**Green innovation in the Latin American Agri-food Industry: Understanding the influence of family involvement and business practices**

## 1. Introduction

There is a growing interest in understanding how innovation in the agri-food industry unfolds (Bossle et al., 2016). The agri-food industry is one of the most representative economic activities in many countries in terms of employment and income (Reardon et al., 2009). In Latin America, it is one of the most important industries across countries. According to the World Bank, the agri-food sector contributes between 5 and 18% of GDP to the economies of the Latin American region (OECD/FAO, 2019), for example, the contribution is greatest in Guatemala with 31.3% and lowest in Argentina with 0.06%, with an average employment rate of 17.1% across countries. Thus, understanding how diverse forms of innovation influence the agri-food industry in this region of the world is relevant.

In the agri-food sector around the world, family firms are common (Dangelico et al., 2019; Vrontis et al., 2019). Family firms, which relate to businesses intertwining family involvement, business objectives and innovation, are the most widespread business form around the world (Melin et al., 2014; Howorth & Robinson, 2020) and Latin America is no exception (Müller & Sandoval-Arzaga, 2021; Müller et al., 2018; Nordqvist et al., 2011). In Latin America, family firms are the driving force in the agricultural landscape (Discua Cruz et al., 2020; Solano, 2018; Roscoe et al., 2013). Such impetus is attributed to the set of values, symbols and traditions rooted in the area where families are located (Basco et al., 2021; Godoy-Durán et al., 2017). Thus, understanding the rationale and approach of Latin American family businesses in the agri-food sector that relate to innovative practices and how they blend with family goals and objectives merits further attention.

Family firms have to innovate to survive (Holt & Daspit, 2015). While several studies have attempted to understand the relevance of innovative practices in Latin American family firms linked to the agri-food industry, there is limited understanding as to green innovation, that is the development of new products and processes that substantially reduce the environmental impact (Fussler & James (1996) ) in family firms in the Latin American region. We argue that this lacuna relates to several reasons.

First, despite growing attention to the study of green innovation, research comparing family and non-family businesses has often presented contrasting findings (Doluca et al., 2018; Huang et al., 2009; Aiello et al., 2021). Doluca et al. (2018) looked into the environmental behaviour of family firms in comparison with their non-family counterparts, highlighting that family companies initially show a conservative and less proactive behaviour, but over time, the behaviour between family and non-family businesses converges. Prior studies that highlight the varying levels of influence by different actors in the firm will affect the adoption of ecological innovations (Huang et al. 2009.) More recently, Aiello et al. (2021) argue that family businesses are less likely than non-family businesses to implement green innovations and conclude that the role of family participation in green innovation may be more influential than previously believed. We still know little about how family structures and other family characteristics may affect green innovation adoption (Neubaum et al., 2012; Yáñez-Araque et al., 2021).

Second, despite efforts to explain the green innovation phenomenon in family businesses, recent studies fail to explain how and why family influences green innovation decisions (Dyer, 2003). Current studies are limited as they focus mostly on the differences in product, process and organization of green innovation frameworks or comparing the results between family and non-family firms (Song et al., 2019). The existing research on green innovation in the agri-food industry often overlooks the role played by the context of the owning or controlling family (Berrone et al., 2012; Contò et al., 2015).

Finally, as family firms are more receptive to the different demands of interest groups than non-family businesses (Cennamo et al., 2012) they tend to exhibit a higher social or environmental performance (Dyer & Whetten, 2006; Campopiano & De Massis, 2015). Stakeholders from industry, community and family spheres many influence the way family firms behave (Discua Cruz, 2020) and thus may tend to adopt a strong stakeholder management orientation (Ylvisaker, 1990) engaging in diverse initiatives to address the concerns of their constituents (Danco & Ward, 1990). Whilst a stakeholder theoretical perspective (Freeman, 1984) has been used to understand the way family firms innovate there is still an incomplete picture of how stakeholders influence the owning/controlling family to make green innovation decisions. Stakeholders are known to pressure companies to behave ethically and in the best common interest of the environment and society (Sharma & Henriques, 2005). Moreover, the institutional environment may influence how stakeholders relate to existing family firms (Aparicio et al., 2017). Recent studies (Tyler et al., 2020) suggest that in family firms, internal stakeholders play an important role in adopting innovative practices, while in non-family businesses external stakeholders (e.g. governmental institutions or industry associations) are more relevant. Nevertheless, little has been developed in terms of a stakeholder perspective in green innovation in family firms.

In Latin American countries and in developing countries in general, stakeholder influence is characterized by a relationship where arbitrary application of the law, bureaucratic inconsistencies, insecurity of property rights and corruption predominate (Dobers & Halme, 2009; Jamali & Mirshak, 2007). When such conditions exist, family firm owners may prefer to protect their interests and may be less in tune with external stakeholders (Bingham et al., 2011). Since these institutional gaps weaken stakeholders in terms of maturity or awareness, they may not be able to influence companies in the same way as in a more developed institutional environment. To deepen understanding, scholars call to study companies that adopt responsible practices not only to build social legitimacy and respond to stakeholders, but also to adapt to their business environment (Goll & Rasheed, 2004). How stakeholders influence the adoption of green innovation practices remains unknown. Thus, there is room to theorise about the way green innovation may influence family firms in Latin America. We speculate that stakeholders can influence the way Latin American family firms in the agri-food sector engage in green innovation.

This study aims to provide a more complete picture of green innovation in family businesses from a perspective of internal and external stakeholders, as well as contextualize these decisions in a region with a heterogeneous institutional environment such as is in Latin American countries. Based on our previous depiction on family firms, stakeholder perspectives and environmental initiatives in the agri-food sector our study focuses specifically in the following questions:

RQ1.

> How do stakeholders pressures impact family businesses in Latin America to implement green innovation practices ?

RQ2.

> What impact do stakeholders' pressures have on family engagement to implement green innovation practices Do stakeholder pressures have a positive influence on family involvement to implement socially responsible practices

Departing from a review of the literature on green innovation, family business, and stakeholder management, we identify key concepts for studying green innovation in family firms and develop a conceptual framework that links them together. This framework will be the basis for the empirical analysis carried out through a methodology of multiple case studies (Leppäaho et al., 2016) in which eight family businesses that operate in the agri-food industry from five countries in Latin America. Latin America represents a context that is under researched in terms of green innovation in the agri-food sector and thus a relevant context to explore. We followed mainstream qualitative guidelines in family firm research (Silverman, 2016; Reay & Zhang, 2014) with data collected in the context of COVID19, adapting the research design to new guidelines (Lobe et al., 2020).

Our findings reveal that…. From a theoretical perspective the paper advances research on the influence that stakeholders have on FB decisions from a CSR point of view, revealing the positive relationship between relational influence and family involvement. From a managerial perspective it is also valuable as it highlights the heterogeneity of green innovation initiatives (across countries) and the importance of some key characteristics that the FB must have. Furthermore, it also highlights to which degree stakeholders are impacted by those initiatives. …. Empirical implications relate to conducting a study across Latin American countries in relation to the agri-food industry.

The article continues as follows: first, an analysis of the theoretical background of the main themes of our article, and the identification of a gap. Then the Context and Research Method are described. Next, the Findings of the case studies are presented and discussed, then

Discussion and Conclusions are detailed and finally the Limitations and Future Research are shown.

## 2. Literature review

### 2.1 Green innovation in the family business

Green innovation is a relatively recent concept with multiple available definitions. Fussler & James (1996) conceptualize it as the development of new products and processes that provide value to the customer and the business, but substantially reduce the environmental impact. Similarly, Rennings (2000) defined ecological innovations as a firm's adoption of a green idea or behaviour, such as a system, policy, program, device, process, product or service, which either contributes to a reduction of environmental burdens or meets ecologically specified sustainability targets, and is new to the adopting firm (Rennings, 2000).

For family firms, where innovation is a critical issue (Bresciani et al., 2013) particularly in current conditions (Leppäaho & Ritala, 2021), the decision to engage in green innovation can be quite complex. This is largely due to the paradox family firms face while often having two conflicting objectives: that of economic efficiency, and that of family social interests (Astrachan & Jaskiewicz, 2008; Zahra et al., 2014). Thereby, the business is expected to achieve financial and market success, while at the same time managing family needs for employment, identity, and wealth. These idiosyncratic characteristics of family businesses may make the pursuit of green innovation practices complicated (Gómez-Mejia et al., 2007).

Prior studies suggest that the adoption of green innovation aspects may relate to the perception of a competitive advantage. In that sense, Porter (1997) identified two generic types of competitive advantage: low cost and differentiation. Accordingly, a company can obtain a competitive advantage by selling products or services at the lowest cost in its industry or, on the other hand, by using differentiation strategies to create unique characteristics for its products or services. This differentiation usually come from companies' ability to acquire and manage resources, such as technical capabilities, brand leadership, financial capabilities, organizational structure and culture, and other intangibles, all of which can be implemented to serve the goal of creating a competitive advantage around green innovation.

