

Research article

Managers' environmental commitment towards the adoption of environmental strategies: Exporting Ecuadorian SMEs

Directivos y Estrategias Ambientales: PYMES Exportadoras de Ecuador

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Abstract

Introduction: Over the past few decades, sustainability and natural environmental degradation have grown in importance around the world. However, studies on internationalization and corporate environmental responsibility have frequently concentrated on larger businesses in industrialized nations. **Methodology:** This study examines the owners' engagement and environmental attitude in Ecuadorian exporting SMEs using four case studies. **Results:** The results indicate that the firm's green commitment and the owners' environmental attitude and involvement may be influenced by their prior knowledge, environmental goals. Additionally, human and financial resources are crucial to the company's adoption of eco-friendly practices. **Discussion:** In exporting Ecuadorian companies, a conceptual framework was created that describes the connection between the owners' past knowledge, their attitude toward the environment, and the company's green commitment. **Conclusions:** the article expands the literature in dynamic capabilities, top management commitment and environmental responsibility.

Key words: manager, prior knowledge, environmental attitude, environmental commitment, CER, internationalization, exporting Ecuadorian SMEs, international sustainable entrepreneurship.

Resumen

Introducción: La degradación ambiental natural y la sostenibilidad se han convertido en temas importantes en la esfera de los negocios internacionales durante las últimas décadas. Sin embargo, las investigaciones se han centrado en empresas más grandes de regiones desarrolladas. **Metodología:** Utilizando cuatro estudios de caso, este artículo analiza la actitud y el compromiso ambiental de los propietarios de las PYMES exportadoras ecuatorianas. **Resultados:** Los hallazgos sugieren que el conocimiento previo, los valores y objetivos ambientales de los propietarios pueden influir en su actitud y compromiso ambiental, y en el compromiso ecológico de la empresa. Además, los recursos financieros y humanos juegan un papel clave en la adopción de estrategias ecológicas dentro de la empresa. **Discusión:** Se desarrolló un marco conceptual que explica la relación entre el conocimiento previo de los propietarios, la actitud ambiental y el compromiso verde de las empresas exportadoras ecuatorianas. Conclusiones: Este artículo contribuye a la literatura internacional sobre emprendimiento sostenible y compromiso ambiental de los gerentes.

Palabras clave: gerentes, conocimientos previos, actitud ambiental, compromiso ambiental, estrategias ambientales, internacionalización, PYMES ecuatorianas exportadoras, emprendimiento sostenible

1. Introduction

International entrepreneurial activities are one of the most relevant sectors of the economy to promote economic growth within a country (Almodóvar-González et al., 2020; Peña-Vinces & Delgado-Márquez, 2013). However, this growth of the economy is not environmentally sustainable because of the natural resources' exploitation, leading to pollution, global warming and climate change. (Spence et al., 2012). In the last two decades stakeholders, clients, NGOs, international organizations, among others, have been pressuring SMEs, large and multinational corporations to adopt environmental strategies.

There are numerous internal and external factors influencing the adoption of environmental strategies within the firms; but there is lack of information explaining these phenomena in small and medium enterprises (Galkina, 2021). For example, Kennelly & Lewis (2003) mentioned the importance of internationalization on environmental performance. González-Benito & González-Benito, (2006) found that company features, stakeholder pressure, industrial sector and geographical location directly affect environmental proactivity of a firm. Peñasco et al., (2017) stated influence of customers in foreign markets, international regulations, cooperation with international institutions and the presence of foreign equity in firms may affect sustainable actions and eco-innovation within companies.

Even though, these phenomena can be studied from different perspectives there is one important aspect that can be the starting point for the adoption of environmental actions within the firm: the managers willingness to implement these strategies (Aguilera-Caracuel et al., 2011; Cantor et al., 2013; Peña-Vinces & Delgado-Márquez, 2013; Schaltegger & Wagner, 2011). Top managerial commitment to the environment is a key element for the adoption of environmental strategies within organizations. The commitment of top executives shapes the organizational culture towards sustainability and CSR. Literature indicates that personal commitment to environmental issues among top managers

significantly impacts their organizations' environmental practices (Cantor et al., 2013). In this sense the knowledge and commitment of the top managers towards the environment can be a decisive factor, but can also become a strong and significant barrier to accomplish environmental performance (Testa et al., 2016) especially in small and medium companies where the values of the owner are represented in the objectives and goals of the company.

The aim of this article is to determine the influence and impact of the managers' knowledge, education and capability of opportunity identification and exploitation in the commitment and adoption of PES in Ecuadorian SMEs dedicated to exportation. This research combines individual level (manager perspective) and organizational level (green strategies). We used a multilevel analysis to explain how and why the environmental commitment of the owner is molded and its impacts on the eco-friendly commitment of the company.

Barr (2007); Cassells & Lewis (2011); Dibrell et al. (2011); and Williams & Schaefer (2013) have shown that top management commitment has a positive influence on the adoption of environmental plans within the firms. These studies have focused on developed regions, where the environmental regulations are strict. However, it is important to move this research to developing regions and countries where institutions and regulations in the environment aspect are lax.

This paper makes several contributions. First, we expand the literature on managerial environmental commitment of a developing country. Second, we developed a conceptual framework, summarizing the relationship between managers' knowledge, education and capability of opportunity identification and exploitation in the commitment and adoption of proactive environmental strategies. Moreover, we identify external factors that affect the implantation of green strategies in exporting Ecuadorian SMEs.

To accomplish the objective we used a qualitative method. Semi-structured interviews were conducted to four managers of exporting Ecuadorian small and medium enterprises. The article has the following structure: first, literature review; second, the methodology Third, the findings, and discussion of the information. Finally, the conclusions, future research, and limitations.

