vs. developed) of countries that are targeted.
Borsatto, Jaluza Maria Lima Silva; Amui, Lara Bartocci Liboni 2019	To analyze how the degree of severity of environmental regulations and the international competitiveness of countries affect the efforts in Green Innovation of companies in the industrial sector of companies of Developed Countries (MEDC) and developing countries (LEDC).	Institutional theory	Quantitative	Financial Times OECD Competitiveness Report Thomson Reuters Sustainability Reports Company Website GRI (n=186)	Database	Did not mention	Environmental Regulations. Global Competitiveness. Company Size. Degree of internationalization.	Green Innovation.		Environmental regulations and the size of companies positively influence the efforts of companies in green innovation. The degree of internationalization did not have a significant effect on green innovation.
Bu, Maoliang; Liu, Zhibiao; Gao, Yanyan 2011	To examine whether international openness in China influences a firm's environmental performance and explores how the two different strategies of economic openness	N/A	Quantitative	Annual Industrial Survey Green Watch Program Ranking System of Jiangsu	Survey	Processing Textile and dyeing Papermaking Chemical Metal and non-metal	Exports Foreign direct investment	Environmental performance.	Profitability. Age. Size. Region. Sector.	Corporate environmental performance can be improved through receiving foreign investment, but not through exporting to other countries

	(exporting to other countries and attracting foreign investment) influence the environmental performance of firms in China			Province (n=1554)		Other				
Calza, Francesco; Profumo, Giorgia; Tutore, Ilaria 2016	To analyze the relationship between different corporate ownership structures and firms' environmental proactivity, in order to see whether some types of shareholder could act as a stimulating driver for a firm's proactive environmental strategy.	Corporate Ownership Environmental Proactivity:	Quantitative	Carbon Disclosure Project (CDP) Standard and Poors German, Swiss, Austrian, Italian, French, Spanish, Portuguese firms (n=288)	Database	Mining Oil and gas Chemicals Paper Iron, steel and other metals, Electricity Water distribution	Ownership structure.	Company's carbon disclosure score.	Size. Financial performance. Firm value. Environmental performance. Industrial sector. Regulatory stringency.	Firms' ownership structure may represent a driver of companies' environmental proactivity. Higher percentage of state ownership is associated with increased in company's carbon disclosure, therefore a higher environmental proactivity.
Chakrabarty, Subrata Wang, Liang 2012	To examine how sustainability practices can be both developed and sustained (maintained over the long term) by MNCs. Drawing	Dynamic capabilities approach	Quantitative	KLD Compustat fundamentals Compustat segments American MNCs	Database	Manufacture	R&D intensity. Internationalization. International diversification.	Sustainability practices	Size. Profitability. Market valuation. Debt. Industry.	MNCs that have a combination of both high R&D intensity and high internationalization are likely to develop more sustainability practices and to maintain more of those practices over a long-term.
Chan, Ricky; Ma, Katherine 2016	To shed light on the major drivers and organizational outcomes associated with the development of an environmental orientation among exporting SMEs from an emerging economy.	Institutional theory Resource-based Contingent resource perspective	Quantitative	Directory of the regions (Guangdong, Jiangsu, Shanghai and Zhejiang) Chinese exporting SMEs (n=414)	Survey	Manufacture	CEO environmental beliefs. SMEs' efforts in scanning their developed markets.	Environmental Orientation. Proactive environmental Strategies. Corporate	Firm age. Firm size. International experience. Foreign shareholding. Number of export ventures. Industry type.	Exporting SMEs operating in areas with more advanced ecological infrastructural support, the positive influence of external environmental orientation on proactive environmental strategies, and of proactive environmental strategies on corporate performance, will also be strengthened. Effective transformation of environmental orientation into the practice of proactive

								export performance.	Social desirability. Local ecological infrastructure.	environmental strategies would constitute a key to enhancing corporate export performance for exporting SMEs.
Chen, Po Han; Ong, Chuan Fang; Hsu, Shu Chien 2016	To explore the linkage between internationalization and environmental strategy	Resource based view	Quantitative	ENR Top International Contractors 2012 Multinational firms (n=54)	Survey	Construction	Environmental strategy.	Internationalization.	Firm size.	Firms exhibiting higher tiers of strategic environmental management are associated with higher degrees of internationalization, but only to an extent that firms pursuing preventive strategies are more internationalized than those using reactive strategies, while firms pursuing advanced heights of proactive strategy do not show any significant impact on internationalization.
Chen, Po Han; Ong, Chuan Fang; Hsu, Shu Chien; 2016	To unpack the language firm used in the disclosures and examine for potential financial implications if any.	Environmental management system	Quantitative	ENR Top International Contractors 2012 Multinational firms (n=63)	Survey	Construction	Environmental management practices.	Financial performance.	Firm size.	Environmental management practices or capabilities are positively associated with a firm's financial output.
Chiarvesio, Maria; De Marchi, Valentina; Maria, Eleonora Di 2015	To elucidate the relationship between the level and characteristics of a firm's internationalization approach and its greening investments, considering both upstream and downstream internationalization.	Internationalization Green business strategies	Quantitative	TeDIS Center Italian firms (n=684)	Survey	Fashion Home products and furniture Mechanics Electronics Plastics Rubber	% suppliers from the region. % suppliers from outside the region. Firms with exports. Firms part of a foreign group.	Green process or product innovators.	COLLABORATION. R&D Firms. Industry. Certified. Size. FDI.	Geography plays an important role in green firms' activities and supply chains. The firms that outsource to and rely on non-local suppliers are less likely to engage in environmental innovations. The firms engaged in export activities play a similar and negative role with eco-innovation.
Choi, Hyundo Yi, Donggyu 2018	To investigate whether firms delay adoption of specific environmental innovations and if so how to overcome	Environmental innovation	Quantitative	KCIS conducted by the Science and Technology	Database	Manufacture	Gross margin. Export intensity. Regulation.	Environmental process	Size. Age. Capital.	Firms with lower operational performance and firms with intensive export activities prefer environmental process innovations, but both are not effective at generating

