

DYNAMIC CAPABILITIES AND PERFORMANCE OF FAMILY BUSINESSES IN EMERGING ECONOMIES

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Abstract. Dynamic capabilities analyze the sources and methods of better performance and wealth creation and capture by firms operating in environments of rapid technological changes. Based on this, the objective of this research was to analyze the relationship between absorptive, adaptive, and innovation capabilities on financial and non-financial performance of family businesses was analyzed in the context of emerging economies, a relationship that has not been analyzed in this context. Through the application of structural equation modeling in a sample of 235 family businesses of agricultural supplies and machinery, located in the G46 and G47 categories of the International Standard Industrial Classification – ISIC, the results allowed us to identify that absorptive capability has a positive influence on financial performance, while innovation capability has a positive influence on non-financial performance. No evidence was found that other capabilities were related to the performance of the organizations analyzed. In addition, it was shown that the size of the companies does not generate any moderating effect in the relationship between these variables. This study contributes to dynamic capabilities theory by exploring how absorptive and innovative capabilities influence financial and non-financial performance in a specific and underexplored context: family businesses in emerging economies. Furthermore, the importance of developing and enhancing absorptive and innovation capabilities is highlighted. This could lead to the implementation of training programs, investment in R&D, and adoption of knowledge management practices.

Keywords: dynamics capabilities, financial performance, no financial performance.

JEL Classification: M10.

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1. Introduction

The current economy is characterized by a progressive globalization of commercial exchanges and investment flows, as well as by complex production processes, technological development and reduction of the life cycle of products (Estrada & Dutrénit, 2010), making it necessary to promote the strengthening of their dynamic capabilities (Castillo et al., 2017). Hence, they have been obtaining an important role in research related to strategic management (Laaksonen & Peltoniemi, 2018), because in a competitive environment such as the current one, modern businesses must renew, reconfigure and recreate their dynamic capabilities to face the intense competition and secure its position in the market (Wang, 2016). Dynamic capabilities, defined as the ability to integrate, build, and reconfigure internal and external competencies to handle rapidly changing environments (Teece et al., 1997), have obtained great relevance and are also important tools

for manipulating capabilities and configuring skills and resources including value creation processes (Eisenhardt & Martin, 2000). These capabilities explain the great capacity that a company has to satisfy the demand, altering its resource base (Nieves & Haller, 2014) and according to Agyapong and Acquah (2021) these are needed to pursue appropriate business and value-creating strategies that can ensure a sustainable competitive advantage, primarily in family businesses which play an important role in economies around the world. However dynamic capabilities are rarely studied in the context of family businesses, despite the fact that it is the most common form of business organization (König et al., 2013).

Family businesses, considered among the most important creators of wealth and employment in all the countries of the world (Barbeito-Roibal et al., 2004), have become dominant organizations, both in developed economies as well as emerging economies, so a substantial increase of this type of firms is expected in the future (Venter et al.,

2005); nevertheless, it is recommended that regardless of their size, they have to pay attention to the changes of a political, social, technological and economic factors present in the environment; furthermore when in recent years, these changes have been directly related to two factors considered the determinants for their competitiveness: (a) information technology, and (b) knowledge (Feltham et al., 2005). Hence, companies, and mainly family companies, must reconfigure their resources in dynamic capabilities, if their aspiration is to obtain a competitive advantage (Chien & Tsai, 2012). On the other hand, the most recent researches indicated that organizational performance, job satisfaction and affective commitment of employees are highly desired results by leaders and managers of all types of companies (Madanchian et al., 2016). Among these factors, organizational performance is configured as the key factor to stay ahead of the competition in the medium and long term, since it allows obtaining a clear measurement of the success or failure of a company, as well as maintaining control over it (Simon et al., 2015). The performance of an organization is a key component of strategic management theory and usually the final objective of dynamic capabilities (Laaksonen & Peltoniemi, 2018); however, the performance implications of this type of ability, at different levels, has not been deeply studied in emerging economies (Fainshmidt et al., 2016). Previous research shows a predominance of the theoretical and conceptual approach on how companies developed their dynamic capabilities and how they influenced performance, with few being approached empirically specially in family business (Cepeda & Vera, 2007; Duarte et al., 2018; Tiberius et al., 2021), which suggests the relevance of finding answers to create scientific evidence that contributes to understanding whether the application of dynamic capabilities can promote the performance of family businesses in emerging economies.

Dynamic capabilities are defined as a firm's ability to integrate, reconfigure, gain, and release resources to match and create market changes (Kanita & Respati, 2019). These capabilities are distinct from operational capabilities as they are concerned with change and are indirectly linked to firm performance by aiming to change a firm's bundle of resources, operational routines, and competencies, which in turn affect economic performance (Cepeda-Carrión & Vera, 2007). Furthermore, it is suggested that dynamic capabilities are positively related to firm innovation and competitive advantage, indicating their potential impact on firm performance (Liu et al., 2019). In understanding the relationship between dynamic capabilities and firm performance, it is important to note that dynamic capabilities take a process view of performance and recognize the interplay between the internal and external environments of organizations.

They also acknowledge that capabilities can continually develop, bundle, reform, interact, and atrophy over time in response to or anticipation of contextual changes (Furnival et al., 2019). This highlights the dynamic nature of these capabilities and their potential influence on firm

performance. While the literature provides insights into the potential impact of dynamic capabilities on firm performance, there is a research gap in empirically establishing the connections between dynamic capabilities, innovation capabilities, entrepreneurial capabilities, and financial and strategic performance (Vu, 2020). This suggests a need for further empirical research to validate the conceptual model proposed and to provide concrete evidence of the relationship between dynamic capabilities and firm performance.