2. Literature review and theoretical framework

2.1 Dynamic capabilities and opportunity recognition

Dynamic capabilities theory mentioned that the survival of organizations is based on developing new capabilities, in other words, new ways of identifying and exploiting opportunities in national and international markets. These new capabilities lead to competitive advantage and improve the firm's performance (Teece, 2016; Teece et al., 1997). In this sense, these dynamic capabilities are a combination of old resources with new ones to enhance the strategies of the company. The main difference with the resource based-view is that dynamic capabilities are not static resources, capabilities are considered processes to renew the organization (Teece et al., 1997).

A important aspect to consider in the dynamic capability theory is that seeking and exploiting opportunities cannot be done by the firm per se, the people working for the company are the ones responsible for identifying the chances (Ellis, 2011). Ambrosini & Altintas (2019); and Teece (2016), mentioned that top managers are the ones in charge of creating and implementing the new capabilities and strategies within the firm. Based on this, the dynamic capabilities can be studied at an individual level. Adner & Helfat (2003,

pg:1012) defined dynamic managerial capabilities 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”.

Managers' strategic thinking is viewed as an individual ability to face and adapt to change, fostering innovation and enhancing performance (Helfat et al., 2007). When managers are adjusted to environmental opportunities in foreign markets, their strategic thinking can serve as a catalyst for environmental responsibility, supporting the adoption of eco-friendly practices and sustainable development (Buil-Fabregà et al., 2017).

According to Reuber, Knight, Liesch, & Zhou, (2018) the individuals matter in the international opportunity identification because they are the ones making the opportunities decisions. Top managers must recognize and exploit opportunities to improve the firm's performance and create competitive advantage over their competitors. Boris et al., (2016) argued that definition of opportunity recognition, is not just recognition, and included three aspects: 1. perceiving the market needs or the unemployed resource; 2. discovering the fit between the particular market and the resources; 3. creating a new setting.

The identification and exploitation of opportunities is based on several factors, for example the manager's prior knowledge, education and commitment. According to Kraus et al., (2017) there are two aspects that make prior knowledge relevant for recognizing an opportunity, the first one is individuals existing data that creates new information and helps entrepreneurs to interpret it correctly; and the second one is that individuals' prior knowledge affects the ability to find appropriate solutions to an existing problems. Kontinen & Ojala, (2011) stated that individuals can recognize opportunities because they have prior information and the capability to evaluate it based on their cognitive capacity. Additionally to prior knowledge, also new information is relevant to recognize opportunities (Shane & Venkataraman, 2000), in other words entrepreneurs have the capacity to recognize opportunities where non-entrepreneurs do not identify (Lim & Xavier, 2015).

Likewise, Lim and Xavier (2015) mentioned that experience is part of prior knowledge and allows the entrepreneurs to discover certain opportunities that others could not. As every individual has different capabilities and knowledge, people discover diverse opportunities according to their particular way of gathering and processing information. In sum, prior knowledge enables a firm to create links between existing information and old data in ways that have not taken into account earlier.

In this article, we argued that a manager's prior knowledge and commitment to environmental issues play a crucial role in their company's survival and the implementation of environmental strategies. (Buil-Fabregà et al., 2017; González-Benito & González-Benito, 2006, 2010). Managers must develop an absorptive capacity (Lane et al., 2006), especially in the environmental aspect because knowledge lead to the implementation of new environmental practices, processes, and products. Moreover, Patzelt & Shepherd, (2011) claimed that owners with access to environmental information are more likely to identify environmental opportunities, compared to those whose primary focus is on business profits. Sustainable development and environmental responsibility need knowledge to enhance awareness and identify green business opportunities (Ceptureanu et al., 2017; Johnson, 2017; Roy & Thérin, 2008).

2.2 Managers' environmental commitment

Managerial commitment to the environment refers to the degree to which top managers exhibit dedication to protecting nature, shaping the firm's environmental strategy, and supporting its environmental initiatives (Banerjee et al., 2003; Graves et al., 2019). Such environmental engagement may come from personal aspirations and/or pressures from regulations and international market (Galkina, 2021).

The greater the environmental commitment of managers, the more emphasis is placed on implementing sustainable activities within the organization. This is particularly true for SMEs, where managers often act based on personal motivations. In addition, Buil-Fabregà, Alonso-Almeida, & Bagur-Femenías (2017) asserted that that top managers' individual capabilities evolve into competencies categorized as sensing (identifying and evaluating opportunities), seizing (executing the identified sustainable opportunities to create value), and transforming (ongoing eco-innovation). These competencies are vital for implementing sustainable plans within an enterprise. Managers in internationalized firms may acquire new knowledge that shapes their environmental commitment. When managers recognize new sustainable opportunities, they should commit and implement environmental strategies.

Additionally, it has been demonstrated that managers have a major impact on their company's environmental commitment through their evaluations, preferences, or choices, which are based on the potential for a competitive edge linked to environmental plans (López-Gamero et al., 2011) and the encouragement of eco-innovation to address complex issues (Woo & Kang, 2020). Entrepreneurs have different objectives that influence the operations and results of a company (Arru, 2020; Schaltegger & Wagner, 2011). For example, sustainable entrepreneurs have goals that incorporate social, economic and environmental aspects into their business operations. On the other hand, green entrepreneurs may only include environmental and economic strategies in their companies. The way managers identify, and exploit opportunities are based on their goals and commitments (Elfving et al., 2009).

Cassells & Lewis, (2011), Dibrell et al. (2011) and Testa et al. (2016) highlighted the importance of leadership attitudes in driving environmental practices within SMEs, emphasizing the role of owners/managers in shaping the company's sustainability initiatives. By fostering a green attitude among leaders, organizations can effectively implement eco-friendly strategies and policies to enhance their environmental performance. In sum, managers perceive in different ways opportunities, based on their knowledge, goals and commitments, and this lead companies to gain competitive advantage and capacity yo generate value using diverse strategies that may include become eco-friendly or sustaianble with the environment. Managers may intensify their company's environmental commitment while increasing sales, profits ans revenues, expanding their operations, breaking into new international markets and gaining new knowledge and technology. Finally, embracing sustainability can lead to a competitive advantage in the market and help firms differentiate themselves from competitors. It can also lead to cost savings through efficiency improvements and resource optimization.

