

Innovation and Growth in Family-Owned Mexican SMEs

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Abstract

This paper studies the relationship between innovation and the level of growth in family-owned small and medium-sized enterprises (SMEs), this is done within the context of Mexico. The conceptual framework of analysis is based on the hypothesis that innovation in products, processes and management systems contribute to the achievement of growth in family-owned SMEs. To test this hypothesis, a model of structural equation of second order was developed with data collected from 206 family-owned SMEs located in the state of Aguascalientes, Mexico. The empirical evidence provided by the analysis supports the hypothesis, showing that family-owned SMEs that increase their innovation activities will also significantly increase their opportunities for growth. This finding can be used to inform the business growth strategies formulated by the owners, or managers, of family-owned SEMs. These also indicate policy-makers that by designing effective policies and providing incentives to support innovation in family-owned SMEs, the government would not only contribute to the growth of these organisations but also to the growth of their regions and countries. Despite the importance of innovation and family-owned SMEs, evidence suggests that studies focused on investigating innovation in this type of organisations are very limited. This paper fills this gap by providing a refined understanding of the relationship between innovation and growth in family-owned SMEs.

Keywords

Family-owned business, growth, innovation, Mexico, SMEs

1. Introduction

The concept of innovation has been acknowledged in the literature of different academic fields not just as one of the essential strategies and activities to obtain competitive advantages but also as one of the basic requirements to survive and grow in the current highly globalised and competitive environment (Xia, 2005). Similarly, innovation is the most important resource for every organisation regardless of its size and sector (Liu and Chen, 2014). In particular, increasing levels of globalisation, technology development and competition have challenged small and medium-sized enterprises (SMEs) to increase their levels of innovativeness (Harris et al., 2016).

Thus, in order to be more efficient innovating, enterprises, including SMEs, need to carry out effective cooperation activities with their associates, suppliers, clients, and other organisations so they can work together in the creation and implementation of innovation initiatives. However, a reasonable amount of SMEs, especially family-owned SMEs, do not carry out cooperation activities (Dzikowski, 2012). This comes as a consequence of not being willing to face risks related to technology development and adoption as well as the market and financial aspects that are inherent in innovation activities. According to Dzikowski (2012), these factors significantly reduce the level of innovation in family-owned SMEs.

This situation is understandable since family-owned SMEs are usually considered, in the academic literature, as a hybrid construct of a family and an enterprise, where both parts become equally important in terms of the status given by workers, employees and the owners of the enterprises (Liu and Chen, 2014). Thus, in a conceptual manner, family members consider that the enterprise can be managed as an entity that is independent from the family and that can be analysed from a new business perspective. In this case, the main role of the family is to keep the enterprise as a business in full development, from which both the enterprise and the family can mutually benefit from each other; otherwise there is the chance of stopping its growth (Liu and Chen, 2014). The most important aspect of family enterprises is not the family that owns them but rather the family businesses (Drucker, 1999).

Similarly, it is common to find in the literature that family businesses have difficulties in financing their business activities (Liu and Chen, 2014; Zhen, 2006). This creates important limitations not only to achieve the standardisation of their organisational structure but also to adopt and implement innovation activities (Zhen, 2006). Therefore, in order to compete under the current market conditions, family-owned businesses have to dedicate much effort to significantly improve, or redesign, their strategies in a way that they can adopt and implement innovation as part of their daily activities. This will provide them with products that can stand out from the ones offered by their main competitors and be a recognised family-owned business from other enterprises established in the market (Liu and Chen, 2014).

In this regard, the future of family businesses will depend on the level of entrepreneurship and innovation undertaken by the organisation and its managers as this will allow them to obtain the expected success and the possibility to survive in their market (Xia, 2005). Nevertheless, despite the relatively extensive research on innovation in SMEs found in the academic literature (e.g. Gu et al., 2016; Maldonado-Guzman et al., 2016; Harris et al., 2015; Battistella et al., 2015) and the importance that this activity may have on the survival and growth of family-owned SMEs, research on innovation in these types of organisations is still very limited (De Massis et al. 2016; Liu and Chen, 2014; Dzikowski, 2012).