According to Drnevich and Kriauciunas (2011), the researchers have not considered the drawbacks of dynamic capabilities in organizational performance and lack sufficient empirical evidence to determine the true contribution of these capabilities. The scant research on dynamic capabilities in family businesses has generated a significant gap, causing difficulties in understanding how a changing environment conceives the capabilities of family businesses, how these businesses survive in these dynamic environments and the influence of these types of capabilities on organizational performance (Wang, 2016; Glyptis et al., 2021). According to Buzzao and Rizzi (2021) research on dynamic capabilities specifically in family businesses is generally scarce.

Dynamic capabilities are essential for family businesses to thrive in today's ever-changing business environment. They enable firms to integrate, develop, and configure internal and external competencies to address rapid changes, leading to long-term competitive advantage and improved financial performance (Vu, 2020; Liu et al., 2019). Furthermore, dynamic capabilities are dedicated to modifying operational capabilities, leading to changes in products or production processes (Cepeda-Carrión & Vera, 2007). This adaptability is particularly important for family businesses, as they face unique challenges related to family governance, transgenerational orientation, and the need to balance family influence with business decisions (Suess-Reyes, 2016). The development of family governance measures can foster communication within the business family and enhance family members' emotional investment in the business, strengthening the transgenerational orientation in the business (Suess-Reyes, 2016). Additionally, family businesses may face challenges related to human capital, strategic planning, and corporate social responsibility (Anggraini et al., 2020; Yazici et al., 2018). Therefore, the ability to adapt and innovate through dynamic capabilities is crucial for family businesses to address these challenges and ensure their long-term success.

The research aimed to analyze the relationship of dynamic capabilities with financial and non-financial performance of family businesses. Specifically, the relationship between three types of dynamic capabilities will be analyzed: (a) absorptive, (b) adaptation, and (c) innovation. The information for the analysis was taken from large, small and medium family businesses, of Ecuador's import and marketing sector of agricultural supplies. For this study, a family business was one in which more than 50 percent of the voting shares are controlled by a family and/

or a single-family group effectively controls the business and/or a significant proportion of senior management, are members of the same family (Wang, 2016).

The findings of this study contribute to research on family businesses and dynamic capabilities, examining how the dynamic capabilities of absorption, adaptation, and innovation influence the financial and non-financial performance of family businesses. This makes it possible to cover an important gap in the academic literature regarding the development of family businesses in contexts of emerging economies where no research has been carried out on this topic.

2. Literature review

2.1. Dynamic capabilities

The concept of dynamic capabilities is important within strategic management because the resource-based perspective was unable to explain how and why certain organizations achieve sustainable competitive advantages in situations of rapid and unpredictable changes (Nedzinskas et al., 2013). Under the RBV perspective, companies are seen as a set of tangible and intangible resources and researchers affirm that the only way to obtain competitive advantage is through the acquisition and possession of valuable, rare, inimitable, and non-replaceable resources (Huang & Ichikohji, 2022; Nedzinskas et al., 2013). However, Teece et al. (1997) pointed out that there is an alternative way to generate competitive advantages, called dynamic capabilities, a concept that emphasizes two key aspects that were not covered by the RBV: (a) dynamic, which highlights the ability of an organization to renew its competencies and achieve congruence with the changing environment; and, (b) capabilities, which refers to the key role of strategic management to adapt, integrate, and appropriately reconfigure internal and external organizational skills, resources, and functional competencies and thus be able to adapt to the constantly changing environment requirements (Teece, 2018).

These capabilities are essential for firms to cope with dynamic environments, as they involve reconfiguring company resources through processes such as copying, transferring, and recombining resources, particularly those based on knowledge (Teece et al., 1997). Furnival et al. (2019) identified three microfoundations that constitute a dynamic capability, which are present in the improvement capability dimensions: adaptive capability, absorptive capability, and innovation capability. Furthermore, Breznik and Hisrich (2014) disaggregated dynamic capability into three components: adaptive capability, absorptive capability, and innovation capability, highlighting the relationship between innovation capability and dynamic capability.

Teece (2014) stated that dynamic capabilities allow an organization to obtain a competitive advantage through the creation, deployment and protection of intangible and non-transferable assets that support superior organizational performance. Pavlou and El Sawy (2011) argued

that dynamic capabilities allow for better organizational performance. In the same way, Wang et al. (2015) agreed with this concept, because this type of capabilities is fundamental for the differential performance of companies. These claims have been supported by several studies that have demonstrated the relationship between these two variables, based on the fact that dynamic capabilities imply the construction of new resources or capabilities for the solution of future problems (Danneels, 2016), which can provide a competitive advantage when facing the change in the competitive environment (Teece, 2014). For example Bykova and Jardon (2018) showed that there is a direct relationship between dynamic capabilities, measured in terms of adaptation, absorption and communication capabilities, with organizational performance. In this study, it was also found that this type of capabilities fully measured the relationship between foreign direct investment and performance. In a similar line of research, Schilke (2014) indicated that dynamic capabilities, referred as second-order capabilities, positively influence organizational performance through first-order capabilities. Stadler et al. (2013) stated that dynamic capabilities support activities related to the access and development of resources to make them commercially usable, activities that can be configured into competitive advantages that influence performance. Specifically, they analyzed the impact of these capabilities on the number and success of these activities; and, if the impact of dynamic capabilities differs between the two types of activities. The results showed that companies with more sophisticated dynamic capabilities, perform greater amounts of activity to access resources and develop them before their commercial use, achieving greater success in these activities.

2.2. Dynamic capabilities and financial and non-financial performance

Performance can be defined as the level of objectives achieved by an organization or the evaluation of the effectiveness of individuals, groups and organizations (Maskell, 1991; Tseng & Lee, 2014). Business performance is one of the variables that plays an important role for an organization (Hernaus et al., 2012). In the same way, performance measures, allow companies to focus attention on areas that need improvement by assessing how well the job is done in terms of cost, quality and time. Furthermore, in the current competitive context, the measurement of organizational performance has become an increasingly necessary action for the survival of companies (Škrinjar et al., 2008). However, how to approach the concept of business performance is not clearly defined in the literature, since the vast number of empirical studies have provided an ambiguous perspective on performance measurement (Hernaus et al., 2012). To overcome this ambiguity, business leaders use a mix of financial and non-financial metrics as a valuable tool for evaluating and monitoring the performance of their companies (Maqbool et al., 2020).