3. Methodology

3.1 Research design

This article uses a qualitative method and applies a multiple case study strategy for several reasons: 1. This method can recognize similarities and differences in this case, among the

companies (Kontinen & Ojala, 2012). 2. In-depth understanding of the firms' context, managers' knowledge and commitment to the environment, the firms' actions and plans to adopt green strategies. 3. This investigation is exploratory and generates new insight rather than testing hypotheses. 4. Flexibility in data collection, this can lead to the discovery of unexpected topics and information that will not emerge in a quantitative framework.

The interpretative and inductive approach used in this paper explain the processes and phenomena under investigation (Gioia et al., 2013), in this case, what motivate the owners to adopt green practices in their companies. Semi-structured interviews were used with four different owners of the small and medium firms of Ecuador. The interviewees were owners and managers of their company. Additionally, secondary information was employed to validate the data provided by the interviewees. This information was from the websites of government institutions and the firms' official websites.

3.2 Qualitative sampling and case selection criteria

The definition of small and medium enterprise was from the Andean Community of Nations (2009), by the number of employees: small business: 10-49 employees; 3. medium business: 50-199 employees. Additionally, to the definition mentioned above we include some other criteria: 1. To be an Ecuadorian SMEs with a valid business structure. 2. At least 10% of the total sales must come from international operations. 3. To be part of the agroindustry sector. 4. The SMEs cannot be a subsidiary or a franchise of a multinational organization. 6. The managers need to be aware of environmental issues and possess environmental knowledge. 7. The willingness to be part of the research. The four enterprises comply with the aspects mentioned above as we can see in table 1.

Table 1.

Firms' information

	Company			
Firm	A	B	C	D
Industry segment	Agroindustry	Agroindustry	Agroindustry	Agroindustry
Exportation products	Roses	Roses, gypsophila and astromelies.	Herbal teas	Chocolates
Year of establishment.	2003	2005	2017	1895
Year of internationalization.	2003	2006	2018	2010
Number of employees.	20	15	10	12
Percentage of international sales	99%	96%	100%	19%
International entry mode	Intermediaries	Exports directly	Exports directly/subsidiary office	Intermediaries
First export's destination	United States	Italy	United States	Colombia
Current export's destinations	United States Canada Turkey Azerbaijan Russia	United States Russia Chile Spain	United States	Colombia

Source: Own elaboration. Interviews conducted by the author (2022).

Firm A is dedicated to the production and exportation of roses. The company was established in mid-2003, with its main office located in Tabacundo, Ecuador. It serves significant markets, including Canada, the United States, Russia, Turkey, and Azerbaijan. An important aspect of the company is its environmental certifications.

Firm B specializes in the production and sale of roses and gypsophila. It was established in 2005 in Tabacundo, Ecuador, the company has clients in the United States, Italy, Chile, Spain, and Russia. The owner possesses prior work experience in the same sector.

Firm C was consolidated in 2017, their core business is the production and sale of “*Horchata Lojana*”. The *horchata* contains 20 herbal plants, about 7 of the 20 herbal species that make up *horchata* are unique to the highlands of Ecuador. Lastly, the company exports its goods directly to the United States. The teas are available for purchase at over 100 locations around the US east coast.

Firm D makes and sells chocolate. It is a family business formed in 1895, and the current owners are the fourth generation to run it. The biggest distinguishing features are organic cocoa certification and the lack of animal trace.

3.3 Data collection and analysis

Between September and December 2022, we conducted four in-depth online interviews with SME owners. The interview questions, developed from existing literature, focused on three main areas: management's environmental commitment, prior environmental knowledge, and implemented environmental strategies. To ensure thorough responses, we provided the questionnaire to participants in advance. Each interview was conducted in Spanish via Zoom, lasting 60-90 minutes, with participants' consent for recording. The owners also submitted written responses highlighting key points from the discussion. When clarification was needed, follow-up conversations were conducted by phone. In September 2024 the owners were re-contacted via email to verify the information and look for the changes related to environmental commitment.

To establish mutual trust, neutral questions were asked at the start of each interview. The conversation then progressed to questions about their companies' background and context. The core discussion focused on environmental commitment and strategies, during which owners shared their environmental objectives and their integration into company operations. They mentioned their prior experiences, discussed challenges, and provided insights into their market dynamics and customer relationships. To complement the primary interview data, we collected secondary data from multiple sources. This included the companies' digital presence (websites and social media platforms) and record media interviews. Additional information was obtained from government institutions, specifically PROECUADOR, Superintendencia de Compañías, and Agrocalidad.

The research employed the Gioia et al., (2013) approach, which begins by developing broad concepts to explain theoretical phenomena. We used an inductive coding process for theory development, which consisted of several distinct stages: First, we created first-order categories directly from the raw data, maintaining the respondents' original language and terminology wherever possible. Next, we systematically grouped these first-order concepts into second- and third-order themes. This grouping process enabled us to identify key managerial characteristics and establish the foundation for our conceptual model. The final stage involved constructing the aggregate dimension, resulting in the data structure presented in Figure 1. The data structure shows the process that leads from raw data to the

aggregate dimensions (Gioia et al., 2013). Nvivo, a qualitative tool, was utilized to analyze the data. Some propositions were established to bring approaches together and determine future research topics.