Based on the above, business initiatives related to green innovation can be classified into four generic types of competitive strategies, namely, eco-branding, eco-efficiency, CSR initiatives and beyond compliance. Eco-branding is a group of productive and commercial initiatives aimed at developing a defined market niche that values the traceability of the production process with the least impact on the environment where consumers are willing to pay the costs of ecological differentiation. An example of this is advertising the use of green, fair trade or other certifications. Eco-efficiency strategy refers to biologically inspired production models that increase productivity of the processes, but at the same time reduce the environmental impact and costs. CSR initiatives refers to the economic and/or ethical and/or philanthropic initiatives of the company that benefit the community and stakeholders in general. Lastly, the beyond compliance category refers to business decisions that seek not only to increase the efficiency of their organizational processes, but also want customers and the general public to recognize their efforts and are willing to spend money to adhere to codes of environmental management and investing in unprofitable environmental improvements, even exceeding the regulation itself (Orsato, 2006; Atkin, Gilinsky, & Newton, 2012; Gauthier, 2017).

However, recent studies indicate that, in relation to environmental objectives, family businesses have a longer-term horizon, seeking transgenerational sustainability and its continuity through subsequent generations (Walls & Berrone, 2017). Hence, there is an implicit desire to maintain family status, thus prioritising channeling resources from economic to non-economic goals and adopting environmental practices to increase the relational and social wealth even when this requires sacrificing financial profitability (Neubaum et al., 2012). Moreover, the internal preference of family members may influence the decision to adopt environmental practices (Tyler et al., 2020) which intensify when the firm is owned by several family members (Uhlaner et al., 2012).

There is a lack of studies about (green) innovation strategies in agricultural family businesses (Vrontis et al., 2019), despite the relevance and importance of family firms for the agricultural sector (Contò et al., 2015). Our study aims to provide in-depth insight on the topic and fill in some of these gaps in the context of Latin America, where family firms dominate the agricultural sector (Discua Cruz et al., 2020) and a growing demand for organic and more eco-friendly agricultural products is countered by a lack of supply and variety (González, 2009).

## 2.2 Stakeholder management in the family business

The seminal work of Freeman (1984:47) indicates that a stakeholder is an interested party that represents "any group or individual who can affect, or is affected by, the achievement of an organization's objectives". Stakeholders include external parties, such as suppliers, customers, governments, competitors, civil society organizations, the local community, and the environment, as well as internal parties, such as employees, unions, and shareholders (Harrison, Bosse, & Phillips, 2010), which also affects firms' concerns about reputation, branding, and other customer-related issues (Sukumar & Edgar, 2009). The fundamental premise of stakeholder theory suggests that to survive, prosper and gain acceptance, companies must act in support of the claims of important stakeholders (Freeman, 2004). Hence, companies that do not respond to their stakeholders risk a variety of potentially harmful consequences, including consumer boycotts, pressure from special interest groups, employee strikes, or shareholder activism (Freeman, 1984).

Stakeholders gain power when they are considered important, when their claims are considered legitimate, and when their interests lead to quick responses from the company

(Mitchell, et al., 1997). In line with this, family members are a distinctive and important stakeholder for family firms that can play a multitude of roles (e.g. shareholders, managers, CEOs, employees, or representatives of the local community), giving them the opportunity to channel and meet the demands of other stakeholders (Chrisman et al., 2005).

Recent studies underscore the various stakeholders in family firms (Holt et al., 2017) and provide arguments about how stakeholders may influence family firms (García-Sánchez et al., 2021;) often influencing them to adopt a more sustainable and environmental behaviour in relation to the requirements of the interest groups, especially with regard to family roots, identity and prestige in the community (Heino et al., 2020). In addition, family firms are more sensitive to the demands of their internal stakeholders due to their long-term orientationand their intention to maintain socio-emotional wealth (Dangelico et al., 2019). These internal stakeholders include in particular the founders and the dominant coalition (Cabrera-Suárez et al., 2011), whose perception of environmental values may affect the company's environmental strategy, and subsequent generations. Yet family businesses may emphasize actions that reflect family interests over those of other stakeholders, which may impact the way they engage in practices that address environmental concerns or interests (McGuire et al., 2012).

An aspect that supports the interest to address stakeholder demands relates to the identity of the family firm within their community and its territorial scope. The practices of family firms may be determined by the social prestige of the family in the community (Le Breton-Miller, & Miller, 2016), and by being part of the social fabric, playing an integrating role between the family, the community, groups and business associations. Hence, family firms may be more sensitive to setting social goals, as they are closely involved in the area and in their community (Marques et al., 2014; Kariyapperuma & Collins, 2021), thus leading to environmental practices (Neubaum et. al. 2012). Although all companies have non-financial objectives that generate value for stakeholders, family firms may be more sensitive to responding to stakeholder requirements, due to their proximity, flexibility, and informal mechanisms (Gjergji, et al. al., 2021).

Similarly, recent studies highlight that a formal way to address stakeholder concerns revolves around formal practices, such as CSR reporting (e.g Campopiano & De Massis, 2015; Discua Cruz, 2020). Campopiano & De Massis (2015) suggest that the corporate social responsibility reports of family businesses tend to focus more on environmental aspects. In Latin America, qualitative studies have revealed that cultural aspects highlightsstakeholders as influential to make family firms interested in formally addressing societal concerns based on a balance of both family and business objectives (Discua Cruz, 2020). These studies attribute such attention to a greater concern for protecting relational and social dynamics in the long term (Venturelli et al., 2021). These arguments lead to a perception of family businesses as more receptive to social demands and, in particular, to a greater willingness to place environmental objectives at the centre of their social agenda (Berrone et al. 2012). Conversely, other works such as that of Yáñez-Araque et al. (2021), argue that family businesses may have nepotistic practices and characteristics that result in lower levels of commitment to interest groups by putting family goals before any other.

A prior study by Miller and Le–Breton–Miller (2005) focusingon several family firms changes are possible often when business practices and strategies take into account relationships with stakeholders.

Recent studies call for further understanding of how family firms respond to the demands of different stakeholders in terms of environmental innovation and social responsibility (Holt & Daspit, 2015) The influence of internal and external stakeholders' as well as contextual characteristics may be driven by family involvement and business practices. Recent studies focusing on cases of family firms that have pioneered new way to become sustainable, highlight that innovation and business practices may be influenced by diverse stakeholders (Sharma & Sharma, 2021) Such studies call for a in-depth understanding of how stakeholders influence the way family firms behave when innovative practices are considered. A stakeholder view has been used in prior studies of family businesses. Yet little has been developed in terms of a stakeholder perspective in green innovation in family firms. We explore a context where this may occur next.

## 3. Context and Methodology

### 3.1 Context

Most of the studies on green innovation in the agri-food industry are contextualized in developed countries and there is little research from developing countries (Dangelico et al., 2019). Likewise, few studies cover the dynamics of the family business in green innovation in the agri-food industry (Ardito et al., 2019). We address this deficiency and focus specifically on a region like Latin America where the majority of businesses are owned and operated by families (Müller et al., 2018; Vazquez et al., 2020). Latin America is also a region with high innovation rates, especially within family firms (Discua Cruz et al., 2012; Herrera-Echeverri et al., 2016).

We have several reasons to choose to explore our research questions in Latin America. In the first place, Latin America is an economy based on agriculture; over 16% of exports worldwide correspond to this region (FAO, 2021), It is also the main producer of soybeans, maize, animal feed, sugar, coffee, fruits and vegetables (FAO, 2019). It is estimated that 85% of the firms in Latin America are family-owned businesses generating more than 60% of Latin America's GDP and employing around 70% of the workforce (EY, 2017). Second, the Latin American region is a developing economy with low institutional quality, with weak and in some countries, non-existent, institutions (Müller & Sandoval-Arzaga, 2021). To understand the influence of institutional pressures for green innovation Latin America was ideal as it is a region with loose institutional regulations (Sawyer, 2011), thus creating an appropriate setting to evaluate whether firms are driven by internal or external stakeholders when they engage in green innovation initiatives. In this context, family businesses are essential as social support systems and may act as agents that support the economic and social development of their region (Basco et al., 2019). Third, the region may be diverse in terms of green innovation initiatives (Grazzi et al., 2019) as well as in various productive phases of the agri-food industry (Valdez-Juárez & Castillo-Vergara, 2021) - from companies that produce raw materials to large value-added food production conglomerates.