Financial performance is the description of the company achievement which have been carried out in various activities (Bone, 2017). Traditionally, business performance has been measured through financial reports like ROA or return on assets, return on investment, profit margin, value per employee, among others (Hernaus et al., 2012). Nevertheless, despite being popularly used measures, they are not configured as the most adequate way to carry out management control, weaknesses that are well documented in the academic literature (Neely, 2007).

A change in perspective took place in the mid-1980s, where performance measurement stopped having a purely financial focus because organizations began to implement non-financial performance measures such as customer retention, customer satisfaction, turnover of employees and the number of new products developed, based on the fact that to translate a strategy into specific objectives that guide operational actions, both financial and non-financial measures are required (Omran et al., 2021). Kihn (2010) stated that the financial and non-financial performance measures should be complementary to each other. In addition, performance measurement should be carried out mainly with non-financial performance techniques and gradually improve them as the company changes. Based on this, several studies have analyzed the relationship between dynamic capabilities and organizational performance, using a combination of financial and non-financial performance measures.

Yu-Yuan et al. (2007) showed there is a positive relationship between dynamic capabilities and organizational performance, in terms of competitive advantage, market share, profits, costs, sales revenue, and customer satisfaction. Similarly, Desai et al. (2007) explained that dynamic capabilities for CRM positively influence performance, both from the customer perspective and from the organizational approach; and, Nedzinskas et al. (2013) clarified that there is a significant positive correlation between dynamic capabilities and relative non-financial performance; while the correlation between dynamic capabilities and relative financial performance was non-existent. Drnevich and Kriauciunas (2011) found a negative relationship between dynamic capabilities and relative organizational financial performance, which was explained by the costs of managing dynamic capabilities and a possible delay in the cause and effect relationship, between these capabilities and financial performance. Zott (2003) established a positive influence of dynamic capabilities with the profitability of an organization. Makadok (2010) mentioned that organizational capabilities positively influence profitability; but he affirmed that a capability affects profitability by improving the productivity of the other resources that the company has.

Although these studies have contributed to the knowledge of the influence that dynamic capabilities have on organizational performance, one aspect that should be highlighted is that there is no consensus on the operationalization and definition of the common aspects of dynamic capabilities. Thus, Eisenhardt and Martin (2000) suggested

that dynamic capabilities are made up of three categories: (a) capabilities for integrating resources, (b) capabilities for reconfiguring resources, and (c) capabilities for obtaining and releasing resources. On the other hand, Teece (2007) divided dynamic capabilities into three categories: (a) detect opportunities and threats; (b) seize opportunities; and, (c) maintain competitiveness, improving, combining, protecting and reconfiguring and/or transforming the company's resources. Macpherson and Holt (2007) proposed two components for dynamic capabilities: (a) absorption, and (b) transformation; while, Wang and Ahmed (2007) proposed three categories: (a) absorption, (b) adaptation, and (c) innovation. It should be mentioned that the latter are considered the most important dynamic capabilities at the business level and are the ones that was analyzed in this research (Kaur & Mehta, 2016).

2.3. Absorptive capacity and financial and non-financial performance

Several studies have demonstrated the influence of absorptive capacity on organizational performance (Cho et al., 2023; Rashidirad & Salimian, 2020; Todorova & Durisin, 2007), as well as with other variables such as innovation (Huang et al., 2015), entrepreneurship corporate (García-Morales et al., 2014) and market response capability (Chang et al., 2013). Choi and Park (2017) showed that absorptive capacity has a direct influence on short-term financial performance making a clear differentiation between homogeneous and heterogeneous absorption capacity; the first defined as the ability to absorb external knowledge, which is similar to the knowledge that the organization possesses, and the second is the ability to absorb new or different knowledge. The results showed that homogeneous absorption positively influences short-term financial performance, while heterogeneous absorption does so negatively.

Mata et al. (2023) in a study carried out on 308 managers and employee from IT companies, demonstrated that absorptive capacity has a direct influence on financial performance, in addition, it has a mediating effect between collaborative innovation and financial performance. Likewise, Senivongse et al. (2019) demonstrated that the absorption capacity in a highly dynamic market such as that of SMEs that offer technology services, has a direct and positive impact on the financial performance of the company. In a similar study, developed by Kale et al. (2019) in a sample of 190 accommodation establishments, showed that there is a positive and significant relationship between absorptive capacity and financial performance.

In a similar study, Chong et al. (2023) collected data from online surveys of 148 high-level managers of US manufacturing companies and using the PLS-SEM statistical technique demonstrated that non-financial performance measures are positively associated with absorptive capacity. Although these studies contribute significantly to the academic literature, to the authors' knowledge there are no studies that analyze the relationship between

absorptive capacity and non-financial performance. In addition, the studies that analyze the relationship of this capacity with business performance do not make an explicit differentiation between financial and non-financial performance.

2.4. Adaptive capability and financial and non-financial performance

A company has this ability when it adapts, responds and reacts to changes in the environment. Greenley and Oktemgil (1997) agreed with this affirmation because adaptive capability is associated with high performance of companies. Schuster et al. (1997) discovered that capabilities improve through an adaptation process when they focus on management improving not only the performance of employees but also the financial performance of the company. When a business cannot build such adaptability, business performance will be hampered. On the other hand, Wei and Lau (2010) found in their research a complete mediating effect of adaptability, in the relationship between high-performance work systems and financial performance. It allows to deduce that this ability improves the results of the company.