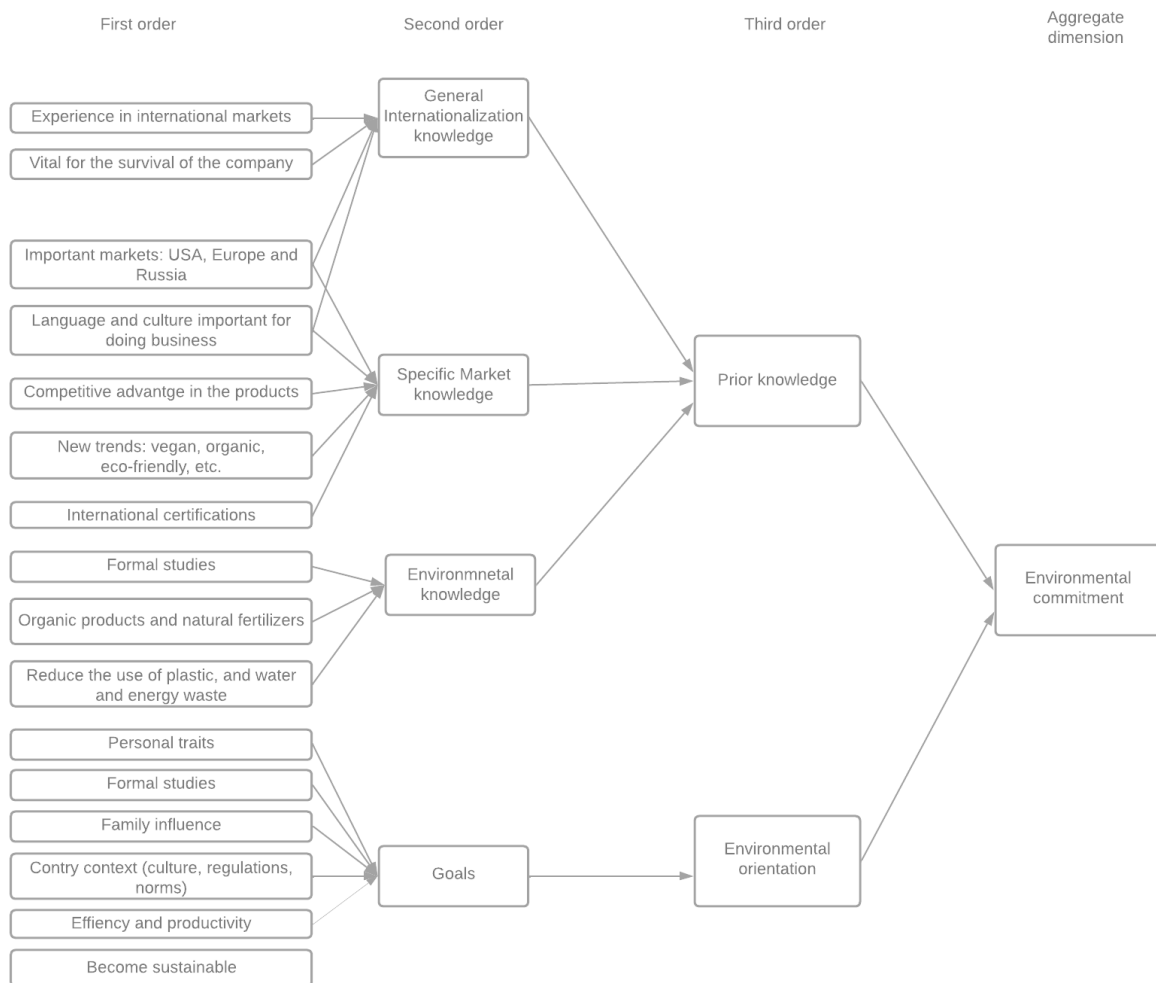
4. Findings and results: cross-case analysis

4.1 Prior knowledge and experience

Table 2 show data related to prior knowledge (market, internationalization, and environment). Knowledge is classified as low, medium and high knowledge, according to Kontinen & Ojala (2011). Managers with a high level of understanding provide information on the national and international sales and market, aim to penetrate to foreign markets, or implement environmental initiatives. Each entrepreneur provided extensive explanations. Medium knowledge suggests that owners don't immediately respond to new opportunities, but after consideration they found the chance to compete in international markets and implement green plans. The owners did not have enough information or knowledge about culture, or national environmental regulations.

Figure 1.

Data structure



Source: Model of Gioia et al. (2013).

Low knowledge can be understood as lack of information, or in other words, when business owners demonstrate minimal understanding in key areas. These owners typically show limited familiarity with processes, take no active steps to expand into foreign markets, lack implementation of PES, and show little engagement with emerging consumer trends.

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 *General prior internationalization knowledge*

Owners A, B, and C had high knowledge about international operations. Since their foundation the holders knew their products have the quality to be sold abroad. Additionally, they had experience from previous jobs to negotiate abroad with stakeholders, clients and customers. For instance, owners A and B worked more than 10 years in companies dedicated to the production and exportation of roses and other flowers. Owner A 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 B, 2022).

Owner A and Owner B agreed that expanding into international markets would not only increase their profits but also ensure the long-term success of their company. They both understood the potential for growth and success by leveraging the quality of Ecuadorian roses in global markets.

Moreover, owner C has internationalization knowledge due to his previous enterprise, he founded a company that had offices in some countries of Latin America. The main of the owners was to sell abroad for two reasons the international prices of herbal teas and the unique quality to compete in foreign markets. The owners developed a business plan and found a rising marketing looking for healthy beverages.

Nevertheless, owner D has low knowledge of internationalization. The owner explained their focus on the Colombian market, citing three key advantages: cost-effective transportation, shorter delivery times, and regulatory similarities with Ecuador that facilitate product entry. However, the owners lack both knowledge and experience in navigating the markets of developed regions, specifically North America and the European Union.

Additionally, owners A, B, and D used intermediaries to sell their products in foreign markets. Owner A said:

When you are starting to find clients is difficult, and intermediaries is an easy way to sell your products internationally. A big percentage of my products are sold in major supermarkets chains such as Sams, Costco and Walmart. However, without the intermediaries is almost impossible to negotiate directly with the supermarkets (Owner A, 2022).

