



Organizational culture and innovation in the market orientation of family companies of Pasto (Colombia)¹

Cultura organizacional e innovación en la orientación al mercado de empresas familiares de pasto (colombia)

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Received October 20, 2017; accepted November 20, 2018

Available online October 29, 2019

Abstract

The purpose of the research was to measure the organizational culture with the determination of the capacity for innovation and recognition of the level of market orientation presented by family businesses in the city of San Juan de Pasto (Department of Nariño, Colombia). This study was carried out in 2016 with a sample of 234 people among managers, founders and owners of family businesses, dealing with an infinite population. As a methodology, a quantitative approach, empirical-analytical method and the type of explanatory research were used. Thus, the results showed that innovation determines market orientation to a greater extent than the company's organizational culture; market orientation is the variable that most causality presents on the innovation variable. A relevant conclusion was that as the company

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Peer Review under the responsibility of Universidad Nacional Autónoma de México.

<http://dx.doi.org/10.22201/fca.24488410e.2019.1725>

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¹ Article that resulted from the research: *Influence of organizational culture and innovation on the market orientation of family businesses in the city of Pasto*.

includes some type of innovation in its production, market orientation grows by a specific magnitude, that is, the two variables are closely related and maintain a positive correlation.

JEL code: M14, M31, O31

Keywords: Organizational culture; Family companies; Innovation; Market orientation

Resumen

El propósito de la investigación fue medir la cultura organizacional con la determinación de la capacidad de innovación y reconocimiento del nivel de orientación al mercado que presentan las empresas familiares de la ciudad de San Juan de Pasto (Departamento de Nariño, Colombia). Se trabajó en el año 2016 con una muestra de 234 personas entre gerentes, fundadores y dueños de empresas familiares, tratando con una población infinita. Como metodología se acogió un enfoque cuantitativo, método empírico-analítico y el tipo de investigación explicativo. Así, los resultados evidenciaron que la innovación determina en mayor medida a la orientación al mercado que la cultura organizacional de la empresa; la orientación al mercado es la variable que más causalidad presenta sobre la variable innovación. Una conclusión relevante fue que a medida que la empresa incluye en su producción algún tipo de innovación, la orientación al mercado crece en una magnitud en específico, es decir, las dos variables están estrechamente relacionadas y mantienen una correlación positiva.

Código JEL: M14, M31, O31

Palabras clave: Cultura organizacional; Empresas familiares; Innovación; Orientación al mercado

Introduction

Family businesses in Colombia represent a fundamental factor of progress and entrepreneurship. Jaramillo (2003) considers that the current economic growth of the country represented in the GDP is strongly marked by the small and medium industry, which generally relies on shareholders that have some family connection. It is necessary to identify that businesses, besides generating great quantities of resources by their types of productions, are also a source of employment. The situation is such that at present these industries generate 80% of the employment in the country, according to the Ministry of Industry, Commerce and Tourism (2018); therefore, it becomes imperative to concretize the form by which these businesses have managed to establish themselves in the market and to remain in it based on their market orientation, focusing precisely in its capacity of innovation and its organizational culture. Given these considerations, this research work seeks to resolve the following question: How does organizational culture and innovation influence the market orientation of family businesses in the City of Pasto?

First of all, it is necessary to define that small and medium enterprises not only have relevance within Colombia, but that this relevance is presented in all Latin American countries. According to the Latin America Business Review (2014) not only are small and medium enterprises important for the generation of work, but also for the generational ties they create to give continuity to the businesses established in the market.

According to Borroso and Jiménez (2011), a family business is a social organization in which business and family coexist in a syncretism that generates two superimposed subsystems that are interdependent and generate conflicts and business solutions. Similarly, Soto (2013) affirms that this is a type of business where decision-making is done considering a family that controls all production processes. It should be noted that this considers the founder, who as a *sine qua non* condition will seek that their children and grandchildren are those who control the business in times to come. With this, the conservation of roots and family unity is promoted.