## 3.2 Methodology

To address RQ1 and RQ2, the authors relied on a qualitative methodology (Reay & Zhang, 2014) which allowed us to explore questions in-depth based on the perceptions of family members involved in the engagement of green innovation practices. This technique has a number of advantages, as suggested by Basias & Pollalis, (2018), allowing to understand the natureand complexity of the phenomenon under consideration, facilitates research in new areas, and supports the examination of a phenomenon in its natural environment. We chose a multiple case study approach to gather in-depth understanding on the topic and identify common patterns among cases (Eisenhardt & Graebner, 2007). Our aim was to understand the dynamics regarding the drivers that lead family firms to engage in green innovation initiatives, and thus extend theories regarding stakeholders influence on green innovation. This methodology is the most commonly employed in the family business field to explore phenomena previously unexplored (Leppäaho et al., 2016; De Massis & Kotlar, 2014) and has been relevant to understand the way family firms in the agricultural sector approach the balance of family and business objectives (Discua Cruz et al., 2020; Roscoe et al., 2013).

The cases selected are family firms focused on agricultural production. These family firms upheld an agricultural identity supported by a set of values, symbols and family traditions rooted in the area where they are based (DeRosa et al., 2019; Giacosa et al., 2014; Contò & Lopez, 2008). Moreover, we selected cases for theoretical reasons based on two criteria. Firstly, we pursued a regional criterion to include countries in North, Central, and South America. Hence, we chose a representative sample and selected five countries in the region, namely, Mexico, Ecuador, Argentina, Bolivia, and Chile, being this internationality of the interviewees, a strength of the work. Secondly, we pursued heterogeneity in two firm characteristics: firm size, as larger firms may have more resources available to engage in green innovation initiatives (Dangelico et al., 2019), and firm age, as older firms may have more experience (Huang et al., 2009). Accordingly, we collected both primary and secondary data from different sources, further explained hereunder.

Primary data were gathered through semi-structured interviews with family and non-family members involved in top management team (TMT) and/or positions responsible for developing green innovation strategies (Tyler et al., 2020). Secondary data were gathered from firm documents, sustainability reports, certifications' evidences and reports, archival data, web pages, and media reports.

### 3.2.1 Primary Data Sources

We conducted semi-structured interviews with family and non-family employees involved in strategy making for sustainability issues and green innovation activities. Guided by qualitative approach guidelines, we involved multiple interviewees for each case and thus reduced the risk of bias due to personal interpretations of respondents (Reay & Zhang, 2014). Hence, we reached eight family firms in the agribusiness sector with the assistance of researchers from the FERC Spanish and IFERA Latam Chapter networks. We conducted 11 interviews in the first semester of 2021, accounting for 297 pages of transcripts. The informants had a mean age of 39 years. The ages of the eight family businesses we interviewed ranged from 65 to 20 years (average age 48 years) and are in their first to third generation, with at least two generations present. The companies interviewed are in the formal sector. As additional information, we interviewed three experts from the agri-food sector, a professor at an agricultural technological university, the former director of agricultural development, and an agricultural business consultant.

We developed an interview guide based on our literature review and contrasted it with experts in the field, thus reducing the risk of interviewer bias (Silverman, 2016). Firstly, the interviewees were asked closed-ended questions about the firm's size, age, main activities, and family involvement. Secondly, we raised open-ended questions assessing stakeholders' influence on business decisions regarding green innovation and sustainability initiatives, to unveil internal (e.g. family, competitive strategy, branding, internationalization degree) and external drivers (e.g. market, suppliers, clients, community). We paid special attention to identify the relevance assigned to family drivers such as culture, reputation, values, tradition, family structure and incentives. Thirdly, we addressed the green innovation initiatives one-on-one and asked about the motivation to engage on each of them, how and where decisions were made, and their underlying rationales. A single interviewer conducted interviews taking from 30 to 60 minutes each, and results were cross-checked by all authors. The authors' deep knowledge of our study context, both in the industrial sector and in the region, was acquired through years of working in family business organizations in Latin America and having lived in different Latin American countries. We use abbreviations to represent informants and cases according to their country of origin. The names that begin with MX represent informants from family businesses in Mexico, those that begin with CL in Chile, and so on, respectively. Table 1 summarizes the characteristics of our data set.

**Table 1. Data set (insert here)**

3.2.2. Secondary Data Sources

We collected secondary data from different sources to enhance triangulation (Miles & Huberman, 1994). On the one hand, to contrast existing information and further extend it, we visited firms' web pages to collect data regarding green innovation initiatives and certifications. In line with this, media reports and public available internet information was gathered, thus enlarging our data set. On the other hand, we coded sustainability reports, codes of ethics, and top management's meetings. By these means, we confirmed the information collected by semi-structured interviews and primary data were complemented with additional insight. This approach allowed us to address reliability aspects in our qualitative approach (Silverman, 2016).

### 3.3 Data Analysis

The data analysis was organized using traditional techniques and ATLAS.ti 9, a qualitative data analysis software, following established methods for qualitative research (Bryant & Charmaz, 2015; Strauss & Corbin, 1998) and it was structured in four main stages.

Stage 1: Discern the generic characteristics of family businesses that affect green innovation. Because our study explored the impact of context on different countries and types of family businesses, after an initial reading of the transcripts of our first interviews, we set out to identify salient factors that prevailed throughout the sample. At this stage, we had already identified differences and similarities between companies across broad issues related to family involvement. In a later stage of the analytical process, we came to synthesize these broad themes into the general role played by Internal and External Stakeholders, which we consider the main contextual characteristics of familiar factors that drive business decisions that have implications for green innovation.

Stage 2: Generation of initial categories and open coding process. We assigned codes to the different interviews for variables such as inherent characteristics of the family business (long-term perspective, flexibility, family communication, non-economic objectives, among others), as well as to another group of codes. These are (2) internal pressures/external factors of the different stakeholders (shareholders, domination of the future generation, managers, industry/ market demands, social expectations), and other motivations (environmental values of the patriarch and economic opportunities) (Dangelico, Nastasi, & Pisa, 2019; Sharma & Sharma, 2011). After coding the first interviews, we continually compared new data with existing codes to ensure consistency in what the codes represent. Sometimes we had to remove low frequency codes and combine codes to ensure consistency throughout our analysis. All the data for this step were extracted and collected during the literature review step (Secinaro et al., 2021). As our coding progressed, the initial codes began to show connected meaning (Bryant & Charmaz, 2007; Deterding, & Waters, 2021). At the end of the coding process of our sample, we had several initial categories that pointed to the differences and similarities between family businesses, in their green innovation behaviour. For example, differences were found in the transmission of values and the effects of intergenerational values on the environmental legacy of family businesses.

Stage 3: Refinement of initial categories. We continue the analysis of the transcripts of our expanded sample. Thus, we code around initial categories, look for new ones, drop some and join some (Reyes, Bogumil, & Welch, 2021). The category refining process allowed us to obtain more precise meanings for the categories. At the end of this stage, we had refined categories abstracted to concepts (Marshall & Rossman, 2014). For example, the categories family values and family commitment were abstracted from the concept of family involvement; the category transparency is associated with preventing misconduct.

Stage 4: Reanalysis and theoretical integration. The next step was a deeper analysis of our data with our sample, already formulating a general position of our data. We iterated through our data to find confirmatory evidence, which prompted us to elaborate the interrelationships between the global concepts of the study, or non-substantive evidence, which led us to abandon such assumptions (Cloutier & Ravasi, 2021). At the end of this stage, we had corroborated how the structure and family involvement were reflected in business practices. We also noted the determinants of an environmental care orientation and corporate social responsibility initiatives to promote or hinder green innovation initiatives. We realized that we had reached theoretical saturation, as no new ideas emerged about our understanding of the roles of internal/external stakeholder pressures that triggered the development of green innovation (Denzin & Lincoln, 2008). Figure 1a and 1b shows our coded data for family and business factors.

**Figure 1(a). Data coding structure (insert here)**
**1(b) Data coding structure for business practices on Green Innovation.**

In the following section, we present our findings, showing the differences and similarities in our sample of family businesses.

## 4. Findings

The summary of our findings and data analysis is shown in Table 2. We found both heterogeneity and homogeneity in the sample reflected in particular through family involvement. The findings suggest in particular that the dimensions of family values and family commitment, as well as that of Internal/External Stakeholder, translate into various business practices that influence green innovation. Next, we present a model based on the influence of stakeholders that shows how family involvement permeates, which in turn drives business practices that affect green innovation decisions. Through this model, we suggest the relationship between family influence and green innovation.