Owner D argued that they export their chocolate to supermarkets in Colombia through distributors, they were the ones contacting them to start selling abroad. The managers of the

3 firms are aware that the revenues from selling through intermediaries are not as high as selling directly but it is the fastest and easiest way to start exporting.

On the other hand, owner C sells directly and will start promoting and advertising their teas on Amazon. In this case, the company uses around 5% of the profits to advertise the product in social media. The owner is aware that their potential customers can be found through Instagram and Facebook. Contrary, firms A and B, do not advertise their products in any way.

The four owners knew the logistics to sell their products internationally. They had all the licenses to export, the right packaging, the transportation. Additionally, owner A and D had international certification which facilitates the entry to developed countries like the United States and the European Union.

4.1.2 Foreign specific market knowledge

The sales from national market represents less than 5% in firms A, B, and C. Owners A and B have extensive understanding of the North American and European markets, but limited knowledge of the Russian, Azerbaijani, and Turkish markets. Owner B stated *“the language and the culture are important elements to consider when negotiating. The nature of Turkish and Azerbaijani people is to haggle, and they prefer different variety and color of roses.”* Owner A and B detailed that the price of the flowers is given by the market, season and culture. They gave the example of the Russian market which prefers white, red, blue and black roses with long stems (more than 80 cm), this means the time to produce the rose will be longer and the price will be more expensive as well. Also, manager A specified:

The orders from North America and Russia are high between September and May because the agriculturists from those countries cannot produce flowers due to the seasons (autumn and winter). Also, there are special occasion like Valentine’s Day, where a bouquet of 50 roses from Ecuador in a flower shop in the USA can cost more than 150 dollars. Other special events are Mother’s Day and Christmas. During these holidays, the rose’s producer can sell their product around 1 dollar per stem (depends in the length of the stem and the color) (Owner A, 2022).

Firm B mentioned the preferences of the consumers in the United States and Europe. The owner said:

In the United States the consumers like the red and pink roses, but in Europe (Italy) prefer color like orange and yellow. Depending on the market you are focusing on you should cultivate and produce different colors, and if you have two or more clients the production costs will increase and this another reason why I go into the international market (Owner B, 2022).

Environmental certifications have become increasingly critical in the floriculture industry, due to consumer preferences in North American and European markets where environmental consciousness is rapidly growing. This trend is clearly demonstrated by the contrasting experiences of Firms A and B. Firm A, which holds the Rainforest green certification, charges and extra 5-10 cents per rose, reflecting the value consumers place on environmentally conscious practices. This certification has translated into increased sales as environmentally conscious consumers gravitate toward their sustainable products. In contrast, Firm B, which lacks environmental certifications, is experiencing a loss of customers, particularly among sustainability-focused buyers. This market has lead both

firms to reevaluate their environmental practices. While Firm A is already benefiting from its eco-friendly approach, Firm B is now considering investing in ecological certifications to maintain market competitiveness and respond to the growing demand for sustainable products.

Owner C demonstrates high knowledge of the United States beverage market. They identified a growing consumer segment seeking healthy yet flavorful beverages. However, they also recognized the significant challenge of competing against established industry giants such as Coca-Cola, Nestlé, and Unilever. The owner replied:

The United States market is not easy, because there is a lot of competitors; but since the very first moment our aim was to give quality teas to our consumers, and we have done it; our teas are special and unique because there are healthy and use herbs that are only found in Ecuador. Our brand is growing we have 120 points of sales; in 2018 we won the third place in the HUB Week at Boston (Owner C, 2022).

Also, he said:

Our product is unique because it does not contain any artificial flavors. The teas use organic herbs only found in Ecuador. These herbs 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 their body. Our brand is growing, we sell the teas to local supermarkets, but they can also be found in Amazon USA (Owner C, 2022).

Owner D has a vast knowledge of the national market. The owner demonstrates strong market awareness, particularly regarding Colombian market dynamics. Her understanding involves both cultural and business aspects: she recognizes that shared cultural elements, traditions, and language between Ecuador and Colombia facilitate business negotiations and sales processes. Additionally, she shows clear understanding of current consumer trends, specifically the growing demand for organic, vegan, and environmentally conscious products. She 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 (Owner D, 2022).

4.2 Environmental knowledge

This section of the interview covered the owners' knowledge of Ecuador's natural environment, national and international environmental regulations and the environmental activities their businesses had taken in recent years.

Owner A has an educational background in chemical engineering, he possesses a scientific understanding of environmental issues including greenhouse effects, pollution, carbon footprint, soil erosion, and global warming. This technical knowledge has been enhanced by

his experience in rose cultivation, where he gained practical insights into the negative effects of synthetic fertilizers on soil quality, water resources, and human health. He stated:

I started using compost to cultivate the flower. It preserves 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 (Owner A, 2022).

At the beginning the company has two water reservoirs, but in 2024 they grew to 5 acres, and they built 2 more water reservoirs, which are filled with rainwater and river water. Owner A emphasizes water conservation due to specific operational constraints: the company's water access is limited by a community-based distribution system that must balance residential, agricultural and commercial needs. In response to these limitations, the company has implemented a drip irrigation system, enabling precise water delivery to their flowers while minimizing waste.

Owner B combines formal education as an industrial engineer with three decades of experience in the flower industry. His engineering background provides expertise in procedures, technology, productivity, and efficiency, while his extensive industry experience has produced practical insights into resource conservation, particularly in energy usage, water management, and soil preservation. He emphasizes Ecuador's unique competitive advantage in rose production, attributing the superior quality of Ecuadorian roses to three key environmental factors: soil composition, altitude, and climate. Given these natural advantages, he highlights the importance of preventing soil erosion to maintain the country's premier position in global rose production. He also installed an irrigation system to reduce water waste and built a reservoir to store rainfall. These two approaches enable this entrepreneur to save water costs and re-use it, lowering consumption. In 2023, the owner obtained an international certification Global Gap, which certifies sustainable farming practices.