	the passive nature of environmental innovation activities			Policy Institute (STEPI) Korean firms (n=3166)			Business group.	Product innovations.	R& D intensity. Technological capability. Voluntary motivation. Marketing.	environmental product innovations.
Christmann, Petra Taylor, Glen 2001	To examine whether international ownership and customer linkages contribute to environmental self-regulation in Chinese firms.	Environmental management systems	Quantitative	Chinese small, medium and large firms (n=101)	Survey	Manufacture	MN Ownership Multinational Customers Exports to Developed Countries	ISO 9000 Certification. Environmental compliance.	Firm Size. Industry. Region. Firm Performance	Globalization increases institutional and customer pressures on firms to surpass local requirements, even when they may be tempted by lax regulations and enforcement in countries offering themselves as pollution havens. Firms' international linkages contribute to environmental self-regulation.
Colapinto, Cinzia Gavinelli, Laura; Mariangela, Zenga; Di Gregorio, Angelo 2015	To analyze why Italian small and medium enterprises (SMEs) pursue internationalization and how they go about it, with reference to four key areas: innovation and technology, networking, environmental approach and human resource (HR) competences.	Internationalization	Quantitative	Confindustria Monza and Brianza Italian SMEs (n=193)	Survey	Engineering Plastics Metal products Advertising Trade Informatics and electronic Chemical Wood Textile clothing	Innovation. Green issues.	Internationalization.	Firm size	Innovation is mostly linked to the product and is incremental; HR and their competences are crucial for facing complex markets; the green issue is not dominant (it is considered only for saving energy and reducing cost production); and networking is not a key issue (except informal relations, contractual agreements and strategic alliances)
Corsini, Filippo Appio, Francesco Paolo Frey, Marco 2019	To analyze a number of factors, i.e. the influence of external pressures, internal drivers, environmental awareness, the decision to adopt a proactive environmental strategy and	pro-active environmental strategy	Quantitative	Italian MSMEs (n=203)	Survey	Craft beer	External pressures. Internal drivers. Environmental awareness.	PES. Cost and differentiation advantages. Environmental performance.	Number of employees. Yearly beer production	Results highlight the importance of carefully considering the proactive environmental strategy and environmental awareness in order to increase the environmental performance that, in turn, has a significant impact on the operating performance through cost advantages



	understand the impact of such strategy on environmental performances.							Operating performance.		
Dangelico, Rosa Maria 2016	To provide a complete picture of the research that has been conducted on green product innovation (GPI) to provide future research directions on the topic and to encourage GPI development	Green innovation	Theoretical	EBSCO, Scopus Web of Science (n=63)	N/A	N/a	N/A	N/A	N/A	Many factors can influence the successful development of GPI, such as top management commitment, building networks of collaborations as well as enhancing knowledge flows, both within and outside the firm, cross-functional integration and development of resources and capabilities.
Darnall, Nicole; Henriques, Irene; Sadorsky, Perry 2008	To analyze if environmental management systems improve business performance in an international setting	Institutional theory Resource-based view	Quantitative	OCDE Environment Directorate. Canadian, American, German and Hungary small, medium and large companies (n=4188)	Database	Manufacture	Regulator influences Inspection frequency Pressure Quality management system. Health and safety management system Employee commitment. Environmental R&D budget. Export orientation.	EMS comprehensiveness. Business performance	Size. Industry.	The facilities that are motivated to adopt more comprehensive EMSs because of their complementary resources and capabilities, such as export orientation, employee commitment and environmental R&D, (as opposed to institutional pressures) observe greater overall facility-level business performance
Do, Binh; Nguyen, Uyen; Nguyen, Ninh; Johnson, Lester W;	To evaluate different proactivity levels of ESs adopted by firms in a specific industry in the context of an emerging country, as well as	Environmental strategies, Institutional theory Resource	Qualitative	Vietnam Stock Exchange Market (n=28)	Interviews	Sea food	Internal drivers External drivers	Proactive environmental strategies		Both internal factors and external factors in home and host countries motivate the firms to pursue different ESs. Management commitment is the most important factor.

2019	explores prominent internal and external drivers of ESs in both home and host countries.	based perspective								
Dodds, Rachel; Graci, Sonya; Ko, Soyung; Walker, Lindsay 2013	To determine what influences and drives sustainability practices in the New Zealand wine industry. To provide an overview of key drivers for wineries to move towards sustainability practices as well as outline actual environmental practices in the New Zealand wine industry.	Environmental sustainability Stakeholder theory Resource based theory Neo-institutional theory	Mix methods	New Zealand Wine Growers Association (surveys n=43) (interviews n=15)	Surveys Interviews	Wine	Strategic drivers Internal drivers External drivers	Sustainable practices		The strong drivers for the sustainability initiatives are their concern about the state of the environment and social responsibility, followed by requirements for exporting and protection of agricultural land.
Duffett, Rodney; Edu, Tudor; Haydam, Norbert; Negricea, Iliuta Costel; Zaharia, Rodica 2018	To propose and test a model focusing on competitive advantage from a broad perspective, by inquiring about six competitive advantage dimensions, exploring whether they can be explained based on green marketing tools.	Multidimensional, competitive advantage and green marketing	Mix methods	Directories of the regions South African SMMEs (n=237)	Survey	Services Merchandise Manufacture	Green marketing tools.  Market position. Green public image/reputation. Improving/innovating products and/or services. Developing the business through green opportunities.	Number of employees. Industry type. Number of operational years. Business type.	Displaying green marketing tools adequate for each green competitive advantage dimension and delineating competitiveness options based on descriptive variables. Each competitive advantage dimension was explained by at least one green marketing tool. Two green marketing tools had a significant effect on several dimensions.	

Duque-Grisales, Eduardo; Aguilera-Caracuel, Javier; Guerrero-Villegas, Jaime; García-Sánchez, Encarnación 2019	To provide evidence of the impact of PES on Multilatinas' level of internationalization.	resource-based view and institutional theory	Quantitative	MSCI Emerging Markets Index Latin American stock market Multilatinas from Brazil, Mexico, Colombia, Chile, and Peru (n=88)	Database	Manufacturing Retail trade Mining Oil, and gas extraction Others	Proactive environmental strategies	Geographic international diversification	Board independence Board size Firm size Industry	There is positive relationship between Multilatinas that deploy higher levels of environmental strategy and higher degrees of internationalization. Board independence positively moderates the relationship between PES and geographic international diversification.
Fraj-Andrés, Elena; Martínez-Salinas, Eva; Matute-Vallejo, Jorge 2009	To contribute to the knowledge of the environmental responsibility of firms in the Spanish industrial sector, analyzing how legislative, social, competitive and ethical pressures determine firms' environmental behavior.	Political economy theory, Stakeholder theory.	Quantitative	Chamber of Commerce and Industry of Aragón Spanish medium and large companies (n=235)	Survey	Metal Electric and electronics Construction services Plastic Rubber Chemistry Food Commercial Other sectors	Social concern. Environmental regulation. Competitive advantage	Management commitment. Environmental orientation. Corporate environmental strategy. Environmental marketing strategy.	Corporate environmentalism concept	The results reveal that competitive motivations and management commitment are the most important factors explaining why firms incorporate environmental issues into their strategic planning process.
Fraj-Andrés, Elena; Matute-Vallejo, Jorge; Rueda-Manzanares, Antonio. 2012	To analyze the driving factors of EMS and the economic and environmental performance	Stakeholder	Quantitative	SABI Large Spanish companies (n=361)	Survey	Manufacture	Pressure. Competition. Management commitment.	PES. Economic performance. Environmental performance.		PES is determined by the economic revenue and management commitment. Pressure from customers, competitive motivations and environmental commitment by the directors explain the reason for the proactive strategies.
Frey, Marco; Iraldo, Fabio; Testa, Francesco 2012	To investigate the distinctive features of innovation carried out by SMEs, providing services, product or technologies in the	Eco-innovation	Quantitative	Trade association Assolombarda Italian SMEs (n=356)	Survey	Technology for environmental practices	No. of employees. Economic performance. Export. Partnership.	Research and innovation activity. Patents ownership.		The investigated sectors of the green economy are characterized by considerable innovation capabilities, and there are several improvement opportunities in the interactions along their supply chains.