Family-owned SMEs account for a large percentage of the world's output and value addition (Jayanth et al., 2014). Thus, nowadays the prominence of family-owned businesses for national economies worldwide is widely recognised (Hiebl, 2015). For these reasons, it is necessary to increase the theoretical and empirical evidence of innovation activities in family-owned SMEs. This research therefore contributes to the management and innovation theories by filling this gap. In particular, through a second order analysis, this paper investigates, establishes and discusses the existing relationship between innovation and the level of growth in family-owned SMEs. Carneiro (2007) and Kruger and Johnson (2009) consider sales as the main indicator of growth and a qualitative measure that can be easily and accurately evaluated by managers. Thus, within the context of this research, growth has been measured based on the change (i.e. increase/decrease) in companies' sales over a determined period of time.

This is done within the specific context of a country with an emerging economy, as it is the case of Mexico. The context of this research is supported by De Massis et al. (2016) and Sadiq Jajja et al. (2014), who suggest that more innovation studies should be conducted in developing and emerging nations. The study is also potentially important for policy-makers as a proof that the creation of effective policies as well as implementing government incentives with the aim of increasing innovation in family-owned SMEs can contribute not only to the growth of these organisations but also to the growth of their regions and countries.

2. Family-owned SMEs, innovation and growth

The current literature presents both an extensive discussion regarding the definition of family-owned businesses and a disagreement, among researchers and scholars, about its specific definition (Jayanth et al., 2014). Litz (1995) suggests that some specific organisational characteristics should be considered to define family-owned businesses. However, these authors did not establish those characteristics in their research. Nonetheless, the research conducted by Sharma et al. (1997) concluded that three main aspects that are essential to consider a company as a family-owned enterprise are: (1) managers own and control the enterprise, (2) the family influences decision-making, and (3) there is a transfer of control of the enterprise to the next family generation.

Kotey (2005) and Rue and Ibrahim (1996) found in their respective studies that family businesses usually have a set of industrial goals in order to achieve a higher level of growth. Ranked by order of importance, they consider the acquisition of equipment, marketing activities, staff training and innovation of new products as the main goals to achieve. Zinger and Mount (1993) carried out a research about the main priorities of family-owned businesses and found that innovation of new products and services is not one of them. However, Craig and Moores (2006) concluded in their investigation that family-owned businesses normally operate in environments of uncertainty, and hence they react to reduce as much as possible such uncertainty by increasing the level of innovation activities and systematically introducing new products or services into their markets.

In this regard, growth has always been considered as one of the most important elements for the very survival of family-owned businesses (Ward, 2011; Kotey, 2005). Poza (1989) had already considered that growth should be part of the business strategies of family-owned businesses as an essential factor to achieve continuity and the family unit of the business. However, family-owned businesses face several challenges to attain a higher level of growth (Sharma, 2004). It is through the adoption and implementation of innovation activities that family businesses can achieve a higher level of growth (Laforet, 2013). However, innovation usually depends on the available resources and skills that enterprises have (Rokita, 2005). As a consequence, the capacity and perspectives of innovation in family-owned businesses are directly associated to the available resources and skills in the organisations, which can generally be found in all the processes and knowledge inside enterprises (Laforet, 2013).

Similarly, the literature also considers that an enterprise can be regarded as innovative if its structure and organisation can create a positive environment to produce innovation activities (Dzikowski, 2012). This will enable the development of innovation skills within enterprises and the creation of more effective and efficient innovation strategies (OECD, 2008). Therefore, in order for family-owned businesses, especially SMEs, to obtain a higher level of growth, they need to constantly improve their ability to create more permanent innovation activities. This will contribute in helping them to improve their level of creativity and competitiveness, forecast the future, have a constant communication with their clients so they know their preferences and needs, and loosen up their innovation activities and adapt them to the conditions and changes required by an increasingly globalised market (Sosnowska et al., 2000).

In a similar trend, Dzikowski (2012) concluded that in order to improve the level of efficiency on innovation activities, family-owned businesses have to carry out research and development activities (R&D), increase resources related to R&D, and systematically implement new ideas to improve the technology currently possessed by the organisation. Similarly, De Massis et al. (2016) also suggest that family-owned companies should continuously create and introduce new products which improve business sales and/or adapt current ones to changes demanded by the market. In order to keep and significantly improve growth and the competitive position of family-owned businesses, Simon (1999) concluded that this type of organisations need to constantly improve their innovation activities as it is common for them to benefit from the business environment if they constantly produce changes, upgrade existing products or develop new ones (Dzikowski, 2012).