Firm C's owners have a good knowledge of environmental issues. The expertise they gained during their university and master studies enabled them to explore the negative influence of businesses on the environment. It is important to mention that their herbal teas comply with American legislation and regulations, for example, packaging, export permissions. The owners were aware of the new trends and requirements of customers in the United States, based on the information they recognized the importance of environmental and social issues. 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 and help community development (Owner C, 2022).

Additionally, he mentioned that at the beginning of 2024 workers of the enterprise fulfilled a course about sustainability, which have helped them to improve the use of the resources, be more efficient and new strategies to help reduce their carbon footprint.

The studies of the company D owners are Food Engineering. Her studies were useful to identify new trends in flavors, the correct processes to get exceptional tastes considering the environment. Additionally, she followed courses about sustainable cocoa and to be more efficient in the process of making chocolate. Since the growth of the international price of

cocoa, the owner has implemented new technologies that help in the production of chocolate, reducing energy consumption.

The owners of company D demonstrate strong environmental awareness through their sustainability practices. Their approach to sustainability is evident in several key areas, their sourcing strategy prioritizes certified organic chocolate, a decision driven by both environmental and product quality considerations. They recognize that synthetic fertilizers and pesticides not only damage soil, flora, and fauna, but also compromise the cocoa's flavor profile. The use of organic cocoa provides them with a competitive advantage through superior scent and taste characteristics. The company has also implemented a circular economy approach by selling their natural cocoa waste to farmers for compost production, thereby completing the natural fertilizer cycle. 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. 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) (Owner D, 2022).

All four companies have adopted environmentally conscious packaging strategies. Their approaches vary by industry and market requirements, the rose exporters (Firms A and B) ship their products to the United States, Russia, and the European Union using recyclable cardboard boxes made from recycled materials. Both companies have actively worked to minimize plastic content in their packaging. Firm C, operating in the beverage sector, has prioritized glass bottles in their production and has reduced plastic usage in their manufacturing processes. Company D packages their chocolates in recyclable paperboard, aligning with their broader environmental commitment. Overall, all four owners are committed to sustainability and reducing their environmental impact through their packaging choices. They are constantly looking for ways to innovate and improve their practices in order to contribute positively to the environment.

The four companies recognize the importance of being eco-responsible. For firms A and B, the owners are required to adhere to environmental plans to maintain their international certifications. Meanwhile, firms C and D must implement new strategies to obtain the environmental certifications they are pursuing. Additionally, acquiring these certifications will facilitate access to markets like those in Europe and the United States. (Peña-Vinces & Delgado-Márquez, 2013; Zhu et al., 2011). Implementing environmental management systems and obtaining certifications not only demonstrates a commitment to sustainability but also opens up opportunities for businesses to expand their market reach and appeal to environmentally conscious consumers. By investing in eco-responsible practices, companies can differentiate themselves from competitors and build a positive brand image that resonates with global consumers.

Table 2.*Entrepreneurs prior knowledge*

	Internationalization	International Market	Environmental issues
Firm A	High	High/medium	High
Firm B	High	High/medium	Medium
Firm C	High	High	High
Firm D	Low	Medium	High

Source: Kontinen & Ojala (2011)

4.2 Environmental goals, orientation, and commitment

When the company was founded, Owner A's primary focus was on economic and financial goals. He saw and capitalized on the opportunity to export roses, but over time, he has developed a greater concern for the environment. 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 (Owner A, 2022).

Owner A noted that his family and relatives had a vital role in instilling environmental actions in his business. His wife and children began recycling, reusing plastic bags, and purchasing organic food from tiny, local farms about 20 years ago (these actions were not common in Ecuador a few years ago). Owner A decided to incorporate some activities into his company. He investigated environmentally friendly practices such as composting, utilizing natural fertilizers, reusing plastic, printing less, etc. Additionally, he is thinking of implementing clean energy in this company. He believes that the first stage in implementing sustainable initiatives is the owner's environmental goals. Becoming more aware of climate change and how it will affect future generations, owner A identifies the opportunities to become green within their company, and the profits of adopt environmental practices have been rising in the last years.

Firm A implemented several strategies, including hiring an environmental engineer to develop compost, construct reservoirs, implement a new irrigation system, and assisting with obtaining 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." He claimed that Ecuadorian laws related to the environment are lax, with organizations only meeting the bare minimum. As a result, managers must be highly motivated and have a favorable attitude toward nature in order to voluntarily adopt environmental strategies in their businesses that exceed the minimum standards. In the example of firm A, the adoption of the environmental plans has helped the firm to enhance its presence in overseas markets, earnings, and revenues. Roses with environmental certification are more valuable in Europe and the United States. The owner perceives the implementation of proactive environmental strategies as a long-term investment and not a expense.

Owner B established his own company to achieve greater economic benefits. However, over the past decade, he noticed an increasing demand from clients for eco-friendly products, which led him to start integrating environmental practices into his business. He expressed his vision of having highly proactive environmental measures in place in the medium term but emphasized the need for support from the Ecuadorian government. He suggested that Ecuadorian institutions should offer financial resources and training programs to assist SMEs in implementing sustainable practices.

Owner C explained that the primary motivations for establishing the company were both financial and social. However, he also recognizes the importance of environmental issues to clients. The company exclusively uses organic horchata in its teas, which are cultivated by rural farmers in the Andes who rely on natural pest control and fertilizers. This practice not only preserves the soil and rivers but also enhances the flavor of their teas. Additionally, the company's supply chains utilize biodegradable packaging. These initiatives – such as the use of glass bottles, sourcing organic horchata, minimizing printing, relying solely on social media for marketing, and applying for environmental certifications – highlight the firm's commitment to sustainability as well as the manager's strong environmental values and attitudes.