	environmental field operating in the District of Milan						Funding access.	Patents demand. Innovation performance.		The survey found that the sampled organizations have a significant international projection, but the knowledge of global market and its dynamics is still immature for some of them.
Galbreath, Jeremy 2019	To expand beyond the local context, to create a better understanding about how firms might cope with cross-border interaction in a globalized world.	Institutional theory Resource-based view	Quantitative	Wine titles Australian companies (n=649)	Survey	Wine	Export intensity Gender Absorptive capacity	Green innovation.	Firms size Firm age Firm region	Export intensity is positively associated with green innovations. Further, as women in leadership roles increase in firms, the relationship strengthens between export intensity and green innovations.  The results also suggest that greater levels of absorptive capacity among firms strengthen the relationship between export intensity and green innovations.
Godos-Díez, José-Luis; Cabeza-García, Laura; Fernández-González, Cristina 2018	To analyze the relationship between CSR and internationalisation strategies from a theoretical and descriptive point of view.	CSR Internationalization	Quantitative	Madrid Stock Exchange General Index Large Spanish firms (n=61)	Survey	Industry	Foreign subsidiaries over total sales. Foreign assets as a percentage of total assets. Countries. Export activities.	Corporate social responsibility.		Companies with a higher degree of internationalisation might seek to implement more CSR activities and initiatives because of their greater visibility and availability of funds, with the aim of mitigating risk and better responding to the expectations of different stakeholders.
Gómez-Bolaños, Efrén; Hurtado-Torres, Nuria Esther; Delgado-Márquez, Blanca Luisa 2019	To deepen our understanding of the relationship between firms' internationalization and their sustainability development.	Internationalization	Quantitative	Thomson Reuters Eikon Companies around the world (n=287)	Database	Energy	International revenue International revenue developing countries Industry	Environmental management. Environmental performance.	Firm size. Financial slack. Profitability. R&D expense to total revenue. Home country development.	Firms' internationalization and environmental management are positively related.  The relationship between internationalization and environmental management remains significant when firms' internationalization is oriented towards developing countries.

González-Benito, Javier González-Benito, Óscar 2005	To empirically analyze the relationship between environmental proactivity and business performance.	Environmental management practices Resource-based view	Quantitative	Dun & Bradstreet Large Spanish firm (n=428)	Survey	Chemical Electronics Furniture	Environmental proactivity Company	Mass operational performance. Lean operational performance. Financial performance.	Size. Plant equipment age. Sector. Production and operations management approaches.	Some dimensions of environmental proactivity have a positive and significant effect on certain operational performance objectives and on marketing performance. No evidence was found to support that environmental proactivity ends in higher profitability, at least in the short term.
González-Benito, Javier; González-Benito, Óscar 2010	To assess the extent to which these variables act as determinants of the environmental stakeholder pressure perceived by a company.	Stakeholder theory	Quantitative	Dun and Bradstreet census of the Spanish companies (n=186)	Survey	Chemical Electronics Furniture	Company size. Internationalization. Location. Position in the supply chain. Industrial sector. Environmental awareness.	Perceived nongovernmental pressure. Perceived governmental pressure.		The companies that perceive high pressure from nongovernmental stakeholders tend to be large, form part of international corporations, compete in sectors with high environmental risk and have environmentally aware managers The companies that perceive high pressure from governments and regulatory agencies tend to compete in environmentally risky sectors. Among these characteristics, managerial environmental awareness and internationalization stand out as the most explanatory factors.
González-Benito, Javier; González-Benito, Óscar 2006	To review and integrate this literature and to provide a preliminary scheme of those variables that stand as main determinants or predictors of environmental proactivity.	Environmental proactivity	Theoretical	Did not mention	N/A	N/A	N/A	N/A	N/A	Five company features, i.e. internal factors, stand out because of the relevant role they play: company size, degree of internationalization, position in the value chain, managerial attitude and motivations, and company strategic attitude. Two external factors have also been identified as relevant: industrial sector and geographical locations of production facilities.

Hojnik, Jana; Ruzzier, Mitja; Manolova, Tatiana S. 2018	To test how internationalization affects eco-innovation and firm performance, and more specifically how eco-innovations translate the effect of internationalization in firm performance	Organizational learning perspective	Quantitative	Slovenian micro, small, medium and large companies (n=153)	Survey	Manufacture	Internationalization	Firm performance	Eco-innovation	Internationalization is significantly and positive associated with economic performance and eco-innovation partially mediates this effect. Environmental sustainability and the adoption of eco-innovation cannot be neglected when working in foreign markets.
Hojnik, Jana; Ruzzier, Mitja 2016	To review the academic literature on eco-innovation drivers and identifies their theoretical foundations, as well as the unique and typical characteristics of eco-innovation	Eco-innovation	Theoretical	Science Direct (n=55)	N/A	N/A	N/A	N/A	N/A	Research in this area primarily adopts the resource-based and institutional theories as its theoretical foundations and that the prevailing effects identified are those of regulations and market pull factors. Product eco-innovation, process eco-innovation, organizational eco-innovation, and environmental R&D investments seem to be driven by common drivers, such as regulations, market pull factors, EMS, and cost savings, as well as to be positively associated with company size.
Holtbrügge, Dirk; Dögl, Corinna 2012	To gain further understanding on how present CER is in academic literature and develop a systematic overview of the current state of CER research.	Corporate environmental responsibility	Theoretical	SSCI EBSCO (n=54)	N/A	N/A	N/A			Although environmental aspects of management are often international by their very nature, CER research does not have many international links as significantly more single- than multi-country studies exist.
Juan Alberto Aragón-Correa and Enrique A. Rubio-López 2007	To propose a strategic framework identifying six categories of ‘myths’ - commonly accepted misunderstandings in the analysis, selection/implementation and	Proactive environmental strategies	Quantitative	Amadeus Database Factories from France and United Kingdom (n=140)	Database	Food industry	Number of employees. Sales. Internationalization.	Total Organic Carbon/sales. Total Organic Carbon/employees.		Firms take a contingent view and generate a dynamic capability for a proactive environmental approach, rather than relying on universalistic implementation based on unreliable myths.