This ability focuses on effective search and balance strategies of exploration and exploitation, through the flexible adjustment, application, and renewal of resources; thus becoming a dynamic capability absolutely important as an organizational element essential to achieve superior performance (Chrysochoidis et al., 2016). Although these studies show the possible relationship between adaptation and business performance, to the author's knowledge, no studies have analyzed the relationship between these variables, making a clear differentiation between financial and non-financial performance, which shows the relevance of the present research.

2.5. Innovation capability and financial and non-financial performance

Research has shown that organizational performance is influenced by innovation (Likar et al., 2014). Nevertheless, the results of the studies that investigate the relationship between innovation and organizational performance are not conclusive, because some of these studies show a positive relationship (Carvalho et al., 2016; Cortez et al., 2015), while others showed unrelated results without any definitive conclusion (Hervas-Oliver et al., 2014).

Saunila (2014) stated that innovation, at a general level, and performance of companies have been the subject of several studies; however, the effects of innovation capability on its performance have not been widely investigated, since only the relationship of certain individual aspects of innovation to performance has been analyzed, leaving a gap in knowledge related to the influence of innovation capability as a whole, on the superior performance of an organization. Sawaeen and Ali (2020) in a study carried out with 384 SMEs, demonstrated that there is a positive

and significant relationship with financial performance, in addition to the fact that this variable also has a mediating effect between learning orientation and performance. In the same research stream, Abdollahbeigi and Salehi (2022) in a study carried out with a representative sample of companies in the manufacturing sector, confirmed that innovation has a significant effect on non-financial performance. These studies corroborate the findings of Saunila (2020) who through a systematic review of the literature enhance understanding of the special characteristics of innovation capability in small business context. The presented characterization of innovation capability can guide further studies by offering precepts for how innovation capability can be understood among small businesses to improve their performance levels.

Another reasons why innovation capability has not been comprehensively analyzed is the several dimensions of this capability that are generally studied separately. Saunila (2014) indicated that this capability is made up of the following components: (a) participatory leadership culture, which refers to the general organization's atmosphere, because it supports and motivates innovation and leadership, which in turn facilitates innovation; (b) work climate and well-being, which represents the well-being of employees and the work climate for the development of innovation, including collaboration and values; (c) ideation and organization of structures, consisting of the structures and systems that are necessary for successful innovation; (d) development of know-how, which includes the skills and knowledge of employees that play an important role in innovation capability; (e) external knowledge, which highlights the importance of the appropriate behavior for the exploitation of networks and external knowledge for global capability and organizational innovation; (f) feedback, which reflects the organization's ability to learn from previous experiences and use that experience to create innovations and develop its operations; and, (g) individual activity, which refers to individual capability, with respect to employee innovation.

2.6. Company size and its relationship with capabilities and performance

In the previous sections, the relationship between dynamic capabilities and business performance has been clearly established. However, Arend (2014) revealed that although dynamic capabilities allow improving the performance of companies, either by providing new advantageous strategies, new markets, new skills and new forms of organization; certain characteristics, such as size and age, can affect the relationship between these capabilities and performance. Smaller companies will not gain the advantages of dynamic capabilities compared to large ones, because they don't have scale economies to take advantage of any learned capabilities, including dynamic capabilities (Ambrosini et al., 2009). Given that small companies do not have these types of economies; they will experience relatively low performance results. However, this argu-

ment assumes that companies are interested in growing, but some companies think otherwise, such as those that aim to capture a very specific niche, where the convenience of developing a dynamic capability does not include expanding their performance. When growth is the only option, there is less needed to develop this type of capability, since the transformation or reconfiguration of resources and operational capabilities would cause lower returns (Arend, 2014). This latest study showed that the size and age of the firms affect the benefits that dynamic capabilities bring to the performance of the company; specifically, size, which makes this relationship decrease.

Chrysochoidis et al. (2016) agreed with this argument, when they said that dynamic capabilities do not operate in a similar way in companies of different sizes, nor have a similar role in the formulation of competitive strategies and performance. However, recent works have emphasized the need to expand research on the identification and development of dynamic capabilities in medium and small companies, due to the lack of studies on this subject (Alves et al., 2016).

The literature review has highlighted the importance of dynamic capabilities for organizational performance. Nevertheless, to the author's knowledge, there are no studies that make a clear differentiation of financial and non-financial performance, which has not allowed a comprehensive evaluation of business performance. This study will contribute to the knowledge by proposing a conceptual model that analyzes the influence of three dynamic capabilities of greatest importance in the business field, on the financial and non-financial performance of an organization, also including the possible moderator that size may have. In addition, the study will be implemented in family businesses, one of the main business configurations

in emerging economies. Based on this, the following hypotheses are proposed:

H1: Absorptive Capability influences the financial performance of family businesses.

H2: Adaptive Capability influences the financial performance of family businesses.

H3: Innovative Capability influences the financial performance of family businesses.

H4: Absorptive Capability influences the non-financial performance of family businesses.

H5: Adaptive Capability influences the non-financial performance of family businesses.

H6: Innovative Capability influences the non-financial performance of family businesses.

H7: The size of the company, moderates the relationship between absorptive, adaptive and innovative capability on financial and non-financial performance of family businesses.

Figure 1 includes the model to be studied based on the review of cited literature.