The owners of Firm D are deeply committed to preserving natural resources and protecting the environment. They have adopted several eco-friendly practices, such as recycling, reducing the use of plastic and paper, sourcing organic cocoa, utilizing biodegradable packaging, and selling organic waste for composting. Additionally, they plan to implement solar panels for electricity in the future. Their environmental commitment is reflected in the company's dedication to supporting the natural environment through green initiatives and the development of innovative solutions. The owner emphasized that education is the most essential element for fostering eco-friendly practices and inspiring other entrepreneurs to respect the environment and adopt sustainable techniques in their businesses. She also highlighted that formal education plays a vital role in ensuring the company's survival and driving innovation.

The transfer of knowledge, goals and commitment to the rest of the workers has been a key element to becoming green. All the people of the firm must share the same environmental goals to achieve the objective. In this research the owners were the ones in charge of transferring the benefits of implementing environmentally sustainable plans. Also, they are deciding which eco-friendly strategy is the most favorable for the company. Finally, the forma studies have a breaking point to engage in green activities. The more aware you are of the damage agroindustry is doing to the world, the more sustainable you want to become. Additionally, the revenues of becoming green are seen in the profits, legitimization and reputation among your competitors.

All of the firms noted that the biggest challenge in developing environmental strategies is the high cost. While many entrepreneurs possess the expertise, experience, and a positive attitude toward nature, not all are willing to invest the necessary funds to implement eco-friendly measures until their brand has gained recognition in both global and national markets. Without the assistance of commercial and public entities, exporting Ecuadorian SMEs find it impossible to implement environmental policies. Purchasing eco-technology can be expensive; recruiting staff who specialize in green initiatives can raise costs; and gaining green certifications can be costly. The owners mentioned that investing in sustainable practices can lead to long-term cost savings, increased competitiveness, and improved brand reputation. Additionally, collaborating with government agencies and non-profit organizations is needed.

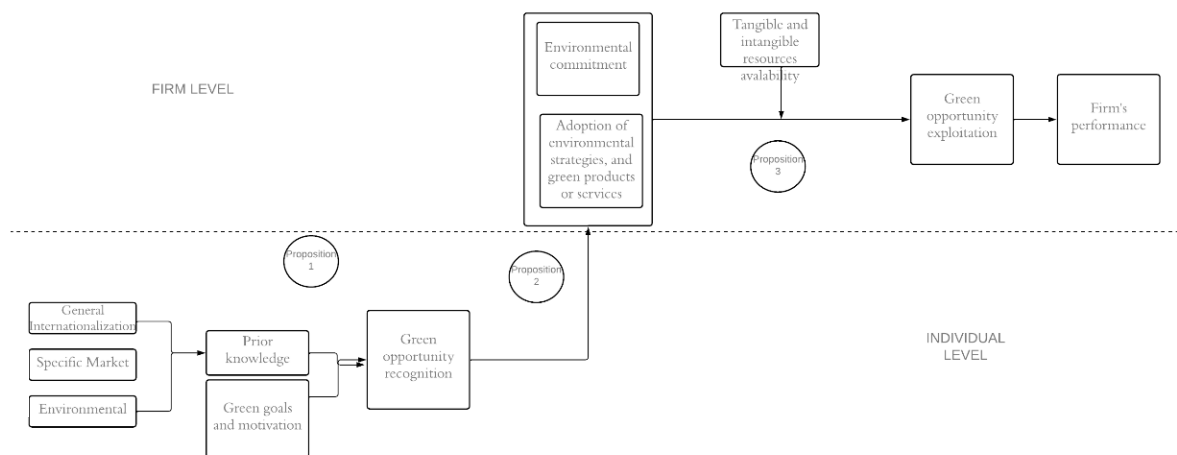
5. Discussion

Few researchers have explored environmental commitment at both the individual and organizational levels (Jahanshahi et al., 2017). This article contribution by highlighting entrepreneurs' prior knowledge as a key driver of eco-entrepreneurial goals and the adoption of strategies, particularly in the context of environmental responsibility.

The following conceptual framework explains the findings of the research. The owners stated that they would not have recognized and taken advantage of new chances if they had not had prior market knowledge, nor would they have been able to identify changes in environmental legislation and client requirements. Respondents C and D, for instance, introduced eco-friendly packaging to the market after realizing the detrimental effects of utilizing plastic products. Similarly, business owner A and B recognized the benefit that comes with holding green certifications. Using the opportunity, he earned an international green certification.

Figure 2.

Conceptual framework



Source: Interviews conducted by the author (2022)

The results showed the managers dynamic capabilities are essential for adopting environmental practices (Andersson & Evers, 2015). It would be more difficult for businesses to go green and sustainable without their willingness, expertise, and talents. Furthermore, Roy & Thérin (2008) discovered that SMEs' attempts to strengthen their environmental commitment are significantly influenced by their level of knowledge and experience. According to the authors, businesses that are more committed to the environment are more receptive to outside information regarding marketing and environmental concerns. The four owners, are always searching their clients' evolving needs in order to satisfy them, including waste management, organic products, eco-friendly packaging, and green certifications. By staying informed about industry trends and best practices, SME owners can adapt their strategies to align with consumer demands and stay competitive. This approach to knowledge acquisition can ultimately lead to long-term success and sustainability for SMEs looking to enhance their environmental commitment (Ye et al., 2020).

The four owners possess knowledge about natural environment. By learning about the environment, the owners were able to take advantage of other consumer niches in developed

areas, such as those who exclusively purchase organic goods. These results corroborate research by Patzelt & Shepherd (2011); Hanohov & Baldacchino (2018); and Muñoz & Dimov (2017) that emphasizes the value of understanding the natural environment. Businesses may implement green practices if owners and managers have the knowledge, the resources, and the commitment to adapt. Furthermore, entrepreneurs' perceptions of opportunities are influenced by their prior knowledge, experience and green goals (Ceptureanu et al., 2017). Hence, we suggest the following proposition:

1. Entrepreneurs' prior knowledge in areas such as internationalization, marketing, and the environment, as well as their green goals, significantly influence their ability to recognize opportunities in exporting within Ecuadorian SMEs.