	control of proactive environmental strategies.									
Kang, Yuanfei; He, Xinming 2017	To examine the mechanisms through which firm capabilities moderate the impact of institutional forces upon firms' adoption of environmental management strategy (EMS).	Institutional theory Resource bases view	Quantitative	Directory of Dongguan Manufacturing Enterprises. Chinese small, medium, large and multinationals (n=132)	Survey	Food Textile and clothing Furniture and Paper Plastics processing Metal processing Machinery Electronics Transportation	Institutional forces. Environmental orientation. Innovation capability.	Firm's adoption of an EMS. ISO14001 certification.	Industry effect Ownership type ISO 9001	Environmental orientation and innovation capability facilitate firms' EMS in a more proactive manner to address the institutional challenges in environment protection, at least in the Chinese context.
Katsikeas, Constantine S; Leonidou, Constantinos N; Zeriti, Athina 2016	To develop and empirically test a model of drivers and outcomes of eco-friendly product development strategy.	Resource-based view Contingency theory.	Quantitative	Dun and Bradstreet's Small, medium and large enterprises from United Kingdom (n=183)	Survey	Food Paper products chemicals rubber plastics metal Transportation equipment	Top management commitment. Corporate environmental support policies. Environmental performance incentives. Munificence. Dynamism. Complexity.	Eco-friendly product development strategy. Product development effectiveness.	Eco-friendly regulatory pressures. Eco-friendly competitive pressures. Eco-friendly customer pressures. Cross-functional coordination. Firm size.	Top management commitment and corporate environmental support policies can facilitate eco-friendly product development strategies, while environmental performance incentives do not. In turn, the adoption of such strategies has a positive effect on firms' product development effectiveness.
Kennelly, James J; Lewis, Eric E. 2003	To provide evidence that may shed light on this emotional, but understudied, relationship between MNEs and the natural environment.	Internationalization Corporate environment	Quantitative	Standard and Poor's American MNEs (n=148)	Database	Industrial	Degree of internationalization compound.	Environmental performance measurement.	Sales. 5-year average return on sales. R&D. Industry	There is a significant positive relationship between the extent of a firm's internationalization (that is, how multinational it is) and a particular

										multidimensional measure of its corporate environmental performance.
Keshminder, J. S; del Río, Pablo 2019	To analyze the direct and indirect effects of drivers to EI.	Technological innovation systems approach	Quantitative	Companies Commission of Malaysia Large companies (n=97)	Survey	Chemical Manufacture	Regulatory stringency. Export behavior. Environmental collaboration. Environmental knowledge. Consumer pressure. Green skills.	Eco-innovation. Environmental strategies.		Environmental collaboration, environmental knowledge, green skills, consumer pressure, and export behavior, which have an indirect effect on EI through their impact on environmental strategies.
Klerkx, Laurens; Villalobos, Pablo; Engler, Alejandra 2012	To yield insights on variation in implementation of the several components of CSR in relation to the national organizational context and integration in global supply chains (i.e., an export orientation) and SMEs in comparison to larger firm.	CSR Complexity theory	Quantitative	Chilean Agricultural and Livestock Service Chilean small, medium and large enterprises (n=30)	Survey	Agriculture	Export percentage Annual sales Lifespan (in years)	Percentage of implementation		Larger firms have a higher rate of formalization of CSR policies and implementation of environmental policies than smaller firms.
Ko, Wai Wai; Liu, Gordon 2017	To propose a serial multiple mediation relationship, where the influence of SMEs' environmental strategy on financial performance is mediated through marketing competence and then R&D competence, or vice versa.	Institutional theory Resource-based view	Quantitative	United Kingdom SMEs (n=214)	Survey	Technology	Environmental strategy	Marketing competence. R&D competence. Financial performance.	Engineering. Information system. Firm size. Firm age. Customer turbulence. Competitive turbulence. Technological turbulence.	The effects of environmental strategy can lead to development of their marketing competence, as well as research and development (R&D) competence, which ultimately contributes to superior financial performance.



Leonidas C. Leonidou, Paul Christodoulides, and Des Thwaites 2016	To investigate (1) the effect of external forces, namely regulatory framework, environmental public concern, competitive intensity, and market dynamism, in determining eco-friendly orientation within the small firm; (2) the extent to which this environmental orientation has a favorable effect on the firm's financial outcomes; and (3) the role of organizational resources and capabilities in moderating the relationship between environmental orientation and financial performance.	Environmental issues	Quantitative	Cyprus Chamber of Commerce and Industry SMEs (n=153)	Survey	Light	Regulatory framework. Environmental public concern. Competitive intensity. Market dynamism.	Financial performance. Eco-friendly orientation	Organizational capabilities. Organizational resources	The key role of environmental regulations, environmental public concern, competitive intensity, and market dynamism in harnessing an eco-friendly orientation within the small firm. T The critical role of this orientation in enhancing the firm's financial results, although this link was found to be stronger when the firm possesses adequate resources and capabilities committed to environmental activities.
Leonidou, Leonidas C; Fotiadis, Thomas A; Christodoulides, Paul; Spyropoulou, Stavroula; Katsikeas, Constantine S. 2015	To shed light on an important, but relatively neglected, topic in the strategy, environmental, and international business literature streams.	Environmental responsibility	Quantitative	Greece Exporters' Directory of ICAP Greek medium and large companies (n=216)	Survey	Manufactured goods	Foreign environmental public concern. Foreign competitive intensity. Top management green sensitivity. Organizational green culture.	Environmentally friendly export business strategy. Export product differentiation competitive advantage. Export cost leadership. Export market performance.	Firm size. Export experience. Product type. Firm technological intensity. Foreign market destination.	The instrumental role of both external forces (i.e., foreign environmental public concern and competitive intensity) and internal factors (i.e., top management green sensitivity and organizational green culture) in crafting an environmentally friendly export business strategy. Business strategy positively affected firms' export product differentiation advantage but had no effect on export cost leadership advantage. Export product differentiation advantage was positively associated with both export market performance and export financial performance.

								Export financial performance.		
Leonidou, Leonidas C; Christodoulides, Paul; Kyrgidou, Lida P; Paliyawadana, Daydanda 2017	To shed light on how internal company factors, help to formulate a green business strategy among small manufacturing firms and how this, in turn, influences their competitive advantage and performance	Resource based view	Quantitative	Cyprus Chamber of Commerce and Industry SMEs (n=153)	Survey	Manufacture	Organizational resources Organizational capabilities	Green business strategy. Competitive advantage. Market performance. Financial performance.	Industry type. Market dynamism. Regulatory framework. Public concern. Competitive intensity.	The implementation of a green business strategy was found to generate a positional competitive advantage, with this association becoming stronger under conditions of high regulatory intensity, high market dynamism, high public concern, and highly competitive intensity.
Leonidou, Leonidas C; Katsikeas, Constantine S; Fotiadis, Thomas A; Christodoulides, Paul 2013	To examine the eco-friendly marketing practices of exporting firms	Resource-based view Industrial organization (IO) theory	Quantitative	Greece Exporters' Directory of ICAP Greek SMEs (n=216)	Survey	Manufacture goods	Green export related physical resources. Green export related financial resources. Green export related experiential resources. Green export related shared vision. Green export related cross functional coordination.	Export performance. Eco-friendly export marketing strategy	Foreign market environmental public concern. Foreign market competitive intensity. Foreign country destination. Export product type.	The use of certain organizational resources and capabilities can be conducive to the adoption of an eco-friendly export marketing strategy, the proper implementation of which will yield superior export performance. The adoption of such an eco-friendly approach to international markets is imperative in the case of exporters belonging to industries that have a greater harmful effect on the environment, as well as those that operate in foreign markets (especially in developed countries) where conforming to certain environmental requirements is obligatory.