3. Methodology

The relationships proposed to be analyzed in the present study use the theory of dynamic capabilities (Teece, 2009), the perspective based on resources (Barney, 1991), and the perspective based on the knowledge (Vivas-López, 2013), as the main theoretical foundations. This research used a deductive logic because it starts from widely accepted theories. It was also a cross-sectional study since primary

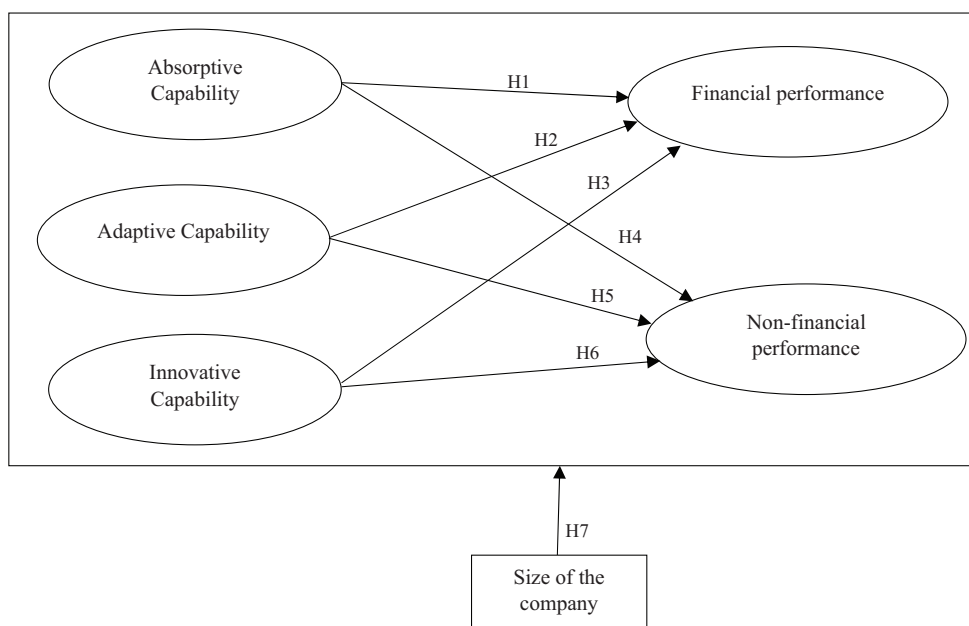


Figure 1. Conceptual model

data sources taken at a single moment in time were used. A quantitative approach was used with a correlational and explanatory research design since the research seeks to explain the relationship between dynamic capabilities and financial and non-financial performance. The surveys were applied to managers of family businesses that are engaged in importing and sale activities of agricultural supplies and machinery, using the survey as the principal method for collecting information.

The research was focused on family businesses of agricultural supplies and machinery, located in the G46 and G47 categories of the International Standard Industrial Classification – ISIC. The companies that would be the object of study were taken from the database of the Superintendence of Companies, Securities, and Insurance of Ecuador, which are included in the G46 and G47 categories of the ISIC classification. Regarding family businesses, Wang (2016) defined as those in which more than 50 percent of the shares, with voting rights, are controlled by a family, and/or a single-family group effectively controls the business and/or a significant proportion of the company. Given that no record specifies whether a company is family-owned or not, in the applied questionnaire, respondents were asked to indicate whether their company meets this requirement. The surveys were applied to the managers of these companies, obtaining a total of 235 valid surveys. Of each family business, only the general manager was surveyed, obtaining a survey for each company and guaranteeing greater representativeness of the sample. The research questions proposed were answered by analyzing the direct relationship between the latent variables through structural equation modeling using SPSS and AMOS software.

3.1. Measurement

The dynamic capabilities were measured with the instrument proposed by Wang and Ahmed which assesses the three main capabilities that, according to these authors, a company must develop: absorptive, adaptive and innovative capability. Absorptive capability was measured with five items that are related to recognition and assimilation processes. In the same way, adaptive capability was measured with five items that analyze aspects related to product, process and market changes that the organization applies internally to adapt to the environment. Finally, the innovative capability was evaluated with seven items that investigate the entrepreneurial capability to generate new business ideas, develop new products and update internal processes. The dependent variables, financial and non-financial performance, were measured through the instrument that Prieto and Revilla (2006) formulated, which allows evaluate aspects related to financial and non-financial performance through ten items. The two instruments were unified in a single questionnaire to be applied to the study participants including questions related to demographic aspects and the size of the company.

The size of the company was defined by the number of employees. According Arend (2014) a company with 10 employees or less, could be considered a small company; between 10 and 100 employees, as a median; and with more than 100 employees, as large.

3.2. Data collection

The units of analysis were companies engaged in importing and selling agricultural supplies and machinery, categorized in ISIC G46 and G47 classifications. Data collection was carried out in two ways: (a) surveys through the web, and (b) surveys with paper and pencil. The tabulation and analysis were carried out with SPSS Software and AMOS for the application of Structural Equation Models in the verification of Research hypotheses. All the questions were measured through a Likert scale from one to five.

4. Results

4.1. Characterization of the participants

62.1% of respondents are men compared to 37.9% women. 49.8% have an academic level equivalent to a Bachelor's Degree or Engineering and 23.4% state that they have a Postgraduate Degree at the Master's level. 21.7% have a Baccalaureate level of education and only 5.1% have a Doctorate. On the other hand, 40.9% of those surveyed have remained in the company for a period of six to 10 years, followed by 24.3% who have been for 11 to 15 years. To a lesser extent, 16.6% are from zero to five years and 10.2% from 16 to 20 years.

4.2. Exploratory data analysis

There was no missing data, so it was not necessary to address any approach to solve this issue. However, the presence of atypical values was analyzed by calculating the Mahalanobis distance – D^2 for each case; a measure that represents the distance between each observation and the centroid of all other observations. Following, Byrne (2009) proposed as a criterion that an outlier will have a distance D^2 significantly different from the other data. To detect multivariate outliers, it must be verified that the associated probability is less than 0.001 (Mangin & Mallou, 2006). The results showed that in all cases the associated probabilities are greater than 0.001 allowing to conclude that there is no presence of atypical values that could affect subsequent analyzes. On the other hand, the assumptions of linearity and homoscedasticity were satisfactorily fulfilled.