**Table 2. Summary of Findings (insert here)**

### 4.1 Family involvement

We identify family involvement as the key characteristic with respect to family and business systems. We open this category in four sub-dimensions: family values, family commitment, family identity and family intentions (Sharma, 2004; Rau, Schneider-Siebke, & Günther, 2019). For example, concern for legacy assumes dimensions related to family values and family commitment. An example of how this manifests itself was initially provided by family informant EC1, who expressed concern that the next generation would have a respectable business in their community:

> "*Our spice company comes to the table of our customers, we spice up the food! Our company is our prestige as a family, I hope my children respect this way of doing business responsibly with the community*."

This concern was manifested in most of the cases studied. For its part, the BO1 firm expressed its deep roots in the founding values:

> *"My father began working with the communities, side by side, no one believed in him, no one thought that Bolivia could be a producer of high-quality coffee but always respecting our indigenous roots."*

The analysis of the data suggests that identity and roots with the environment have been shown to be a gravitational element when it comes to the company, as stated by the CH1 family informant:

> "*The agricultural identity, we define ourselves as farmers, has helped us provide a strategic direction and continuity to our company, we feel deeply committed to our environment and we are grateful for this*."

Likewise, the direction towards family continuity and the intention of keeping the company in the hands of the family is very strong, as was communicated by the AR1 case:

> "*In the entire province of Córdoba there is no one who has not met my grandfather and my uncle, we, none of my cousins could think for a single minute of selling the company to someone who is not from the family*."

Table 2 depicts the relevance of identity with the environment in all cases.

4.2 Internal Stakeholder

Data analysis suggests heterogeneity in the influence that Internal Stakeholders exert on the family. In many of the cases (for example, MX1, MX4, CH1, EC1), managers are also shareholders and the conflict that this association produces are often undesirable. Likewise, the influence of managers outside the family usually produces limited effects on strategic decisions. Company EC1 explains it in this way:

> "*Our export manager is a very professional person and previously worked many years in a large transnational food company, but he knows who the decision maker is here*."

Employee relations is also a great concern on the part of the sample of companies studied, as indicated by the informant of the CH2 case:

> "*We have a complex company to manage, there are more than 700 workers that during the cherry harvest season can reach more than 1,000, but we have never had*

> *a worker strike or conflicts with union leaders, we know that we have to take care of our workers and we strive for it*".

Table 2, or figure shows that the influence of stakeholders is relevant for family firms to consider green innovation.

One of the characteristic dimensions of family firms in our study is undoubtedly the consanguinity of the owners and how they exert a great influence on the decisions of the company. A case in point is indicated by the informant in the CH2 case:

> "*My aunt has 10% of the shares of the company, the truth is that we never see much of her here because she spends time abroad and in Chile, but every time we are going to make an important decision, such as to expand in a related area, we ask for her opinion, for us her wisdom is very important to take into account*".

Other cases (for example, MX4, Mx6 and BO1) support this view suggesting that familial relationships also support the decision-making processes around green innovation. Table 2, Figure 1 (a) shows how this aspect relates to attitudes, informal processes, authority, and incentives directly influence business decisions.

4.3 External Stakeholders

Analysis of the data shows that the main characteristic of the influence of external stakeholders is relational. This relational feature was evident at high levels and the higher the level of participation of the family or the founder within a family business, the greater the level of relationship with external stakeholders (Bingham, Dyer, Smith, & Adams, 2011; Meier , & Schier, 2020). In our sample, we found a wide variety of pressures from external stakeholders. For example, in concern with communities, company CH2 indicated that:

> "*Our company exists long before this (town) city, we are the third generation in charge, but the field already existed for more than 100 years, despite this, the city has been growing around the processing plant and the countryside. We try to maintain a cordial relationship with the community, the people of the community are important and we are important to the community*".

Another area is the relationship of the company with regulators and with the government. Some studies show that politically connected family companies have a significantly lower quality of earnings compared to unconnected companies (Hashmi, Brahmana, & Lau 2018; Ghaleb, Kamardin, & Tabash, 2020), but whatever the result, in the agricultural sector we could observe that there are very strong regulations as in the case of Chile, or very weak as in Bolivia. However, the case of company BO1 indicates that:

> "*In Bolivia it has become common to pay bribes to obtain permits and patents to government officials. In our case, exporting coffee to Europe and Asia has been a*

> *challenge, as we also have the stigma of being a drug-producing country, but we resist this type of practices and bribes*"

On the other hand, many companies are very clear that certifications are the best way to give credibility to consumers, as in the cases of EC1 and CH2:

> "*We have certifications from the United States Department of Agriculture (USDA), the Community Regulation for Organic Production of the European Union and the Kosher certification, but we believe in Shared Value, which is understanding that the growth of society is an obligation of each one of us, and that success, thanks to the effort and demand that we apply in each process, is not enough to meet our goals*"

In the other case, the company indicated that:

> "*Food safety and quality assurance at the core of our activity, we began to build our Quality system in the early 1990s and made Quality part of our company culture. We did it through training, practice, and adherence to guidelines that ensure food safety. Now our food safety is certified by BRC Grade A, Kosher, Halal and BCS*".

Table 2, Figure 1 shows that the relationship with the community can become weak in some cases, but strong with customer orientation and concerns.

Business opportunities have also gone hand in hand with changes in environmental practices, as stated by company CH2:

> "*We are one of the world's largest producers of organic cherry, and we want to grow despite the production costs and risks of losing the harvest that are extremely high, because the returns still do not have the same profit ratio, but we believe that this is the way, to leave out the pesticides and herbicides and to make better use of the water.*"

Along the same lines, this company also stated that

> "*We had no need to do so, but more than 15 years ago we founded and operated a kindergarten for our workers at no cost to her, but we go further, we work with local schools to help provide a comprehensive education to our community. We offer school-to-work programs to help introduce student leaders and workers to careers in the food industry. We are very proud to say that it has worked, today many of these alumni are part of our management structure and some will be our managers of tomorrow*."

Table 2, Figure 1 shows that the cases CH1 and CH2 show a strong influence from their communities and local economy, such as the case CH2 regarding relations with the government and regulations.

## 4.4 Business practices in Green Innovation

Regarding the four generic types of competitive strategies related to green innovation (i.e. eco-efficiency, eco-branding, CSR initiatives and beyond compliance), the data analysis allowed us to identify heterogeneity in the companies studied. Based on the findings of the interviews and the secondary data, we were able to find two types of categories, the fully implemented when the company formally had a program associated with one of the four strategies or the partially implemented when we only saw initial findings or N / A when none were found.

One firm that stood out for its eco-branding strategy was EC1, which stated:

> "*We partner with producers throughout Ecuador, who are trained so that their crops adapt to the requirements of our Company. We share knowledge about organic planting, good water treatment, preparation of bioles*[1]*, productivity training and basic administration, among other processes that will allow the stability and safety of suppliers*"

Likewise, this same company indicated that

> "*We have 300 hectares of forests of which we are its protectors, the final objective is to not affect the natural concentration of greenhouse gases such as CO2 that exists in the atmosphere*", "*the Good Manufacturing Practices certification is a certificationthat guarantees that the food we produce is safe for human consumption, we as a family are the first to test and consume our products, this is a guarantee of compliancewith all the requirements for the eradication of contamination risks during food manufacturing*".

Company CHI2 indicated:

> "*We implemented an Environmental Management System, then in the packaging production process we implemented Lean Kanban, we have managed not only to reduce our emissions and bad odours, but we have greatly lowered the costs of the process*."

Table 2 shows that other cases supported the use of eco-efficiency and its relationship with pursuing green innovation in other cases, for example: MX2, AR1.

At the same time, we found the use of CSR initiatives strategies that referred to economic and/or ethical and/or philanthropic initiatives of the company and that benefit the community and stakeholders in general (Le Breton-Miller, & Miller, 2016). One of these cases is EC1, which stated that:

> "*We are the official sponsor of a Language Centre, which is a non-profit institution for the care of people with hearing disabilities. We have also developed inclusive*

[1] An organic fertilizer

*entrepreneurship and community development that allow us to contribute to the stability and growth of our suppliers*"

Case CH2 indicated that:

“*In 2004 we signed the United Nations Global Compact for Human Rights and Social Responsibility. We believe that being an active steward of our environment is an important part of what a socially responsible company should do. As a result, we join with other environmentally conscious companies to work on these problems and be part of the solution*. "

Figure 2, table 2 shows other cases, such as MX2 and MX4

Latin America has a very heterogeneous regulation and depending on the industry and the process, many companies prefer to pay fines and run the risks if they exceed, for example, some environmental regulations, such as the case of banana plantations of the United Fruit Company in Ecuador (Jones, 2018). In our sample we find several cases of companies that operate with a higher level of responsibility and are available for a strategy of the beyond compliance type. That is, business decisions that seek not only to increase the efficiency of their organizational processes, but also want customers and the general public to recognize their efforts and are willing to spend money on certifications, adhere to environmental management codes, and invest in unprofitable environmental improvements (Orsato, 2006; Bos-Brouwers, 2010), as in the examples of AR1, which stated:

"*There is a very strong regulation for soybean producers in terms of fining companies that cultivate recently deforested lands, we not only comply with these regulations, we were the first in the Córdoba region to introduce crop rotation, reduced tillage, management of water and nutrients, and the technology of precision agriculture, for us it is a priority to go beyond the fulfilment of the regulations*”.