In a similar trend, it is also possible to find in the literature that family-owned SMEs have different problems to adopt and implement innovation activities. Some of the most important difficulties are the acquisition of capital, high risks of financing given by commercial banks on long terms, serious limitations for their development in terms of economies of scale, limited capacity to offer complementary products and services, problems to adequately manage a growing organisational structure, difficulties associated with the protection of rights of intellectual property of patents and brands obtained from innovation activities, and high costs and the complexity that creates the adaptation of new administrative requirements (Safin, 2008).

However, family-owned businesses have a key role not only in the growth and development of the economy and society where they are established but also in the creation of innovative products, processes and management

systems (Dzikowski, 2012). Panuwatwanich et al. (2009) proved that innovation takes place in family-owned businesses by producing new ideas. The same occurs when this type of organisations want to improve their level of growth, or when they implement new ideas that turn into changes or improvements in their existing products or processes, or the introduction of new products or processes. These create competitive and sustainable advantages as well as efficiency in the organisation. Similarly, McAdam et al. (2010) consider that, additionally to the ideas of Panuwatwanich et al. (2009), there are some indicators that can prove that family businesses are innovating in marketing, management of the organisation and technology.

Likewise, Chirico and Salvato (2008) concluded in their studies that innovation is closely related to the concepts of learning and new knowledge. Therefore, family-owned businesses depend on the learning and creation of new knowledge to contribute in the development of new or improved products that will be adapted to the needs of the market, which in turn will create new market opportunities (McAdam et al., 2010). In this regard, innovation creates a change in the attitude among executives, employees and workers of family-owned businesses, it facilitates the solution of problems (Mello et al., 2008), and the acquisition of better results such as the growth of the organisation (Cabral et al., 2008). Thus, innovation can take place through the implementation of new products or services, in the modification or significant improvement of products, processes, commercialisation methods and marketing, in the management methods or systems and in the new business practices that usually take place in family businesses both inside and the external relations that business have with their clients and suppliers (Oslo Manual, 2004).

Finally, innovation is also analysed and discussed in family-owned SMEs through the generational business transition which considers that the succession in the administration and management of family-owned businesses will have to take place by taking into account the ability of the new executives to promote innovation in all the organisation (Craig and Moores, 2006). This will create more entrepreneurship activities that will consequently create more innovations in products, processes and management systems (Lima, 2010). Therefore, innovation in family-owned SMEs is the result of the production of new ideas of the family, which create more and better results such as the growth of enterprises (Emmendoerfer and Halal, 2008). Thus, considering the previous discussion, it is possible to formulate the following research hypothesis:

H1: A higher level of innovation in family-owned SMEs leads to a higher level of business growth in these type of organisations

3. Methodology

In order to test the hypothesis formulated in this research, an empirical investigation was conducted in SMEs from the state of Aguascalientes, Mexico, by using as a sampling frame the business directory of the 'Sistema de Información Empresarial de México 2016' (Business Information System of Mexico). This business information system included a total of 7,662 companies, from which 1,335 of those were SMEs (i.e. they employed between 5 and 250 staff). A questionnaire survey was distributed among all the 1,335 SMEs, resulting in a sample size of 308 organisations responding to the questionnaire. Thus, the sample rate was over 23% of the population. The questionnaire targeted the managers of these companies, which were selected randomly with a sampling error of $\pm 4.5\%$ and a reliability level of 95%. The data collection was carried out between January to April, 2016. From all the questionnaires responded, 206 were family-owned businesses while 102 were not family-owned. Therefore, the final sample used for this research was 206 family-owned SMEs. Table 1 presents the profile of the respondents and their organisations.

In order to measure innovation, managers were asked to indicate if their enterprises had carried out some form of innovation activities in the last two years. In this case, all 206 family-owned SMEs had undertaken some form of innovation activities related to either their products, processes or management systems, or any combinations of the three. Thus, managers were also asked to evaluate the importance that innovation activities in products, processes and management systems had for their organisations, see Table 2. The responses were analysed through a second order analysis. In this case, seven items measured by means of a five-point Likert scale (from 1 = not important at all to 5 = very important) were adapted from Madrid-Guijarro et al. (2009). Furthermore, Carneiro (2007) and Kruger and Johnson (2009) consider sales as the main indicator of growth and a qualitative measure that can be easily and accurately evaluated by managers. For this reason, in this case, growth was measured by means of the total 2014 sales compared to the total 2015 sales of the organisations that participated in this study. Table 2 summarises the constructs, items and measures that were used to operationalise innovation.