4.3. Confirmatory factor analysis of the measurement model

Prior to analyzing the data, a pilot test was carried out to determine the reliability of the survey used, which was previously subjected to a double translation process. The pilot test was applied to a sample of 30 university students from the upper semesters of a Business career. The selected

subjects are young people whose parents have a family business. The Cronbach's Alpha index obtained for all the scales were higher than 0.7, which allows us to conclude all the scales are reliable (Chi6n & Charles, 2016). Subsequently, the corresponding data collection was carried out.

The analysis of model fit allows us to identify how well the model specified by the researcher reproduces the observed data (Hair et al., 2010). To evaluate the fit of the measurement model, the values of the fit indices that Hair et al. (2010) recommend reporting were analyzed: (a) chi-square test (with $p\text{-value} > 0.20$), (b) comparative fit index – CFI, (c) standardized root mean square residual index – SRMR, and (d) the root mean square approximation error index – RMSEA. Table 1 shows that all the indices are within the acceptance level, so we concluded that the model has a good fit.

Table 1. Measurement model fit index

Index	Value	Acceptance Level
Chi-square	363.197 ($p\text{-value} = 0.06$)	$p\text{-value} > 0.2$
GL	264	
CFI	0.94	≥ 0.92
SMRM	0.056	≤ 0.09
RMSEA	0.045	≤ 0.08

Given that the structural equation modeling technique was applied, the composite reliability index was calculated to determine the reliability of the scales, a technique that analyzes the consistency of the scales considering the factor loadings of the observable variables on their

underlying latent variables, which provides greater rigor compared with the Cronbach's Alpha index. Table 2 shows the values obtained for each of the constructs. In all cases, the composite reliability index obtained is higher than 0.7, so they can be considered reliable scales.

4.4. Convergent and discriminant validity

Convergent validity evaluates the extent indicators of a specific construct converge or share a high proportion of variance in common (Hair et al., 2010). Items that are indicators of a specific latent construct or variable must converge or share a high proportion of variance in common. If this is true, it can be concluded that the model satisfies the convergent validity criterion.

Convergent validity was tested to determine if each item converges effectively towards its latent variable. These values must be substantial and significant. To evaluate the convergent validity of the model, the procedure that Hair et al. (2010) established, were a model presents convergent validity when the standardized estimated coefficients are greater than 0.50 and the average variance extracted is greater than or equal to 0.5. In addition, all the estimated coefficients between the observable variables and their underlying construct must be significant ($p\text{-value} < 0.05$).

When running the model in the first instance, the standardized estimate corresponding to item five of the Absorptive Capability construct was less than one and was not significant; therefore Byrne (2009) accorded, it was removed from the model. When running the model again, the values shown in Table 3 were obtained and as evidenced, the results allow us to conclude that the convergent validity criterion is met.

Table 2. Convergent validity of subconstructs and items

Subconstructs and Items	Standardized Parameter	Composite Reliability	AVE
Absorptive Capability		0.8	0.501
Our employees regularly approach external institutions to acquire managerial/ technological knowledge	0.66		
Our family business often transfers expertise/technological knowledge acquired to internal processes	0.75		
Our family business frequently scans the environment for new expertise/technologies	0.7		
Our family business observes in detail the external environment for new expertise/ technologies	0.72		
Adaptive Capability		0.8	0.58
Our family firm can easily match our expertise/technologies with new products/services emerging in the market	0.8		
Our existing competency can cope with changes in the market	0.71		
Our family business frequently makes adjustments in internal processes to respond to market changes	0.644		
Our employees are capable of using their expertise to develop new products/ services	0.61		
We are proficient in updating expertise/technological knowledge	0.615		
Innovative Capability		0.87	0.506
Our family business continuously introduces new products/services to our Customers	0,7		
The rate of developing new products/services in our family business has been high.	0.72		

End of Table 2

Subconstructs and Items	Standardized Parameter	Composite Reliability	AVE
The rate of introducing new changes to the internal processes in our family business has been high	0.715		
In new product/service introductions, our family firm is often first-to-market	0.78		
Our family business continuously improves our business processes	0.68		
Compared with our major competitors, our overall new product/service development programs are more successful	0.7		
The overall performance of our new product/service development programme has met our objectives	0.68		
Financial Performance		0.81	0.53
Return on assets	0.71		
Sales growth	0.77		
Profitability	0.72		
Improvement in work productivity	0.7		
Improvement in production cost	0.62		
No Financial Performance		0.79	0.55
Customers' satisfaction	0.76		
Growth of number of customers	0.58		
Employee satisfaction	0.79		
Quality in products and services	0.63		
Organizational reputation	0.5		

Once the convergent validity of the model had been verified, the discriminant validity of the measurement model was analyzed. The procedure used that Hair et al. (2010) proposed, established that the estimate of the average variance extracted – AVE for two factors must be greater than the square of the correlation between the two factors. Table 3 shows that the estimated AVE value of each construct is greater than the square of the correlation between each pair of latent variables, so it can be concluded that the discriminant validity criterion is met.

Table 3. Discriminant validity of subconstructs and items

	Absorptive Capability	Adaptive Capability	Innovative Capability	Financial Performance	No Financial Performance
Absorptive Capability					
Adaptive Capability	0.48				
Innovative Capability	0.44	0.40			
Financial Performance	0.136	0.081	0.061		
No Financial Performance	0.081	0.106	0.18	0.133	
AVE	0.501	0.58	0.506	0.53	0.55

4.5. Structural model

Once the confirmatory factor analysis of the measurement model has been carried out, the structural model can be analyzed, which Hair et al. (2010) accorded, were a conceptual representation of the structural relationships between constructs or latent variables. It is generally represented with a visual diagram that explicitly shows the relationships between variables. Figure 2 shows the structural model under test.