4.5 Influence of stakeholders on family involvement

Based on our findings, the model in Figure 2 illustrates the importance of stakeholders in understanding and influencing family structure, which in turn drive business practices that affect green innovation decisions.

**Figure 2: Influence of stakeholders on family involvement (insert here)**

The influence of Customers and Communities is more relevant than that of Distributors/ Suppliers and Government/Regulation. Much of the green innovation practices such as Eco-Branding, specifically the cultivation of organic products, has a strong influence from the consumers themselves.

This was stated by the informant in the MX5 case:

> "*The main reason why it became organic was because they forced us, that is, consumers, began to ask for organic, that is, organic product and for that reason, that is, because the client asked for it and we have to go forward with that because if not then you stay behind*"

A similar situation is seen in cases EC1 and CH2 respectively:

> "*Our motto is the creation of value, all the actions and decisions taken generate value, both internally and externally of the company*" EC1.

> "*We owe it to our customers, they are all large companies that then process our material and add value to the products*" CH2.

The influence of internal stakeholders is also reflected in the statements of one of our MX1 informants:

> *"In the shelters we have a department of social workers, for example, these calls are opened for all the people who did not finish their primary school. In a training room, they come and take their classes to finish primary school and after primary school, those who want to continue to secondary school and high school and it's fine, they continue"*

as well as in the case of the MX3 company:

> *"We want them to come to work but that when they go to their places of origin they go back with something else, we have agreements with the government so that teachers can go to teach Spanish classes, reading classes, we had movie afternoons, computer classes".*

When developing a labor-intensive business, you must also work with local communities, informant BO1 tells us:

> "*The change of crops has not been an easy process and we have had resistance with the local communities, but we have taught them that Bolivia has a mountain climate and geography that is ideal for introducing crops that generate greater added value*."

Other cases emphasise this notion as suggested in Table 2: EC1, AR1.

Reputation appears as a relevant element that triggers the importance of what the stakeholders of the company and the family think, Company AR1 indicated that:

> “*Due to the Internet, the reputation of the company is more important now than at any other time in history, if we commit environmental damage we cannot hide, if we have a problem in Argentina, it will be known in China, and if we want to go there, we will have a problem*. "

The relationship with Distributors, Suppliers, Government and Regulation was a little less important in the sample in terms of the influence of stakeholders in family involvement, but even so, we can highlight the following quotes in the relationship with local governments, this is how case MX1 stated it:

> "*We have a foundation and through it we have been reforesting where the most important watersheds are for us, we have made tree donations, we have a small tree nursery, we have donated several to the government of Michoacán and that is in the environmental issue, We try to behave well on the environmental issue because I feel that because it is an agricultural company, it attracts a lot of attention*"

Such as going beyond regulation, in the MX6 case:

> "*The mentality before is that they are grateful because they have a job. That was it. Yes, there are many things that we are thinking of doing, but in the end it is still a fairly basic handling. Yes, the benefits are higher than those of the law, but even so*."

Based on the model in Figure 2 illustrates the importance of Customers and Communities in understanding and influencing family structure, which in turn drive business practices that affect green innovation decisions.

4.6 Relationship between family influence and green innovation

We find that structure, operation and family dynamics have differential impacts on green innovation business practices. In particular, we see a strong influence of values, the long-term vision of the family and the weighting of non-financial objectives generate a trigger that helps to understand the decisions of the implementation of green innovations in family agri-food companies.

The dimensions of family values can be reflected in various types of decisions. We highlight the case of MX3:

> "*It is like a double edge, we love the whole issue of social responsibility, we love the whole issue of the environment also to take care of it and everything, but it is also more profitable*."

The fact that family members exercise influencing roles in different business decisions can be seen in this statement from CH2:

> "*We have seen too often in the past that our environmental manager does not think enough like an entrepreneur and that because of the Environmental Management System (EMS) has not been integrated into the operations of the company, there is no part of the business that EMS should not touch*".

Family values can even skew a financial economic decision like the case of MX3:

> "*One hundred percent of the almost four thousand people that we are within the company are one hundred percent insured, in an industry where that is not the usual thing, which is not the common thing to give them insurance or an INFONAVIT*[2] *[...] our fees are very high because my dad, my family, have always put values at the forefront of everything*"

Several generations working together generate a family commitment. The case of MX3 reflects this commitment:

> "*We give them hot water, we have clean marble bathrooms, hot water, we put in washing machines, we had a chef to feed them all [...] [thanks to *] my mother. I have a little brother with special abilities and that made us very sensitive to dealing with people, as well as the fact that we are all the same, that we therefore need to bet on people*".

Succession problems are reflected and resolved from the family commitment as in this quote from AR1:

> "*We are a consortium of cousins, if we see that any of our family who exercise managerial roles loses focus, we have several relatives happy to join the company, that is very clear to everyone, only the best come to work at the company, to make it big, to honour our grandparents*".

The continuity of the agricultural family business is strongly reflected in the dimension of the family identity. Large family businesses are more explicit about having an intra-family successor, as well as a concern for an agricultural education of the current manager or the successor. A case of identity is reflected in this MX6 quote:

> "*My grandfather, more than how to see [the field] as a company, he saw it as an extension, more than a company, as an entity as such, as an extension of himself. Of himself. So, he was the field*."

The company must be profitable and the family also influences certain behaviours towards the company; this is what is called family intentions. For example, in the MX6 case, the balance of deciding whether to maintain the local business or to internationalize is an economic decision:

[2] A government-backed housing credit plan, financed partly by the employer.

> "*It is a market issue. It is not an issue of oh how cool and we are going to take care of the environment and we are going to maintain the earth, No. It is a matter of wool (money). Right? So, everything organic. What we have seen at the end of the day is, almost all of our product is for export*"

Based on our findings, the Table 2 illustrates the outcomes of green innovation where 23 categories of business practices of the 44 in total are fully implemented

**5. Discussion and Conclusions**

Our findings suggest that we can theorise on how stakeholders affect family involvement in green innovation business practices (Figure 2).

5.1 Internal Stakeholder – Family involvement relationship

Our findings help to give an understanding of the influence of employees but mostly shareholders and managers in the eight cases studied, since these business positions also exercise dual roles within the family (patriarch, son/daughter, wife, cousin). Case AR1 is a sample of this:

> "*I like working with my cousin, we also see each other on Sundays at the grandparents' house, when we return to the office on Monday, we have already decided matters and we do not need a business meeting*."

This relationship generates long-term business initiatives, especially those related to CSR initiatives, as in the case of EC1:

> "*Our family from the first generations is committed to the Centre of (...) and to the care of people with hearing disabilities, it is an expense, it is a long-term investment, helping with individual and group therapies children and adults who present language and learning problems*".

The Beyond Compliance dimension is also represented in the BO1 case:

> "*In Bolivia, 40% of the population belongs to an indigenous group or nation, we are aware of them and despite the fact that the legislation does not oblige us, we pay 25% more in average income to workers of some ethnic group*."

In particular, our findings suggest that family involvement is reflected through two dimensions: Family identity and family values, which in turn exert an influence on Family commitment and family intentions (Figure 2). This is a novel finding in the family business literature (Basco, 2017; Carlock & Ward 2001) that thus far had shown no correlation between these dimensions.

5.2 External Stakeholder - Family involvement relationship:

This relationship plays a key role in family involvement, the proximity that the family has with the customers, and the communities, as shown in Case CH1:

> "*We started producing macadamia because our own customers started asking for it, before we had some small-scale nut production, but we brought this exotic fruit from Australia on a family vacation trip*."

Industry / market demands are reflected in how the family can make its production processes more flexible in order to improve the profitability of the company, as is the case with CH2:

> "*Organic cherries are not new to the market, but we saw a demand, especially in the Asian market, red is the lucky colour in China and during the holidays, such as the Chinese New Year, we sell 80% of our production*"

Regarding the relationship with distributors and suppliers is that it tends to blur in the supply chain as many agricultural companies in the sample are vertically integrated. The Government & Regulation relationship is opportunistic for the family business and depending on the political situation, they will be closer or further away from this relationship, as in the BO1 case:

> "*Now with the new government of Luis Arce, which is the continuity of Evo (Morales), we have a bad prognosis for our business, however Carlos Mesa in 2003 gave an entrepreneurial boost to the country, but here we are*"

Previous research shows that the degree of commitment to the family business is negatively correlated with the number of family members on the board of directors (Vilaseca, 2002). However, other companies that have professionalized their management show high degrees of development. In our case, company CH2 indicates that:

> "*It has been difficult for us to hire managers from outside the family, but we do not have the skills to do everything efficiently, but we do care to transmit our family values to our entire top management team, whether family or non-family*."