Table 1. Descriptive statistics (n = 206)

Variables	Percentage (%)
Sector	
Services	24
Commerce/Sales	25
Manufacturing	47
Construction	4
Organisations' size	
Micro	17
Small	75
Medium	8
Length of organisations' operations	
'Young' organisations (1-10 years)	38
'Mature' organisations (> 10 years)	62
Managers' (respondents) gender	
Male	86
Female	14

Table 2. Measurement of innovation

	Not Important		Very Important		
Products/services					
▪ Changes or improvements in existing products / services	1	2	3	4	5
▪ Marketing new products / services	1	2	3	4	5
Process					
▪ Changes or improvements in production process / services	1	2	3	4	5
▪ Acquisition of new capital equipment	1	2	3	4	5
Management Systems					
▪ Direction and Management	1	2	3	4	5
▪ Purchasing and Supply	1	2	3	4	5
▪ Commercial / Sales	1	2	3	4	5

Additionally, in order to evaluate the reliability and validity of the two scales used in this empirical research, a second order Confirmatory Factor Analysis (CFA) was carried out by using the method of maximum likelihood with the software EQS 6.1 (Brown, 2015). The reliability of the scales was evaluated by means of Cronbach's alpha and the Composite Reliability Index (CRI) proposed by Bagozzi and Yi (1988). The results obtained are presented in Table 3, and they indicate that the model had a good adjustment of data ($X^2 = 10.832$; $df = 8$; $p = 0.000$; $NFI = 0.991$; $NNFI = 0.995$; $CFI = 0.998$; and $RMSEA = 0.032$) and the values of both Cronbach's alpha and the CRI were above 0.7. This provided evidence of reliability and it justified the internal reliability of the scale of the theoretical model (Hair *et al.*, 1995).

The results of second order of the CFA indicated that all items of the related factors were significant as evidence of the convergent validity was $p < 0.01$. The size of all the standardised factorial loads were above 0.60 (Bagozzi and Yi, 1988) and the Extracted Variance Index (EVI) of each pair of constructs of the theoretical model had a value above 0.50 as it is established by Fornell and Larcker (1981). These values indicated that the theoretical model had a good adjustment of data.

Regarding the discriminant validity of the theoretical model of innovation, the evidence is provided in two ways that can be observed in Table 4. Firstly, a reliability interval test, proposed by Anderson and Gerbing (1988), establishes that with an interval of 95% of reliability, none of the individual latent elements of the matrix of correlation must have a value of 1.0. Secondly, the extracted variance test, proposed by Fornell and Larcker (1981), establishes that the extracted variance between each pair of constructs must be higher than their corresponding Extracted Variance Index (EVI). Therefore, based on the results obtained from both tests, it could be concluded that both measurements yield enough evidence of discriminant validity of the theoretical model. This provided enough confidence to obtain reliable and valid results from the theoretical model developed for this study.

Table 3. Internal consistency and convergent validity of the theoretical model

Variable	Indicator	Factorial Loading	t-Value	Cronbach's Alpha	CRI	EVI
Product Innovation (F1)	INS1	0.910***	1.000 ^a	0.842	0.843	0.730
	INS2	0.795***	17.929			
Process Innovation (F2)	INP1	0.849***	1.000 ^a	0.768	0.770	0.628
	INP2	0.728***	16.519			
Managerial Innovation (F3)	ISG1	0.734***	1.000 ^a	0.851	0.852	0.659
	ISG2	0.796***	13.616			
	ISG3	0.897***	15.385			
Innovation	F1	0.998***	12.530	0.918	0.919	0.797
	F2	0.990***	11.204			
	F3	0.643***	9.186			
χ^2 (df = 8) = 10.382; p < 0.000; NFI = 0.991; NNFI = 0.995; CFI = 0.998; RMSEA = 0.032						

^a = Constrained parameters to such value in the identification process
*** = p < 0.01

Table 4. Discriminant validity of the theoretical model

Variables	Product Innovation	Process Innovation	Managerial Innovation
Product Innovation	0.730	0.110	0.053
Process Innovation	0.202 – 0.462	0.628	0.308
Managerial Innovation	0.110 – 0.350	0.431 – 0.679	0.659

The diagonal represents the Extracted Variance Index (EVI), whereas above the diagonal the variance is presented (squared correlation). Below diagonal, the estimated correlation of factors is presented with 95% confidence interval.