							Green export related technology sensing response.			
Li, Esther Lingyee; Zhou, Lianxi; Wu, Aiqi 2017	To focus on the role of knowledge integration and international buyer involvement in export suppliers' environmental sustainability practices and performance outcomes.	market oriented sustainability	Quantitative	Directory of Electronics Fair Chinese SMEs (n=305)	Survey	Electronics Lighting Electrical home appliances	Market-oriented environmental sustainability Knowledge integration. International buyer involvement.	Export market Performance.	International experience. Firm size	Knowledge integration mediates the performance impact of market-oriented environmental sustainability, and such a mediating process of leaning is further enhanced by international buyer involvement.  Suppliers need to adapt, integrate and reconfigure green initiatives introduced in the global supply chain so that they can proactively create a competitive advantage and achieve superior performance in the international marketplace.
Lin, Ru Jen; Tan, Kim Hua; Geng, Yong 2013	To seeks to answer two key questions: (a) how does market demand influence a firm's green product innovation? and (b) how can green product innovation affects firm performance?	Green marketing	Quantitative	Vietnamese companies (N=208)	Survey	Motorcycle	Market demand Green product innovation.	Environmental performance. Products. Economic performance. Firm performance.		Market demand has significant effects on both green product innovation performance and firm performance.  Firms should first understand consumers' requirements, and then align green product innovation initiatives with consumers' values.
Liu, Jie; Yuan, Chunhui; Hafeez, Muhammad; Li, Xiaolong	To analyze the relationships between ISO 14001 adoption, international trade, and environmental pressures from a macro perspective.	Environmental management system	Quantitative	ISO survey form 65 developing countries	Database	Did not mention	Trade. CO2. Energy.	The adoption of ISO 1400.	GDP. Regulation.	There is positive impacts of trade openness and environmental pressures on ISO 14001 adoption.  There is not causal relationship between ISO 14001, trade openness, and environmental

2019										pressures in whole panel; instead the relationship varies for different regions of developing countries.
Luan, Chin Jung; Tien, Chengli; Chen, Wei Lun 2016	To classify green activities and find the relationships between firm characteristics and the types of green activities, and the relation with performance	Green business strategy	Quantitative	Taiwan Economic Journal Taiwanese firms (h1 n=599, h2 n=627)	Database	Semiconductors Electronic, Computers Optoelectronics Communication Internet,	Degree R&D. Degree internationalization. Green activities	Green activities. Performance.	Firm size Timing Industry	The degree of a firm's R&D investment fails to affect companies' choice of green activities.  More internationalized firms are also more likely to employ green certifications among these activities.
Macchion, Laura; Moretto, Antonella; Caniato, Federico; Caridi, Maria; Danese, Pamela; Spina, Gianluca; Vinelli, Andrea 2013	To address whether sustainability practices and collaboration would improve company's innovation performance.  To address whether (production and distribution) internationalisation would moderate this relationship.	Environmental sustainability	Quantitative	Small, medium and large Italian companies (n=125)	Survey	Fashion	Supply chain practices. Product practices. Supply chain collaboration practices.	Innovation performance	Level of distribution in foreign countries	The positive impact of environmental practices on innovation performance.  It exists a moderating effect exerted by internationalisation on the relationship between environmental sustainability and innovation performance
Martín-Tapia, Inmaculada; Aragón-Correa, J. Alberto; Rueda-Manzanares, Antonio. 2008	To analyze whether strategies for environmental protection can help small and medium enterprises (SMEs) as they internationalize their activities through export	Resource-based view	Quantitative	Dun and Bradstreet Spanish SMEs (n=123)	Survey	Food	Proactive natural environmental strategy. Firm size.	Export intensity.	Firm age.	Proactive environmental strategies of SMEs positively influenced their export intensity, but that firm size moderates this positive influence. Specifically, there is an increased positive relationship between environmental proactivity and export intensity.

Martin-Tapia, Inmaculada; Aragón-Correa, Juan Alberto; Senise-Barrio, María Eugenia 2008	To show how PES may positively influence the export intensity of SMEs,	Resource-based view	Quantitative	Dun and Bradstreet Spanish exporting SMEs (n=145)	Survey	Food	Age Perceived uncertainty Environmental proactivity	Export intensity	Size	Proactive environmental strategy is positively related to a company's export performance. In addition, general uncertainty imposes a moderating effect on the relationship between proactive environmental strategies and export intensity for SMEs.
Menguc, Bulent; Auh, Seigyoung; Ozanne, Lucie 2010	To examine the interaction effect between the internal perspective and the external perspective on a PES	Resource based view Institutional theory	Quantitative	New Zealander companies (n=325)	Survey	Food, beverage, and tobacco Forestry Wood, paper Textiles Leather Agriculture machinery Chemicals Petroleum Plastics	External perspective. Internal perspective.	PES. Firm performance.	Firm size. Type of industry. Environmental dynamism.	Entrepreneurial orientation has a positive effect on PES and this effect is stronger as the intensity government regulation increases. PES is related significantly to sales growth and profit growth. Entrepreneurial orientation is not related significantly to sales growth and profit growth. Therefore, it is concluded that entrepreneurial orientation does not play a mediating role in the relationship between a PES and performance.
Paes, Henrique Barros de Cerqueira 2012	To identify the main stakeholders who influence the company's climate change strategies; To assess levels of stakeholders' influence on Petrobras' climate change strategies	stakeholder theory	Qualitative	Brazilian company	Interview	Petroleum	Regulatory demands. Costs. Stakeholder forces. Competitive requirements.	Corporate ecological responsiveness.		NGOs, in particular, not only exercise direct pressure, but also use the media and regulatory institutions to influence the company
Papadas, Karolos Konstantinos; Avlonitis, George; Carrigan, Marylyn	To clarify and refine the relationship between strategic and internal green marketing and firm competitiveness, achieving several theoretical and managerial contributions.	Green marketing orientation theory	Quantitative	Gallup subsidiary in Greece Greek small, medium and large companies (n=226)	Survey	Fast-Moving Consumer Goods, Industrial product Services, Wholesalers-	CSR. Stakeholders' Environmental Pressures.	Strategic Green Marketing Orientation. Competitive advantage.	Internal Green Marketing Orientation.	Moderating role of internal green marketing actions towards the development of a sustained competitive advantage. A strategic direction that captures the human capital element is broader than any environmental strategy.