The External Stakeholder – Family involvement relationship is influencing the family's intentions to give more/less momentum to the company or to decide whether to leave the country. The practices reflected in this relationship are related to the efficiency of the process or of marketing and thus take advantage of a strategic positioning through green innovation.

On the other hand, our study also contributes to research that seeks to contextualize the different dimensions of family influence (Howorth & Robinson, 2020). In particular, our work focuses beyond the values that drive or limit family continuity and succession in developing regions such as Latin America, with the aim of overcoming the Anglo-Saxon approach to research.

Taken together findings provide novel information about how the dimensions of Family involvement shape the ability of family companies to implement practices that in many cases are reserved for companies with large financial resources or transnational companies with diluted ownership through public shares (e.g Chevron Case in Ecuador, Crasson, 2017).

We conclude that stakeholder pressures have a positive influence on family engagement to implement socially responsible practices, particularly the influence of internal stakeholders (shareholders, future generation) that result in long-term business practices as CSR initiatives. Family businesses from Agri-food Industry seems to be going one step further, firms that need traditional regulations will be going out of business. Regarding the influence of external stakeholders, market forces have a positive influence on family engagement to implement green innovation, it has to do with the opportunity to win / win to reduce costs by improving the efficiency of the use of resources, but with a more opportunistic and short-term vision.

## 5.2 Theoretical & Practical Contributions

Our main theoretical contribution refers to the examination of the functions of the family and specifically the role played by its identity, values, commitment, and family intentions as contextual characteristics for green innovation. Previous literature has highlighted that green innovation decisions can be affected by specific attributes of the family, with sometimes-conflicting objectives, that of economic efficiency and that of family social interests (Astrachan & Jaskiewicz, 2008). We contribute to this line of research by integrating the impact of stakeholders and we demonstrate that these elements influence interpretation through business practices.

More specifically, to the scarce research on families that own agricultural businesses, the effects of the family on business orientation are added as determinants of green innovation (Vrontis et al., 2019; Discua Cruz et al., 2020). We demonstrate that the reflected Internal or External Stakeholder contextual characteristics affect family structure, family functioning and mentality, and can lead to a varied impact on some dimensions of the family and business practices on Green Innovation. In particular, we unpack how family values and family identity lead to varied long-term effects of business strategy and the impact this can have on green innovation outcomes.

Furthermore, we contribute to the emerging literature on the role that stakeholders play in family businesses, given that they are more receptive to social demands and, in particular, more willing to place environmental objectives at the centre of their social agenda. Therefore, we particularly extend the work of Dangelico et al., (2019) which also indicates that family businesses are more sensitive to the demands of their stakeholders due to the long-term planning of family businesses.

Our findings contextualize research in settings not prevalent in mainstream literature and to explore salient dimensions of familiarity and business orientation in relation to green innovation. In doing so, we bring to light important family and business characteristics that drive or inhibit strategic business decisions in a context like Latin America as family businesses progress from generation to generation (Müller & Sandoval, 2021).

Several important practical implications also derive from our study. , Our findings demonstrate that family businesses can introduce green innovation practices in different processes in the agri-food industry in Latin America. Our study revealed that Latin American family firms in the agri-food industry are pressured. That pressure can come from throughout the commercial environment, internally or externally; from industry stakeholders or customers, or from family and other sections of the business. Nevertheless, such pressure has to be managed, and by understanding the relevance of green innovation practices firms may shape the day-to-day activities of a business. Successful business practices related to green innovation may relate to the use of resources to deal with diverse pressures and carry out the tasks which need to be done. Thus, business owners, managers and practitioners of family businesses should consider codifying and transferring best green innovation practices, so that others within their locality benefit. Combating global warming and the climate change crisis is everyone's job. Potential investors and unfamiliar shareholders should also pay attention to company ownership when assessing business prospects and risks related to environmental and green challenges. For family business owners, the practical implications are knowing how to properly communicate their practices in the segments and markets where they operate. The green innovation approach would push family businesses in the agri-food sector in Latin America to become more entrepreneurial, change the way they do things, and promote further the value of stewarding our environment (Discua Cruz et al., 2020). All these requires innovation processes that go hand-in-hand with the involvement of generations to come (Holt & Daspit, 2015).

Furthermore, our findings have strong implications for policymakers as an appropriate basis for policy actions that encourage the adoption of green practices in Latin America. Policy makers need to introduce better frameworks for family firms in this industry in Latin America. Sustainability and green practices are the focus of increasing attention in the design of public policies for organizations in overall, and firms with concentrated ownership, which given its ubiquity (Sharma & Sharma, 2021). In this sense, our results are particularly useful, since they provide novel empirical evidence on the level and diffusion of green practices in family businesses in the agricultural sector in developing countries, Policy makers need to introduce policies that enable family to improve their existing opportunities as well as looking after the environment. Green innovations may allow family firms in developing countries to adapt to aspects related to climate change and benefit from new innovation processes over generations. in the same line as that proposed by Dobson et al., (2018), regarding the development of transformational entrepreneurship development, focused on the family business and the agri-food industry. Understanding family characteristics and how family structure drives a company's ability to go beyond regulations will help to understand which business practices to implement most effectively in a family firm. For example, to support smaller owner families to obtain certifications that accredit their processes with a double gain, the company improves its competitive position, and the stakeholders benefit from these measures.

Finally, we offer a model that explains the influence of stakeholders and family involvement in figure 2. As we have said so far, outcomes have only been observed in some studies (for example, the drivers of proactive environmental strategy in family firms in Sharma & Sharma, 2011) or comparison of family and nonfamily small firms in their approach to green innovation (Dangelico, 2019). We explain these outcomes (eco-branding, eco-efficiency, CSR initiatives and beyond compliance), based on the pressures exerted by stakeholders on the elements and dimensions of family involvement. The gravitating elements of the model are identity and values. The present work posed the assumption that both stakeholder pressures have a positive influence on family involvement to implement green innovation practices and socially responsible practices. Our Figure 2 indicates that there is a temporality in this type of pressure. The outcomes related to CSR initiatives and Beyond Compliance are long-term and relevant to the generation in charge of the family business. The outcomes related to operational efficiency and branding have short-term effects as the influence of the family moderates these business decisions, as the market "dictates" the rules. We also contribute to the discussion related to international trade, in which the small and medium-sized enterprises of the agri-food sector are inserted, and the positive linkage with the number of executive managers and owners (Sadeghi & Biancone, 2018).

The study provides a first look at the development of a stakeholder management model that can be replicated in other similar industrial sectors and in companies that are family-owned and operated. The model would help design business strategies that balance short-term financial goals with long-term CSR and environmental goals, which is the scenario where most family businesses want to be in the future. We recommend using stakeholder theory as the dynamic model.

## 6. Limitations and Future Research

Although we focus on the differences in how stakeholders influence different family dimensions in the execution of strategic decisions of the company, our study is limited to how these stakeholders, especially external ones, develop in Latin America. It is not our objective to assess the impact of all stakeholder dimensions in other regions of the world. Furthermore, because our study is based on qualitative research methods, there is a limit to the external validity of our findings (De Massis, & Kotlar, 2014). We cannot statistically generalize our findings to the population of companies even in other countries in the region. Future studies may include companies from several Latin American countries (Müller et al., 2018; Ardito et al., 2019).

In addition, future studies could cover how to incorporate other dimensions of stakeholders and how they affect green innovation, in a context where family companies have an external TMT or a more developed corporate governance than in our sample (Donner & de Vries, 2021). In the same way, we encourage future research that examines the extent to which families have been doing a series of similar practices for a long time, for generations and these actions are an aggregate of what they already do, for example, through the creation of new companies and innovation in general. Future research may use the presented model to further scrutinize the influence of family involvement and diverse stakeholders and reveal further aspects of green innovation in the agri-food industry. As the literature on family businesses suggests, family-controlled businesses represent a dominant segment of the global economy (Howorth & Robinson, 2020) we believe that the growing complexity and magnitude of environmental problems can motivate family businesses in the agri-food sector to consider and adopt green innovation practices.

## References


Aiello, F., Cardamone, P., Mannarino, L., & Pupo, V. (2021). Green patenting and corporate social responsibility: Does family involvement in business matter?. Corporate Social Responsibility and Environmental Management.