To evaluate the fit of the structural model, the values of the fit indices that Hair et al. (2010) recommend reporting were analyzed: (a) chi-square test (with p-value > 0.20), (b) comparative fit index – CFI, (c) standardized root mean square root residual index – SRMR, and (d) the root mean square approximation error index – RMSEA. To analyze the fit of the structural model, the bootstrapping method that Byrne (2009) proposed, together with the Bollen-Stine test to verify the fit with the chi-square test, because the analysis of the assumption of normality allowed to conclude that the data follow a non-normal distribution.

When running the model for the first time, it did not present a good fit, so after reviewing the model modification indices, a correlation was established between the error variances of Items 16 and 17 of Innovative Capability construct, according to the procedure that Byrne (2009) described, and respecting the coherence and relevance of each one of the items with its underlying latent variable. Table 4 shows that the fit indices obtained are within the required thresholds, so it can be concluded that the model presents a good fit.

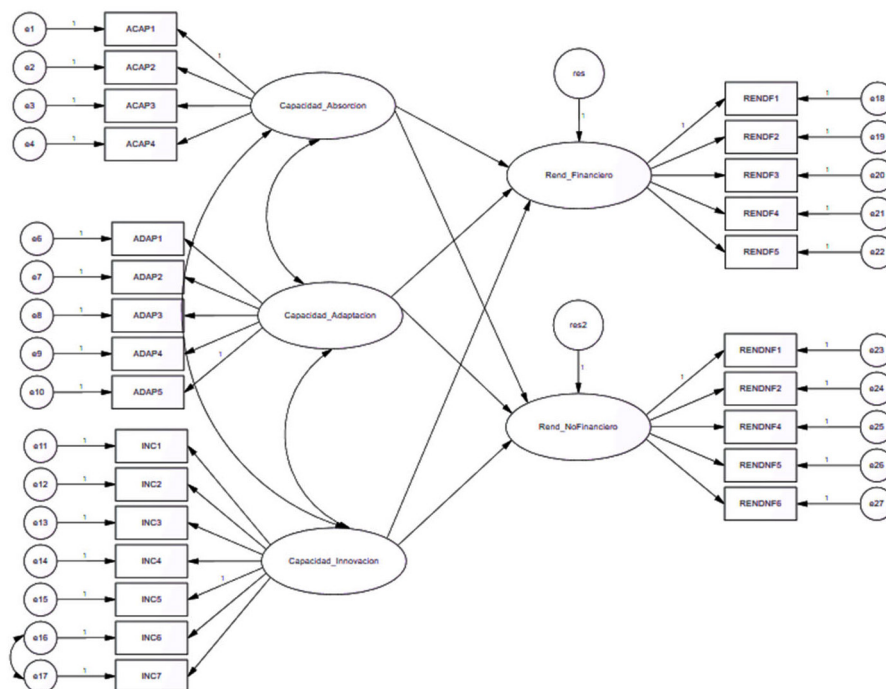


Figure 2. Structural model

Table 4. Model fit indices for structural model

Index	Value	Acceptance Value
Chi-square	445.530 (p-value = 0.002)	p-value > 0.2
GL	289	
CFI	0.92	≥ 0.92
SMRM	0.067	≤ 0.09
RMSEA	0.048	≤ 0.08

4.6. Hypothesis test

For hypothesis testing, standardized regression parameters and their significance were analyzed. Table 5 shows the results obtained.

The first hypothesis mentions that Absorptive Capability influences the financial performance of family businesses. The results show there is a positive and significant relationship between the Absorptive Capability and Financial Performance (0.306; p-value < 0.05) which allows accepting hypothesis H1. On the other hand, the second hypothesis states Adaptive Capability influences the

financial performance of family businesses, but a positive and non-significant relationship between these variables (0.061; p-value > 0.05). The third hypothesis states Innovative Capability influences the financial performance of family businesses. We must reject this research hypotheses because the results show a positive and no significant relationship (0.029; p-value > 0.05).

The fourth hypothesis mentions Absorptive Capability influences the non-financial performance of family businesses. The results show a negative and non-significant relationship between Absorptive Capability and Non-Financial Performance (−0.017; p-value > 0.05) leading to reject hypothesis H4. About hypothesis five, that says Adaptive Capability influences the non-financial performance of family businesses, the relationship is positive but not significant (0.105; p-value > 0.05), thus we reject hypothesis H5. Hypothesis six states Innovative Capability influences the non-financial performance of family businesses. Only Innovative Capability and the results show a positive and significant relationship between these variables (0.375; p-value < 0.05) allowing to accept the research hypothesis H6.

Table 5. Regression parameters

Relationships between Latent Variables			Non-Standardized Parameter	Standardized Parameters	Standard Error	P-value
Financial Performance	<---	Adaptive Capability	0.082	0.061	0.188	0.662
Financial Performance	<---	Innovative Capability	0.030	0.029	0.130	0.816
Financial Performance	<---	Absorptive Capability	0.547	0.306	0.181	0.032
No Financial Performance	<---	Absorptive Capability	−0.041	−0.017	0.355	0.908
No Financial Performance	<---	Adaptive Capability	0.191	0.105	0.253	0.451
No Financial Performance	<---	Innovative Capability	0.526	0.375	0.182	0.004

As a complement to this analysis, the R^2 values of the dependent latent variables were calculated, obtaining values of 0.2 for the Financial Performance and 0.14 for the Non-Financial Performance. Falk and Miller (1992) manifested that these values must be greater than 0.1, that is, the model must explain at least 10% of the variances of the latent variables. The results show that this criterion is met.

To test hypothesis seven, which posits that the size of the company moderates the relationship between absorptive, adaptive, and innovative capacities and the financial and non-financial performance of family businesses, we employed the method proposed by Hayes (2017). This approach involves Multiple Regression Analysis using the PROCESS Macro for SPSS, as detailed by Hayes in 2017. Upon analyzing the results, it was noted that the interaction values between the latent variables and the moderating variable were not significant in any of the instances examined. This led to the conclusion that the size of the company does not significantly moderate the impact of dynamic capabilities – absorptive, adaptive, and innovative – on the financial and non-financial performance of family businesses. Consequently, hypothesis H7 was rejected, indicating that the influence of dynamic capabilities on the performance of these businesses does not vary based on their size.