The results from Cantor et al. (2013); Hanohov & Baldacchino (2018); Jahanshahi et al. (2017); and Muñoz & Dimov (2017) supported the ones from this research. The case studies showed that the environmental commitment of the managers are a key driver to the adoption of eco-friendly practices. They are the first ones to introduce the green ideas and how to put them into practice within the firm. Managers' environmental commitment shows the overall environmental policies of the company (Liu et al., 2014).

Entrepreneurs leverage the level of environmental commitment exhibited by their companies. According to Dibrell et al. (2011) firms' innovativeness is influenced by the environmental commitment of their top management. A company's implementation of PES can result in the creation of unique green products, and an improvement in the company's performance (Katsikeas et al., 2016). The four respondents mentioned that they are always examining the requirements of their clients, emerging trends, and stakeholder pressure to create new green products and processes. According to Fraj-Andrés et al., (2009) the managers attract new customers who have similar environmental ideals.

Moreover, the environmental commitment and knowledge of the manager affects directly in the eco-friendly solutions and opportunities recognition of the firm (Ceptureanu et al., 2017). For instance, owner A increased his profits and markets after obtaining the green certification. Owner C included the requirement of the clients (no plastic bottles) in the package of the tea. Finally, owners C and D used green marketing strategies to advertise the unique characteristics of their products. In sum, the four companies are looking for innovative products and processes that satisfy the need of the clients in relation to environmental strategies. We propose the next argument:

2. Managers' environmental commitment directly influences the implementation of green strategies, the pursuit of environmental business opportunities, and the creation of innovative eco-friendly products.

Apart from the willingness and commitment of the owner, there are important issues to consider when adopting proactive environmental strategies, such as availability of financial resources and human capital. Not all the companies have enough resources to implement PES or obtain international certifications. The high costs of implementing green plans may affect the desire to adopt them in the short term. The owners said that the lack of help from the Government has been an important barrier as well. This result confirmed the idea of Ye et al., (2020) who asserted that many developing nations lack a policy framework to support green initiatives, showing that even though have the sustainable commitment there are some restraints to complete the adoption of the strategies. Thus, we suggest the next proposition:

3. The availability of human and financial resources may have a slight negative impact on a firm's commitment to the environment and its ability to exploit green opportunities.

The four SMEs implemented actions to reduce their negative environmental impact. Firm A's export sales increased after acquisition of the green certification. Because of the reservoir and modern irrigation system, Firm B used less water and energy. Firm C was able to compete due to their competitive advantage of organic herbs and glass bottles. Lastly, company D used the circular economy concept for organic waste and purchased new water-saving technologies. These initiatives not only benefit the environment but also enhance the companies' brand image and appeal to environmentally conscious consumers. By taking proactive steps towards sustainability, the firms are positioning themselves for long-term success in a rapidly changing business context.

6. CONCLUSIONS

The study highlights that entrepreneurs' prior knowledge plays a crucial role in shaping managerial commitment to the environment and the adoption of environmental strategies in Ecuadorian exporting SMEs. However, factors such as financial and human resources also contribute to this adoption process. Additionally, existing literature on CSR and environmental responsibility mainly stems from European or North American perspectives, focusing primarily on large corporations (Stewart & Gapp, 2014).

The study explores the impact of entrepreneurs' attitudes on environmental practices in Ecuadorian SMEs, highlighting the under-researched relationship between managerial engagement and environmental responsibility. It provides a micro-perspective of individual owners, focusing on emotions, green goals, experiences, and commitment (Zolfaghari Ejlal Manesh & Rialp-Criado, 2019). This research contributes to the understanding of what makes some exporting SMEs eco-friendly, contributing to the literature on environmental practices. The third contribution is related with the three types of prior knowledge and its relationship with the recognition and exploitation of environmental opportunities. It also highlights the absence of financial resources for adopting environmental strategies or investing, particularly in Ecuadorian SMEs. The findings have implications for academics, managers, and policymakers. Entrepreneurs should consider the positive benefits of environmental strategies, viewing them as long-term investments rather than high short-term expenses. The research highlights the need for continuous learning and commitment to environmental sustainability.

Our research contributes to understanding managerial environmental commitment. We investigate how prior knowledge shapes environmental attitudes and commitment among Ecuadorian SME export managers. These managers face stakeholder pressure, must meet international standards, and are consequently more inclined to implement environmental practices.

Additionally, there are some drivers that negatively influence the adoption of environmental strategies, for example the lack of financial and human resources, help from public institutions, the limited programs from the government to help SMEs improve their green practices and plans.

Policy implications include implementing stricter environmental regulations while offering tax incentives for sustainable practices, partnering with financial institutions to create green

credit lines for eco-friendly exporters, and integrating environmental criteria into banking risk assessments, recognizing how sustainable practices reduce firm risk (Testa et al., 2016). The research on Ecuadorian SMEs exporting has some limitations. First, the environmental commitment of the owners is influenced by cultural, economic and social factors and we cannot generalize the results. The green practices from companies in the Andean and the Amazon region (oil-oriented) may differ. The results cannot be generalized to all exporting SMEs of developing regions. Further research is needed to support the findings, using quantitative methods. A limitation is this study's exclusive focus on Ecuador's agro-industrial SME exporters - a sector with significant environmental impacts (pesticides, fertilization, irrigation, mechanization, land use, greenhouse emissions, water pollution). Future research should extend to construction, textiles, and services sectors (Altieri, 2004; FAO & OMS, 2012).

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