4. Results

A model of structural equation of second order was used in order to test the hypothesis formulated in this research by using the software EQS 6.1 (Brown, 2015). Moreover, nomological validity was analysed through the Chi-square test, which was used to compare the results obtained between the theoretical model and the measurement model. The results of the compared models were not significant, which demonstrated the existence of nomological validity. This provided an explanation of the relations observed between the latent constructs of the scales used (Anderson and Gerbing, 1988). Table 5 shows the results obtained.

Table 5. Results of the structural equation modelling analysis of the theoretical model

Hypothesis	Structural Relation	Standardized Coefficient	t-Value
H1: A higher level of innovation in family-owned SMEs leads to a higher level of business growth in these type of organisations	Innovation → Growth	0.707***	20.188
χ^2 (df = 3) = 10.382; p < 0.000; NFI = 0.957; NNFI = 0.991; CFI = 0.994; RMSEA = 0.061			

*** = p < 0.01

The results obtained from the statistical implementation of the model of second order of structural equation are presented in Table 5 and illustrated in Figure 1. These results indicate that, regarding hypothesis **H1** ($\beta = 0.707$, p < 0.01), innovation has a significant positive result in the level of growth of family-owned SMEs of Aguascalientes, Mexico. Thus, it is possible to conclude that the different innovation activities carried out by family-owned SMEs will have positive effects in their level of growth.

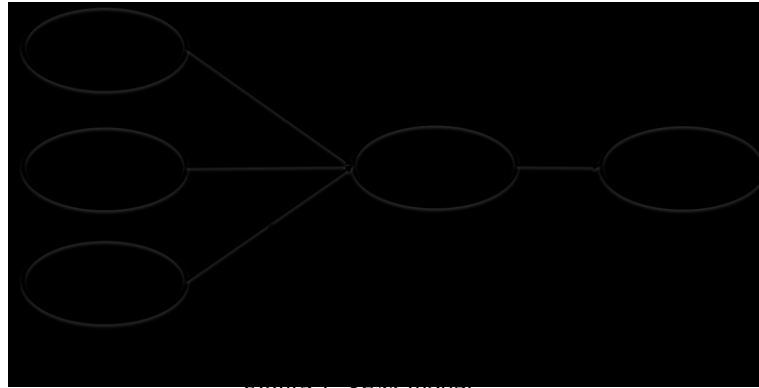


Figure 1. SEM model

5. Discussion of the results

By considering the results obtained in this research, it is possible to conclude on two main aspects. Firstly, innovation can be measured by means of three activities: innovation in products/services, innovation in processes and innovation in management systems. Consequently, if managers of family-owned SMEs want to adopt and implement innovation as part of their daily activities, then they will have to innovate not only in their products and/or services but also in their processes and management systems (Damanpour and Gopalakrishnan, 2001; Simon 1999). This will facilitate the creation of the products and/or services needed by their customers, which will also allow family-owned SMEs to obtain a higher level of growth (Laforet, 2013).

Secondly, if we take into consideration the results obtained from this research, which corroborate the academic literature regarding the consideration of innovation not only as a business strategy but also as an essential activity to achieve a higher level of growth and business return (Laforet, 2013; Xia, 2005), then it is possible to conclude that family-owned SMEs that adopt and implement innovation activities as a fundamental part of their business strategies will have higher possibilities of significantly improving their level of growth. This will allow them to get the necessary economic resources to continue innovating, and even with the implementation of research and development activities (Miller, 2001).

On the other hand, the results obtained from this research have multiple practical implications for organisations. One of these implications is that the results obtained indicate that innovation in family-owned SMEs in Mexico is mainly focused on improving or modifying their existing products (i.e. incremental innovation). Due to the similarity of economic characteristics, this may also arguably be the case in many other developing or emerging nations. Although incremental innovation activities offer a substantial competitive advantage to SMEs (Bhaskara, 2006), these must still be supported and complemented by radical innovation activities as they are recognised as critical to the long-term success of firms (Tellis et al., 2009). It is therefore important for family-owned SMEs in Mexico, and in other developing countries, to support and enable radical innovation projects by building adequate management systems and creating a competency for this type of innovation activities within the organisation (O'Connor and Ayers, 2005).