Piña, Lamprini 2018						retailers and Remaking Construction Other		Financial performance.		Organizations will eventually create environmental knowledge and competence by making every employee a green champion.
Park, Sang- Bum 2018	To examine the relationship between internationalization and the contribution of firms to sustainability	Corporate sustainability internationalization	Quantitative	Thomson Reuters Korean MNEs	Database	Did not mention	Internationalization.	Sustainability strength. Sustainability Concerns.	Firm size. Age. Financial slack. R&D. Advertising intensity. Firm performance.	Internationalization can be both good and bad for Corporate Sustainability. Internationalization drives EMNEs to grow in sustainability strengths. Internationalization also increases sustainability concerns in the global market
Peñasco, Cristina; Del Río, Pablo; Romero-Jordán, Desiderio 2017	To analyze the influence of international factors on the eco-innovative behavior of firms.	Institutional theory Resource-based view Systems of innovation (SI) approach	Quantitative	Spanish Technological Innovation Panel (PITEC) Spanish small, medium and large firms (n=4112)	Database	Oil Chemical Pulp, paper and cardboard Pharmaceutical Basic metals	Regulation. Turnover of the company in foreign markets in third Countries. Cooperation. Foreign equity. Internal expenditures in R&D financed by national and foreign sources.	Eco-innovator. Importance attached to the reduction of environmental impacts as an aim of innovation activity.	Type. Firm size. Age. External knowledge acquisition.	International factors influence eco-innovators moderately. Cooperation with both international and national actors positively influences eco-innovation, although the former increases slightly the probability that a firm eco-innovates (compared to national cooperation). Public subsidies from international sources do not increase the likelihood of being an eco-innovator, although national sources of funding do. Finally, firms with foreign equity are not more likely to eco-innovate.
Peña-Vinces, Jesús C; Delgado-Márquez Blanca L 2013	To evaluate whether entrepreneurial foreign activities of small and medium-sized multinational enterprises (SMNEs) of Latin American developing countries are affected by	International entrepreneurship Institutional theory	Quantitative	Ministry of Tourism and Commerce Peruvian SMEs (n=100)	Survey	Agribusiness, Agriculture Footwear and Leather Hydrocarbons Jewelry	Green management. Corporate social responsibility. International certifications.	Entrepreneurial foreign activities of firm.	Firm size. Age of the firms in domestic and foreign markets	Acquiring and holding international certifications as well as the investments carried out in actions related to corporate social responsibility do not have positive effects on the performance of entrepreneurial foreign activities of Peruvian SMNEs, while

	international certifications, corporate social responsibility and green management.					Wood, paper Mechanical Metals, mining Fishing Chemical Iron and steel, Textiles Others				green management exerts a positive influence
Peng, Yu Shu; Luan, Chin Jung; Chou, Chia Ching 2009	To depict the relationships between the degree of internationalization, industry pressure, firm resource and the adoption of voluntary environmental program (ISO 14001).	Resource based view	Quantitative	Taiwan Economic Journal Chinese companies (n=107)	Survey	Manufacture Production	Internationalization. Experience of Quality. Management System. Uncertainty.	VEP: ISO 14001 Certification.	Firm size. Advertising intensity. R&D Intensity.	A firm's degree of internationalization has a significant impact on the certification of ISO 14001. Experience of quality management systems is significantly positively correlated with the propensity to certify for ISO 14001
Rabadán, Adrián; Sáez-Martínez, Francisco J. 2017	To examine the environmental responsibility of European SMEs within the water and waste sector and to analyze the motivations that lead them to develop broader environmental management.	Environmental responsibility	Quantitative	Flash Eurobarometer European Union, Albania, Israel, Iceland, Liechtenstein, Montenegro, Macedonia, Norway, Serbia, Turkey and the United States SMES (n=258)	Database	Water	Clients' demands. Business opportunity. Competitors. Subsidies. Fiscal incentives. Accomplish law. Corporate image.	Environmental responsibility.	Size. Country origin.	40% of European SMEs within this industry display environmental responsibility. Market pull has a low incidence in encouraging ER, while values and the strategic decisions of entrepreneurs seem decisive. Political legislation should prioritize subsidies over fiscal incentives, optimizing the investment in promoting the adoption of environmental
Rao, Purba; Holt, Diane 2005	To investigate the proposition that there is a significant correlation between greening certain phases of the supply chain and the competitiveness and	Inbound perspective	Quantitative	Filipino, Indonesian, Malaysian, Thai, and Singaporean	Survey	Did not mention	Greening inbound. Greening production.	Greening outbound. Competitiveness. Economic performance.		Greening the supply chain also has the same potential to lead to competitiveness and economic performance. Greening of production results in the minimization of pollution, a form of

	economic performance of the organizations involved.			companies (n=52)						Inefficiency, re-use of materials and recycling initiatives.
Rodríguez-García, María; Guijarro-García, María; Carrilero-Castillo, Agustín 2019	to compare previous studies to define and establish the principal features of ecological entrepreneurship as a subcategory of entrepreneurship.	Ecopreneurship Eco-innovation,	Theoretical	Web of Science	N/A	N/A	N/A	N/A	N/A	Eco-innovation and ecopreneurship are terms based on the pursuit of environmental friendliness The key role of consumers is crucial in promoting green practices and choosing organic products.
Ryszko, Adam 2016	To examine the influence of proactive environmental strategy on firm performance and explores this relationship through technological eco-innovation.	Resource based view	Quantitative	Research agencya PBS. Polish small, medium and large firms (n=292)	Survey	Industrial Service sectors	Proactive Environmental Strategy.	Technological Eco-Innovation. Operational Performance. Financial Performance.	Firm size. Firms pollution intensity. Geographical market.	The findings do not confirm that proactive environmental strategy directly affects firm performance. The results show the significant mediating role of technological eco-innovation in this relationship. Since the technological eco-innovation reduces environmental impact and improves business performance
Sandhu, Sukhbir; Smallman, Clive; Ozanne, Lucie; Cullen, Ross 2012	What drives corporate environmentalism in India?	Stakeholder theory Resource dependence theory Institutional theory Resource-based view	Qualitative	500 top Indian business (n=11)	Interview	Petrochemicals Pharmaceutical Chemical Hotel Chain Textile Fertilize Electronics, Paper Steel Others	Industrial ecology. New green product. Internationalization. Commitment by top management. Supply chain.	Pollution control. Recycling. Wastes. Decrease resource consumption.		corporate environmental responsiveness in the case study organizations could be observed at two distinct levels: level one (the lower) and level two (the higher order). Level one responsiveness captures policies that aim at pollution prevention and the level two responsiveness reflects a more advanced product stewardship stage.
Santini, Cristina 2017	To examine the boundaries of ecopreneurship and the	Ecopreneurship and ecopreneur.	Theoretical	Did not mention	N/A	N/A	N/A	N/A	N/A	Highlighted the existing differences among typologies of green entrepreneurs and the development of studies that analyze the