Aparicio, G., Basco, R., Iturralde, T., & Maseda, A. (2017). An exploratory study of firm goals in the context of family firms: An institutional logics perspective. Journal of Family Business Strategy, 8(3), 157–169. https://doi.org/10.1016/j.jfbs.2017.08.002

Ardito, L., Messeni Petruzzelli, A., Pascucci, F., & Peruffo, E. (2019). Inter- firm R&D collaborations and green innovation value: The role of family firms' involvement and the moderating effects of proximity dimensions. Business Strategy and the Environment, 28(1), 185-197.

Atkin, T., Gilinsky, A., & Newton, S. K. (2012). Environmental strategy: does it lead to competitive advantage in the US wine industry?. International Journal of Wine Business Research.

Basco, R. (2017). Where do you want to take your family firm? A theoretical and empirical exploratory study of family business goals. BRQ Business Research Quarterly, 20(1), 28-44.

Basco, R., Stough, R., & Suwala, L. (Eds.). (2021). Family Business and Regional Development (1st edition). Routledge.

Basias, N., & Pollalis, Y. (2018). Quantitative and qualitative research in business & technology: Justifying a suitable research methodology. Review of Integrative Business and Economics Research, 7, 91-105.

Bingham, J. B., Dyer, W. G., Smith, I., & Adams, G. L. (2011). A stakeholder identity orientation approach to corporate social performance in family firms. Journal of business ethics, 99(4), 565-585.

Bos- Brouwers, H. E. J. (2010). Corporate sustainability and innovation in SMEs: evidence of themes and activities in practice. Business strategy and the environment, 19(7), 417-435.

Bossle, M. B., De Barcellos, M. D., & Vieira, L. M. (2016). Why food companies go green? The determinant factors to adopt eco-innovations. British Food Journal, 118(6), 1317–1333. https://doi.org/10.1108/BFJ-10-2015-0388

Bryant, A., & Charmaz, K. (Eds.). (2007). The Sage handbook of grounded theory. Sage.

Cabrera-Suárez, M. K., de la Cruz Déniz-Déniz, M., & Martín-Santana, J. D. (2011). Familiness and market orientation: A stakeholder approach. Journal of Family Business Strategy, 2(1), 34–42. https://doi.org/10.1016/j.jfbs.2011.01.001

Chrisman, J. J., Chua, J. H., & Sharma, P. (2005). Trends and Directions in the Development of a Strategic Management Theory of the Family Firm. Entrepreneurship Theory and Practice, 29(5), 555–576. https://doi.org/10.1111/j.1540-6520.2005.00098.xCampopiano, G., & De Massis, A. (2015). Corporate social responsibility reporting: A content analysis in family and non-family firms. Journal of Business Ethics, 129(3), 511-534.

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. Business horizons, 34(4), 3f9-48.

Cloutier, C., & Ravasi, D. (2021). Using tables to enhance trustworthiness in qualitative research. Strategic Organization, 19(1), 113-133.

Crasson, A. (2017). The case of Chevron in Ecuador: the need for an international crime against the environment. Amsterdam LF, 9, 29.

Cruz, C., Larraza–Kintana, M., Garcés–Galdeano, L., & Berrone, P. (2014). Are family firms really more socially responsible? Entrepreneurship Theory and Practice, 38(6), 1295-1316.

Danco, L. A., & Ward, J. L. (1990). Beyond success: The continuing contribution of the family foundation. Family Business Review, 3(4), 347-355.

Dangelico, R. M., Nastasi, A., & Pisa, S. (2019). A comparison of family and nonfamily small firms in their approach to green innovation: A study of Italian companies in the agri- food industry. Business Strategy and the Environment, 28(7), 1434-1448.

De Massis, A., & Kotlar, J. (2014). The case study method in family business research: Guidelines for qualitative scholarship. Journal of Family Business Strategy, 5(1), 15–29. https://doi.org/10.1016/j.jfbs.2014.01.007

De Massis, A., Frattini, F., Majocchi, A., & Piscitello, L. (2018). Family firms in the global economy: Toward a deeper understanding of internationalization determinants, processes, and outcomes. Global Strategy Journal, 8(1), 3-21.

DeRosa, M., McElwee, G., & Smith, R. (2019). Farm diversification strategies in response to rural policy: A case from rural Italy. Land Use Policy, 81, 291–301. https://doi.org/10.1016/j.landusepol.2018.11.006

Deterding, N. M., & Waters, M. C. (2021). Flexible coding of in-depth interviews: A twenty-first-century approach. Sociological methods & research, 50(2), 708-739.

Discua Cruz, A. (2020). There is no need to shout to be heard! The paradoxical nature of corporate social responsibility (CSR) reporting in a Latin American family small and medium-sized enterprise (SME): International Small Business Journal, 163, 701–714. https://doi.org/10.1177/0266242619884852

Discua Cruz, A., Centeno, L. C., & Vega Solano, M. (2020). Being different matters! A closer look into product differentiation in specialty coffee family farms in Central America. Cross Cultural & Strategic Management.

Discua Cruz, A. D., Hamilton, E., & Jack, S. L. (2012). Understanding entrepreneurial cultures in family businesses: A study of family entrepreneurial teams in Honduras. Journal of Family Business Strategy, 3(3), 147–161. https://doi.org/10.1016/j.jfbs.2012.05.002

Dobson, S., Maas, G., Jones, P., & Lockyer, J. (2018). Experiential learning through the transformational incubation programme: a case study from Accra, Ghana. In Experiential Learning for Entrepreneurship (pp. 225-244). Palgrave Macmillan, Cham.

Donner, M., & de Vries, H. (2021). How to innovate business models for a circular bio- economy? Business Strategy and the Environment, 30(4), 1932-1947.

Dyer Jr, W. G. (2003). The family: The missing variable in organizational research. Entrepreneurship theory and practice, 27(4), 401-416

Dyer, W. G., & Whetten, D. A. (2006). Family firms and social responsibility: Preliminary evidence from the S&P 500. Entrepreneurship Theory and Practice, 30(6), 785-802.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. Academy of Management Journal, 50(1), 25–32. https://doi.org/10.5465/amj.2007.24160888

EY. (2017). Family Business in Latin America. Available online: http://familybusiness.ey.com/pdfs/page-55-56.pdf

Food and Agriculture Organization of the United Nations (FAO), 2019. Latin American Agriculture: Prospects and Challenges. Available online: http://www.fao.org/3/CA4076EN/CA4076EN_Chapter2_Latin_American_Agriculture.pdf

Food and Agriculture Organization of the United Nations (FAO). 2021. FAO in Latin American and the Caribbean 2020. Santiago. https://doi.org/10.4060/cb4544en

García- Sánchez, I. M., Martín- Moreno, J., Khan, S. A., & Hussain, N. (2021). Socio- emotional wealth and corporate responses to environmental hostility: Are family firms more stakeholder oriented?. Business Strategy and the Environment, 30(2), 1003-1018.

Gauthier, J. (2017). Sustainable business strategies: typologies and future directions. Society and Business Review.

Ghaleb, B. A. A., Kamardin, H., & Tabash, M. I. (2020). Family ownership concentration and real earnings management: Empirical evidence from an emerging market. Cogent Economics & Finance, 8(1), 1751488.

Gjergji, R., Vena, L., Sciascia, S., & Cortesi, A. (2021). The effects of environmental, social and governance disclosure on the cost of capital in small and medium enterprises: The role of family business status. Business strategy and the environment, 30(1), 683-693.

Godoy-Durán, Á., Galdeano-Gómez, E., Pérez-Mesa, J. C., & Piedra-Muñoz, L. (2017). Assessing eco-efficiency and the determinants of horticultural family-farming in southeast Spain. Journal of environmental management, 204, 594-604.

González, J. A. A. (2009). Market trends and consumer profile at the organic farmers market in Costa Rica. British Food Journal.

Grazzi, M., Sasso, S., & Kemp, R. (2019). A Conceptual Framework to Measure Green Innovation in Latin America and the Caribbean. Inter-American Development Bank: Washington, DC, USA.

Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. Strategic management journal, 31(1), 58-74.

Hashmi, M. A., Brahmana, R. K., & Lau, E. (2018). Political connections, family firms and earnings quality. Management Research Review.

Heino, N., Tuominen, P., & Jussila, I. (2020). Listed Family Firm Stakeholder Orientations: The Critical Role of Value-creating Family Factors. Journal of Family Business Strategy, 11(4), 100376.

Herrera-Echeverri, H., Geleilate, J. G., Gaitan-Riaño, S., Haar, J., & Soto-Echeverry, N. (2016). Export behaviour and board independence in colombian family firms: The reverse causality relationship. Journal of Business Research, 69(6), 2018–2029. https://doi.org/10.1016/j.jbusres.2015.10.147

Holt, D. T., & Daspit, J. J. (2015). Diagnosing Innovation Readiness in Family Firms. California Management Review, 58(1), 82–96. https://doi.org/10.1525/cmr.2015.58.1.82

Holt, D. T., Pearson, A. W., Carr, J. C., & Barnett, T. (2017). Family Firm(s) Outcomes Model: Structuring Financial and Nonfinancial Outcomes Across the Family and Firm. Family Business Review, 30(2), 182–202. https://doi.org/10.1177/0894486516680930Howorth, C., & Robinson, N. (2020). Family Business. Routledge.