4.7. Discussion

The findings obtained corroborate the results of other investigations such as Choi and Park (2017), Mata et al. (2023) and Senivongse et al. (2019) who demonstrated that absorptive capability has a direct influence on financial performance. On the other hand, they contradict the results of the research carried out by Kale et al. (2019) who demonstrated that the dimensions of Acquisition and Use of knowledge, which are part of the Absorptive capability, have a positive and significant relationship with non-financial performance.

Regarding Adaptive capability, no evidence was found that it has any relationship with financial and non-financial performance, which contradicts what was stated by Greenley and Oktemgil (1997) associated this capability with the high performance of companies. It also contradicts what is stated by Schuster et al. (1997) discovered that capabilities improve through an adaptation process, when they focus on administration and are grouped with the employee, improving the financial performance of the company. Also contradict what Biedenbach and Müller (2012) exposed, for whom the ability to adapt has a positive impact on organizational performance. However, this relationship occurs only in the short term, finding no evidence that this type of capability has an impact on the performance of long-term projects, which could explain the findings obtained in this research. Furthermore, Dewi (2019) affirmed that the adaptability plays an important role in organizational performance, it does not necessarily do so in all its dimensions.

On the other hand, several studies have shown that organizational performance is influenced by innovation (Likar et al., 2014), which contradicts the results obtained in this research. The findings of this research demonstrated there is no relationship between Innovative capability and Financial Performance, contradicting the findings that Carvalho et al. (2016) and Sawaeen and Ali (2020) obtained, as well as Cortez et al. (2015). However, the results obtained by Hervas-Oliver et al. (2014) corroborated the results of this research, because they demonstrated that there is no relationship between these variables. In addition, Rajapathirana and Hui (2018) asserted that the relationship between innovation and organizational performance, shows mixed results that fluctuate between positive and negative results.

The results of this study showed that the size of the company does not exert any moderating effect on the relationship between dynamic capabilities and organizational performance. This contradicts what Arend (2014) exposed, for whom, although dynamic capabilities allow to improve the performance of companies, certain characteristics, such as size and age, can affect the relationship between these capabilities and performance. Chrysochoi-dis et al. (2016) stated that dynamic capabilities do not operate in a similar way in companies of different sizes, nor do they have a similar role in the formation of competitive strategies and performance. However, according to Alves et al. (2016) dynamic capabilities have a positive effect on organizational performance in large, medium and small companies, but in different ways, which could explain the results obtained in this research.

The impact of dynamic capabilities on financial and non-financial performance in emerging economies is a subject of considerable complexity. While some studies have demonstrated a significant positive relationship between dynamic capabilities and firm performance in emerging economies, it is essential to consider the limitations and contextual factors that may influence this relationship. For instance, Khan et al. (2022) highlights the need to differentiate between firm-level entrepreneurship and its association with both financial and non-financial performance in an emerging economy context. This suggests that the specific nature of the firm and its interaction with dynamic capabilities may play a role in shaping performance outcomes. Additionally, emphasize the significance of collateral constraints and their dynamic interactions in influencing emerging markets' performance, indicating that financial constraints may moderate the impact of dynamic capabilities on performance.

Moreover, the dominance of certain industries in the data set limit the generalizability of findings. Then is important to consider the industry-specific factors that may influence the relationship between dynamic capabilities and performance in emerging economies. This highlights the importance of considering industry dynamics when assessing the impact of dynamic capabilities on performance outcomes.

The findings of this study generate an important contribution to the academic literature. It contributes to dynamic capabilities theory by exploring how absorptive and innovative capabilities influence financial and non-financial performance in a specific and underexplored context: family businesses in emerging economies. This helps to enrich and diversify the understanding of dynamic capabilities beyond the traditional contexts of large corporations in developed economies, and have important implications for the management of family businesses in contexts of emerging economies; since, they allow to delineate the courses of action that managers and owners of this type of companies should take. For leaders and managers of family businesses, especially in the agricultural supplies and machinery sector in emerging economies, this study suggests the importance of developing and enhancing absorption and innovation capabilities. This could lead to the implementation of training programs, investment in R&D, and adoption of knowledge management practices. Increasing competition between companies and changing consumer expectations require companies to consider both absorptive capability and innovative capability to improve financial and non-financial performance levels respectively.

5. Conclusions

In this study, the relationship between absorptive, adaptive and innovative capability with the financial and non-financial performance of family businesses in a context of emerging economies was analyzed. This study contributes to the knowledge, by proposing a conceptual model that analyzes the influence of three of the dynamic capabilities, of greatest importance in the business field, on the financial and non-financial performance of an organization, also including the possible moderator that size may have of the company. This is the first study that makes a clear differentiation of financial and non-financial performance, which has not allowed a comprehensive evaluation of business performance. The results obtained corroborate and contradict previous studies carried out in different contexts, which allows us to conclude that it is necessary to include other external and internal variables to broaden the analysis and determine the factors that influence the financial and non-financial performance of family businesses. This study provides an important contribution to continue this line of research.

Limitations and future research

This study had some limitations. One of them is that the study was cross-sectional, which makes it impossible to verify the evolution over time of the relationship between these variables. Future research may apply a longitudinal research design to verify the evolution of the relationship between dynamics capabilities and organizational performance and possible causal relationships between them. Future research also could include in the analysis the sub-

constructs related to each dynamic capability, such as the power and realized absorptive capability, as well as the different components of innovative capability, such as those proposed by Saunila (2014). In addition, it is suggested that cultural factors be included that in some way may have a moderating or mediating effect between the variables analyzed in this research.

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