	emerging differences with traditional entrepreneurship.									strategic implications of a sustainable orientation for companies.
Setiadi, Roby; Batu, Kardison Lumban; Soesanto, Harry 2017	To explore a firm's green orientations, namely, its green sensitivity and environmental culture, as determinants of environmental marketing strategy	Environmental marketing	Quantitative	Indonesian Exporters' Directory of the Ministry of Industry (n=383)	Survey	Did not mention	Green sensitivity. Environmental culture.	Environmental product differentiation. Cost leadership. Marketing and financial performance.		Environmental marketing strategy significantly influences product differentiation and cost leadership. More specifically, product differentiation simultaneously influences marketing and financial performance.
Suarez-Perales, Ines; Garcés-Ayerbe, Concepción Rivera-Torres, Pilar; Suarez-Galvez, Cristina 2017	To analyze whether strategic proactivity is a driving factor of the adoption of such leadership positions in environmental matters (environmental proactivity).	Dynamic capability	Quantitative	Spanish Technological Innovation Panel (PITEC) Small, medium and large companies (n=8922)	Database	18 sectors	Innovation proactivity. Expenditures in R&D. Patents. Internationalization proactivity.	Environmental proactivity.	Age. Size.	firms that invest in R&D and patent their innovations achieve more advanced positions in their environmental strategies. Firms with more than an average presence on different geographical markets for the same sector favor environmental proactivity.
Suárez-Perales, Inés; Rivera-Torres, Pilar; Garcés-Ayerbe, Concepción 2018	To learn more about how a specific aspect of strategic activity, related to innovation, affects a firm's environmental strategy	Dynamic capabilities approach	Quantitative	Spanish Technological Innovation Panel (PITEC) Spanish small, medium and large companies (n= 4546)	Database	Did not mention	Innovative proactivity.	Environmental proactivity.		The firms with an innovative proactive strategy are more capable to reach also proactive positions in their environmental strategy. An appropriate development of innovation capabilities allows firms to leverage resources and accumulate experiences and know-how.
Taherdangkoo, Mohammad; Ghasemi, Kamran; Beikpour, Mona;	To review previous studies on sustainability issues of export companies and the impact of various factors on sustainability and	Global sustainability approach	Theoretical	Science Direct, IEEE, Springer Link, Wiley Online SAGE, Elsevier	N/A	N/A	N/A	N/A	N/A	The export companies, by using product differentiation and cost leadership strategies, have developed sustainability export marketing strategies. It should be noted that the results of companies' sustainability

2017	sustainability marketing strategies and its impact on the export performance of companies.			Web of Science (n=102)						activities could be achieved by creating a competitive advantage. The implementation of sustainability export marketing strategy has facilitated access to the competitive advantage when product differentiation is placed instead of cost leadership.
Tariq, Adeel; Badir, Yuosre F; Tariq, Waqas; Bhutta, Umair Saeed 2017	To provide a systematic literature review of studies on the drivers and consequences of green products and processes, with the aim of enhancing conceptual clarity and consistency and advancing theory and research.	Green innovation	Theoretical	Google scholar Top journals (n=195)	N/A	N/A	N/A	N/A	N/A	The paper identifies the key drivers and consequences, mediators and moderators and develops a conceptual framework of green product and process innovation.
Urban, Boris; Govender, Deon P. 2012	To improve understanding and generate empirical data on firm activities in environmental management practices.	Environmental management system	Quantitative	South African Paint Manufacturers Association South African companies (n=84)	Survey	Industrial coatings raw materials Industrial coatings manufacturer	Company age. Number of employees. Turnover last. Financial year. Multinational or not. Private or public company. External legal audit.	Environmental management system.		Larger firms in more environmentally impactful industries (such as chemical industry) have a greater tendency to implement formal environmental management systems. Organizations have incorporated environmental management into the strategic process, which was done by employing environmental experts, ensuring that the environmental function was housed by a separate department and was incorporated into the strategic planning process of the organization
Vargas Martínez, Elva Esther;	To examine the state of art about responsible innovation in the context of msms.	Innovation	Theoretical	EBSCO Scopus Emerald (n=69)	N/A	N/A	N/A	N/A	N/A	Msmes with an entrepreneurial orientation will play a decisive and leading role in the cycles of responsible innovation to come, as part of the search for solutions to the

Bahena Álvarez, Irene Liliana; Eulogio, Cordón-Pozo 2018										multiple environmental and social problems through radical innovations.
Vencato, Carlos; Henrique da Rocha; Gomes, Clandia Maffini; Scherer, Flavia Luciane; Kneipp, Jordana Marques; Bichueti, Roberto Schoproni. 2014	To analyze the practices of strategic sustainability management and the main indicators of export performance in industrial companies of the rubber artifacts sector	Strategic sustainability management and Internationalization	Quantitative	Directory from Brazil Brazilian companies (n=32)	Survey	Artifacts and rubbers sector of Sao Paulo	External challenges. Internal challenges.	Export performance. Strategic performance. Economic performance.	Number of employees	Companies involve stakeholders and their employees in sustainable strategies; internationalize themselves via exports, by means of intermediaries in Brazil and find themselves in an initial internationalization stage. Most companies do not believe that sustainability is an initiative separated from company action.
Wu, Jie; Ma, Zhenzhong 2016	To examine whether MNE customers' environmental pressures have any impact on emerging market firms' environment strategies in addition to the influence from export intensity.	Resource dependency theory	Quantitative	Survey of Industrial Enterprise conducted by China's National Bureau of Statistics (n=1215)	Database	Manufacture	Geographic location Export intensity Firm's environmental requirement from MNE customers.	Proactive environmental strategy.	Government regulation. Industrial regulation. Firm's innovation capability. ISO 9000 certification. Size. Ownership type. Industry.	The results show that local Chinese suppliers with high levels of export intensity are more likely to adopt positive environment strategies to reduce environmental risks. Local Chinese suppliers respond actively to environmental requirements of MNE customers but not to those of local customers. The linkage between MNE customers' environmental requirements and local Chinese suppliers' environment strategies remains significant, even after we control for the impact of export intensity.

Xu, Xiaodong; Zeng, Saixing; Chen, Hongquan 2018	To investigate the mechanisms through which environmental corporate social responsibility (CSR) facilitates international expansion	Stakeholder theory Signaling theory	Quantitative	Stock "A" markets on the Shanghai and Shenzhen Stock Exchanges (n=425)	Database	Petroleum, Chemistry Plastics Metal and nonmetal mining Textile, clothing and fur Electricity, Gas Tap-water	Energy conservation and emission reduction. ISO14001 certification.	Firm export performance.	Firms size. Leverage. State own. Largest shareholder's shareholding. Disparity. Free cash flow. Disparity.	Energy conservation and emission reduction have no direct relationship with export proportion. However, certification with the ISO14001 standard acts as a mediator variable, bringing environmental CSR together with export performance.
Zeriti, Athina: Robson, Matthew Spyropoulou, Stavroula; Leonidou, Constantinos N 2014	To develop a model of drivers of sustainable export marketing strategy adaptation and explore the circumstances under which such a strategy affects export performance	Contingency theory	Quantitative	Dun and Bradstreet FAME British Exporters Database United Kingdom companies (n=217)	Survey	Food and beverages Textiles Paper Chemicals Rubber and plastic Radio, television, and communication equipment; Furniture; Computers.	Economic conditions Regulatory conditions. Sociocultural conditions. Technological conditions. Competitive intensity. Customer characteristics. Market munificence. Stakeholder pressures.	Export performance. Sustainable export marketing strategy adaptation.		A set of external environmental factors behaved as predicted in shaping fit between the level of sustainable export marketing strategy adaptation and performance.
Zhu, Qinghua Sarkis, Joseph Lai, Kee Hung 2011	To examine if there exist different clusters of Chinese manufacturers based on the IEI isomorphic drivers encountered by them	Institutional theory	Quantitative	Chinese companies (n=377)	Survey	Chemical Petrochemical Electronic Automobile Mechanical	Sales to foreign customers Export countries' environmental regulations	Environmental supply chain management practices. Performance.		Drivers have caused Chinese manufacturers to strive to improve the environmental aspects of their operations and attain subsequent performance improvements. Drivers have caused Chinese manufacturers to strive to improve the environmental