Despite the need of radical innovation activities, it is still possible to conclude that those family-owned SMEs which constantly modify or improve their products and innovate in processes and management systems will be more prompted to survive and significantly increase their level of growth than those family-owned SMEs which do not engage in innovation at all (Dzikowski, 2012; Simon, 1999). Nonetheless, it is important to consider that a high percentage of family-owned SMEs, mostly in Latin America, are managed by their owners, who normally place their relatives in managerial positions (Brenes et al., 2006). This contributes to all the decisions inside the organisation to be controlled by the family, which may restrain or stop innovation activities as it does not provide an adequate working environment for their development. Therefore, if managers of family-owned SMEs want to improve or increase the level of growth of their organisation, then they must increase innovation activities. Additionally, managers will also have to look for ways to have a better control of innovation activities. For this, it is essential to use the different training programmes for directors, employees and workers that are offered by government institutions, business associations and chambers in order to improve innovation activities.

Finally, managers of family-owned SMEs will also have to establish an organisational environment that promotes the adoption and implementation of innovation activities so they somehow eliminate the attitudes from workers and

employees of resistance to the change demanded and needed by innovation. This will enable all employees in the organisation to adopt a positive attitude towards innovation. Similarly, if family-owned SMEs are able to create an organisational culture of innovation that aligns to the business strategies of the company, then they could create not only a higher level of growth but also significantly improve the level of business return. In this context, the results of this study provide enough theoretical and empirical evidence that proves that innovation in products, processes and management systems have enormous benefits for family-owned SMEs.

6. Concluding remarks, limitation and further research

This paper establishes and discusses the prevalence relationship between innovation and the level of growth in family-owned SMEs, particularly within the context of a developing country, in this case, Mexico. Since there is a relatively extensive research on innovation in SMEs (e.g. Gu et al., 2016; Harris et al., 2016; Battistella et al., 2015) but much limited evidence of research on innovation in family-owned SMEs (De Massis et al., 2016; Liu and Chen, 2014; Dzikowski, 2012), this paper contributes to the management and innovation theories by filling this gap. In this way, the paper provides a refined understanding and validation of the relationship between innovation and the level of growth in family-owned SMEs.

In general, the results of this empirical investigation signify the idyllic positive effects that innovation has on the level of growth of family-owned SMEs. This suggests that if managers and/or owners of SMEs want to expand the level of growth of their organisations, they can increase the level of innovation activities. In this context, the results of this study indicate that innovation can be used as a strategy for growth in family-owned SMEs. This is also potentially important for policy-makers as this research can serve as a motivation for them to create effective policies and provide government incentives with the objective of increasing innovation in family-owned SMEs. The results of this study suggest that with this, policy-makers will be contributing not only to the growth of these organisations but also to the growth of their regions and countries. Furthermore, this study also informs and thus may also encourage researchers to further explore the linkage between innovation and business growth in family-owned SMEs, but in particular sectors and/or other countries/regions.

On the other hand, the practical implications of this research offer insights into some of the aspects that managers and/or owners of family-owned SMEs may consider when formulating strategies directed towards the expansion of their firms. From this, managers will be able to take more informed and effective decisions regarding the formulation of such strategies and the operational management of innovation activities.

In terms of this empirical research's constraints, it presents some limitations that need to be taken into consideration when conducting similar studies in the future. One limitation refers to the sample used for the investigation as only family-owned businesses that had between 5 and 250 employees were considered. For this reason, future investigations should consider 'micro' family-owned enterprises with less than five employees as these represent more than half of SMEs in Mexico. This will help to not only validate the results obtained but also expand the research's scope by adding this important constituent of the Mexican economic system. Another limitation relates to the consideration of only family-owned SMEs located in the state of Aguascalientes, Mexico; future researches can expand this study by considering other regions/states of the Mexico, or even other countries with developing and emerging economies. With this, a cross comparative analysis can be conducted as a preliminary step to determine the regional factors that may play a role on the different effects that innovation may have on the growth of organisations according to their locations. A research to compare the correlation between innovation and growth between family-owned and non-family-owned businesses can also be conducted to investigate whether it equally applies for both types of organisations, or whether the 'family-ownership factor' makes these organisations different in that respect.

The scale used to measure innovation may also be considered limited as only seven items were used for this purpose, whereas only one item was employed to gauge business growth. Following investigations will need to define and use other scales to confirm the results obtained. Furthermore, only qualitative variables were considered to measure innovation and business growth. Thus, future studies can incorporate quantitative variables such as 'investment in research and development' to explore whether there are any significant differences with the results obtained. Finally, the questionnaire was only administrated to the managers of family-owned SMEs. This created the assumption that they had significant knowledge regarding innovation activities and business growth. Future research can also apply the same questionnaire to employees, customers and suppliers in order to validate the results obtained.

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