Howorth, C. & Robinson, N. (2020). Family Business. Routledge.

Howorth, C., Rose, M., Hamilton, E., & Westhead, P. (2010). Family firm diversity and development: An introduction. International Small Business Journal, 28(5), 437–451. https://doi.org/10.1177/0266242610373685

Huang, Y. C., Ding, H. B., & Kao, M. R. (2009). Salient stakeholder voices: Family business and green innovation adoption. Journal of Management & Organization, 15(3), 309-326.

Jones, G. G. (2018). Sustainability and Green Business in Latin America during Globalization Waves. Harvard Business School General Management Unit Working Paper, (19-009).

Kariyapperuma, N., & Collins, E. (2021). Family logics and environmental sustainability: A study of the New Zealand wine industry. Business Strategy and the Environment.

Klein, S. B., Pieper, T. M., & Jaskiewicz, P. (2005). Antecedents for agency and stewardship orientation in corporate governance–the role of culture. In Research Proposal for Family Enterprise Research Conference, European Family Business Centre.

Le Breton-Miller, I., & Miller, D. (2016). Family firms and practices of sustainability: A contingency view. Journal of Family Business Strategy, 7(1), 26-33.

Leppäaho, T., & Ritala, P. (2021). Surviving the coronavirus pandemic and beyond: Unlocking family firms' innovation potential across crises. Journal of Family Business Strategy, 100440. https://doi.org/10.1016/j.jfbs.2021.100440

Leppäaho, T., Plakoyiannaki, E., & Dimitratos, P. (2016). The Case Study in Family Business An Analysis of Current Research Practices and Recommendations. Family Business Review, 29(2), 159–173. https://doi.org/10.1177/0894486515614157

Lobe, B., Morgan, D., & Hoffman, K. A. (2020). Qualitative Data Collection in an Era of Social Distancing. International Journal of Qualitative Methods, 19, 1609406920937875. https://doi.org/10.1177/1609406920937875

Marques, P., Presas, P., & Simon, A. (2014). The heterogeneity of family firms in CSR engagement: The role of values. Family Business Review, 27(3), 206-227.

Marshall, C., & Rossman, G. B. (2014)

McGuire, J., Dow, S., & Ibrahim, B. (2012). All in the family? Social performance and corporate governance in the family firm. *Journal of Business Research*, *65*(11), 1643–1650. https://doi.org/10.1016/j.jbusres.2011.10.024

Meier, O., & Schier, G. (2020). CSR and family CEO: The moderating role of CEO's age. Journal of Business Ethics, 1-18.

Miles, M. B., & Huberman, A. M. (1994). An expanded source book qualitative data analysis (2nd ed.). Thousand Oaks: Sage Publications.

Miroshnychenko, I., De Massis, A., Miller, D., & Barontini, R. (2021). Family business growth around the world. Entrepreneurship Theory and Practice, 45(4), 682-708.

Müller, C. G., & Sandoval-Arzaga, F. (2021). Conclusions, Lessons Learned, and New Avenues for Further Research. In Family Business Heterogeneity in Latin America (pp. 125-144). Palgrave Macmillan, Cham.

Müller, C. G., Botero, I. C., Discua Cruz, A., & Subramanian, R. (Eds.). (2018). Family Firms in Latin America. Routledge.

Neubaum, D. O., Dibrell, C., & Craig, J. B. (2012). Balancing natural environmental concerns of internal and external stakeholders in family and non-family businesses. Journal of Family Business Strategy, 3(1), 28-37.

Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainability is now the key driver of innovation. Harvard business review, 87(9), 56-64.

OECD/FAO (2019), "Latin American Agriculture: Prospects and Challenges", in OECD-FAO Agricultural Outlook 2019-2028, OECD Publishing, Paris, https://doi.org/10.1787/b2b742eb-en.

Orsato, R. J. (2006). Competitive environmental strategies: when does it pay to be green? California management review, 48(2), 127-143.

Porter, M. E. (1997). Competitive strategy. Measuring business excellence.

Rau, S. B., Schneider-Siebke, V., & Günther, C. (2019). Family firm values explaining family firm heterogeneity. Family Business Review, 32(2), 195-215.

Reardon, T., Barrett, C. B., Berdegué, J. A., & Swinnen, J. F. (2009). Agrifood industry transformation and small farmers in developing countries. World development, 37(11), 1717-1727.

Reay, T., & Zhang, Z. (2014). Qualitative Methods in Family Business Research. In The SAGE Handbook of Family Business (pp. 573–593). SAGE Publications Ltd. https://doi.org/10.4135/9781446247556

Rennings, K. (2000). Redefining innovation—eco-innovation research and the contribution from ecological economics. Ecological economics, 32(2), 319-332.

Reyes, V., Bogumil, E., & Welch, L. E. (2021). The Living Codebook: Documenting the Process of Qualitative Data Analysis. Sociological Methods & Research.

Roscoe, P., Discua Cruz, A., & Howorth, C. (2013). How does an old firm learn new tricks? A material account of entrepreneurial opportunity. Business History, 55(1), 53–72. https://doi.org/10.1080/00076791.2012.687540

Sadeghi, V. J., & Biancone, P. P. (2018). How micro, small and medium-sized enterprises are driven outward the superior international trade performance? A multidimensional study on Italian food sector. Research in International Business and Finance, 45, 597-606.

Sawyer, W. C. (2011). Institutional quality and economic growth in Latin America. Global Economy Journal, 10(4).

Sharma, P. & Sharma, S (2021) Pioneering Family Firms' Sustainable Development Strategies. Edward Elgar.

Secinaro, S., Brescia, V., Calandra, D., & Biancone, P. (2021). Towards a hybrid model for the management of smart city initiatives. Cities, 116, 103278

Sharma, P., & Sharma, S. (2011). Drivers of proactive environmental strategy in family firms. Business Ethics Quarterly, 309-334.

Silverman, D. (2016). Qualitative Research (4th ed.). SAGE Publications Ltd.

Sukumar, A., & Edgar, D. (2009). E-business, SMEs and risks: towards a research agenda. International Journal of Management Innovation Systems, 1(2), 1.

Tyler, B., Lahneman, B., Beukel, K., Cerrato, D., Minciullo, M., Spielmann, N., & Discua Cruz, A. (2020). SME Managers' Perceptions of Competitive Pressure and the Adoption of Environmental Practices in Fragmented Industries: A Multi-Country Study in the Wine Industry. Organization & Environment, 33(3), 437–463. https://doi.org/10.1177/1086026618803720

Uhlaner, L. M., Berent-Braun, M. M., Jeurissen, R. J., & de Wit, G. (2012). Beyond size: Predicting engagement in environmental management practices of Dutch SMEs. Journal of Business Ethics, 109(4), 411-429.

Valdez-Juárez, L. E., & Castillo-Vergara, M. (2021). Technological Capabilities, Open Innovation, and Eco-Innovation: Dynamic Capabilities to Increase Corporate Performance of SMEs. Journal of Open Innovation: Technology, Market, and Complexity, 7(1), 8.

Vazquez, P., Carrera, A., & Cornejo, M. (2020). Corporate governance in the largest family firms in Latin America. Cross Cultural & Strategic Management.

Venturelli, A., Principale, S., Ligorio, L., & Cosma, S. (2021). Walking the talk in family firms. An empirical investigation of CSR communication and practices. Corporate Social Responsibility and Environmental Management, 28(1), 497-510

Vrontis, D., Culasso, F., Giacosa, E., & Stupino, M. (2019). Entrepreneurial exploration and exploitation processes of family businesses in the food sector. British Food Journal.

Walls, J. L., & Berrone, P. (2017). The power of one to make a difference: How informal and formal CEO power affect environmental sustainability. Journal of Business Ethics, 145(2), 293-308.

Yáñez-Araque, B., Hernández, J. P. S. I., Gutiérrez-Broncano, S., & Jiménez-Estévez, P. (2021). Corporate social responsibility in micro-, small-and medium-sized enterprises: Multigroup analysis of family vs. nonfamily firms. Journal of Business Research, 124, 581-592.

Zahra, S., Labaki, R., Abdel Gawad, S. G., & Sciascia, S. (2014). Family firms and social innovation: Cultivating organizational embeddedness. In L. Melin, M. Nordqvist, & P. Sharma (Eds.), The Sage Handbook of Family Business (pp. 442–459). Sage Publications Ltd.