							International drivers			aspects of their operations and attain subsequent performance improvement.
Zhu, Qinghua; Sarkis, Joseph; Lai, Kee Hung 2012	To examine the relationship between internationalization and EOL through international and domestic environmentalism pressures to ease the ecological modernization concerns	Institutional theory	Quantitative	Chinese small, medium and large companies (n=377)	Survey	Chemical Petrochemical Electronic Automobile Mechanical	International coercive pressure. International normative pressure. International mimetic pressure.	Environmentally related organizational learning.	Firm size. Industry type. Ownership.	The need for exports has motivated Chinese manufacturers to improve their environmental performance, accelerating modernization and more sustainable industrialization within China. Chinese manufacturers tend to implement EOL due to international environmentalism if they export products or become suppliers of foreign companies operating in China. The
Zhu, Qinghua; Cordeiro, James; Sarkis, Joseph 2012	To provide some initial evidence for the effectiveness, and perhaps the need, for international pressures on Chinese manufacturers to supplement those placed on them by domestic regulations, competition and consumers.	Environmentally proactive organizational routines	Quantitative	Chinese small, medium and large companies (n=377)	Survey	Chemical Petrochemical Electronic Automobile Mechanical	International institutional pressure. Domestic institutional pressure. Foreign owned or joint venture.	Proactive environmental practices	ISO 9000. Small vs large. State owned firms. Industry.	International institutional normative, coercive and mimetic forces are significantly related to proactive environmental practices.

## APPENDIX 2

	Firm A	Firm B	Firm C	Firm D
Industry knowledge	<p>According to the owner the main problem is the lack of governmental policies for exporters and trade agreements. Colombia and Peru sign agreements with the USA and EU, and Ecuadorian companies lost competitiveness.</p>	<p>The local industry has to compete with Colombia and African countries, where the minimum wage is lower than in Ecuador. This difference affects the revenues of the company.</p> <p>Ecuadorian roses are expensive than others (better quality), and not all the people are willing to assume the cost.</p>	<p>The firm only focused on the international industry. The owners analyzed the drinking sector in the east coast of the United States. The amount of customer healthy drinks is rising, but also the amount of competition.</p>	<p>This family firm still uses the recipe from 1895. They decided not to include other complementary ingredients such as fruits, herbs, peppers, etc., because tradition is their main value. Also, the products are 100% organic cocoa, without animal trace.</p> <p>The owners are aware that the local and international industry are very competitive. In Ecuador there are large companies that have resources to eco-innovate. The lack of financial resources is the main problem for SMEs and the adoption of environmental strategies.</p>

Internationalization knowledge	The owner said that it is not worthy or profitable to compete in the local market. The only opportunity for the enterprise to develop and growth is going internationally, because of the price difference.	Having international operations is vital for the survival of the company. In the international markets Ecuadorian roses are well recognized and international customers can pay more than Ecuadorian clients. The difference between national and international prices is wide.	The owner has knowledge and experience about the internationalization process. He only focused on selling their product abroad (east coast of the USA).	The firm used to sell around 20% of their product to Colombia, but as a consequence of the Covid-19 crisis they had a de-internationalization process. When both countries open the borders, they will continue with their sales in Colombia and seek for new clients.
Market knowledge	The owner mentioned the orders from North America and Russia are high between September and May. Also, there are special occasions like Valentine's Day, where a rose bouquet from Ecuador can cost more than \$150 dollars. Other special moments are Mother's Day and Christmas. During these holidays, the roses can cost \$1 dollar each stem (depends in the length and the color). Also, international certifications give the roses an added value and some customers (USA and EU) prefer products which are eco-friendly.	The owner said that in the United States the consumers like the red and pink roses; in Europe (Italy) they prefer orange and yellow. Depending on the market you are focusing you should cultivate and produce different colors. Also, he realizes that the number of clients looking for green products is increasing, and companies have to renovate themselves to comply with these requirements.	The owner stated that the United States market is not easy. There are lot of competitors. However, the teas have unique characteristics: natural flavors, healthy for the clients, only contain organic products, etc. These advantages help the firm to gain reputation and legitimize their position among competitors.	The owner replied that in the Colombian and Ecuadorian markets the prices play an important role, for instance, chocolates that are exported to USA o Europe can cost 6 dollars each tablet. However, in Colombian and Ecuador not all the people can pay this price, hence they firm decided to set prices according to the economic reality of Ecuador and Colombia.
Environmental knowledge	The owner decided to help the environment and the health of his employees by making his own compost (with the roses that are not in perfect shape). It takes times to do it, but the quality of the roses is superior. Also, having compost helped him to obtain an international certification, Rainforest Alliance.	The owner is aware of the damage fertilizers and pesticides cause to the soil, therefore he decided to use natural fertilizers, and built a new irrigation system to reduce water waste. Also, the packages can be recycled and comes from recycled materials.	The owner decided to use glass bottles for their teas. They gave a unique characteristic to their products and help the environment by reducing the use of plastic. Additionally, the raw materials are organic herbs.	The owner only buy organic cocoa, which not affects the soil. During the pandemic crisis they bought a machine which reduces waster waste and are willing to introduce new technology that helps in energy waste. Another way they reduce the negative impact towards the

				environment is selling the organic wastes from the cocoa to farmers.
Environmental values, goals, and attitudes	The influence of the family has been important for having environmental attitudes. Also, he mentioned he has the willingness to keep adopting new environmental strategies and assisting to conferences and learn about the new ecological trends in international markets.	The main goal of the owner was to have financial gains; however, this is not a limitation for learning about the environmental aspects. His firm complies with the Ecuadorian regulation and with EU and American regulations which are stricter in the environmental aspects. The government should create institutions that help SMEs to adopt environmental plans.	The owner at the beginning focused on the financial and social gains: financial because we were risking our money and we needed to have economic profits. Still, they included eco-friendly actions in their firm, and are willing to initiate the process for obtaining a green certification.	The owner implemented actions that help reducing the firm's negative impact towards the environment. Their long-term objective is to buy solar panels for electricity and obtain a green certification.