According to (Quejada Pérez, Raúl Francisco, and Ávila Gutiérrez, Jorge Nelson, 2016, p.4) The matter of family businesses appears in the current context of academic topics due to the importance that this type of businesses has within the production structures of both developed and developing economies. Its importance lies in the power it represents to generate jobs, and in the entrepreneurial spirit embodied by its founders. However, bottlenecks are also recognized within its performance, due to the difficult sustainability over time, because of the so-called generational crises. In this sense, family businesses must structure and establish strategies to mitigate this scourge, through the internationalization and professionalization of their human, administrative, and financial resources.

Consequently, it is necessary to argue that family businesses are essential in the competitive environment for the confluence of resources, and for the maintenance of the economy of any country, but they require new research to generate sufficient knowledge to maintain them over time. It should be noted that the greatest problem they face are the generational changes that make many of these succumb. To this end, it is necessary to denote the impact of organizational culture within family businesses.

As for organizational culture, Hipas (2013) considers that this is the way of life that the organizations have carried out in a particular way; these refer to the own visions of the members of the organization, so that the values, beliefs, and general habits that have been established little by little, and that are an essential part of the development of the productive or commercialization activity, are considered. One author who concretely defines the importance of organizational culture in family businesses is Morales (2010), who states that culture as such is the way in which business leaders denote their leadership style. The author considers that it is not possible to evaluate organizational culture without having determined the type of leadership, especially in family businesses, recognizing that this is also the way in which businesses relate not only with internal customers of the organization but also with members

external to it. It is this way that a business can be consolidated in the market as one of the most beloved or better-established businesses. At this point, it is necessary to point out that Colombia has a particularity with respect to organizational culture, and it is precisely the fact that businesses are loved in their environment, are accepted, and are considered as their own.

In the understanding of the impact of organizational culture on family businesses it is necessary to consider Monroy (2013), who vehemently states that these types of businesses are small businesses that have the same organizational characteristics, meaning that within these are norms, conflicts, and hierarchy, so they manage to combine these factors and formulate a form of culture, this action is even more accentuated in family businesses that base their operation on subsidiary relationships.

The other key concept of this research is that of innovation, which is one more of the factors considered essential for the survival of family businesses within the market. Initially it is necessary to bear in mind that the current concept of innovation, according to Lozano (2010), is the capacity that businesses have to face the competitive world from the creation of new products and services. This concept encourages the business to surprise the customer, resorting to processes that are beyond their needs; however, to do so it is necessary to resort to one of the most vital human skills: creativity.

According to (Avendaño C., W. R., 2012, p. 190) By innovating, businesses not only introduce a product, service, concept, idea, and/or project to the market, but also offer a striking and interesting alternative to satisfy the needs of people (value) who find a great variety of offers in the market, and become agents who demand changes, ask for transformations, and expect innovation.

As can be seen, the importance in the market is directly related to the way in which all the productive factors come together, including the organizational culture in production, to satisfy and even go beyond the needs of the client, which in the long run is the essential element in the value chain. Consequently, innovation must be combined with leadership, customer orientation, and transform the forms of production to generate changes in society. In this way, the business is transformed through the knowledge acquired, and this is poured back into the market, transforming it, in turn, into a new reality that modifies the performance of the business.

According to Foss and Saebi (2017) innovation has the characteristic to generate competitiveness within the organization and is the creation of sustainable value. As a process, this helps in the recognition of the business in the future and keeps it in a competitive and voracious market. Continuing with this analysis, it is necessary to bring up Caoa, Lanlan, Navareb, Jyoti and Jin, Zhongqi (2018) who, following the route of new innovations for the local market, manage to specify that the recruitment and promotion of local talent was considered fundamental for businesses. They argue that, since local staff understand the local market better than expatriate employees, it is necessary to attract local talent and create favorable working

conditions for them, as this helps many businesses gain a superior view of the local market. Businesses were able to use a more qualitative knowledge of local consumer preferences, and capture value through product/service innovations or new processes.

From the above conceptualization, it is possible to state that the fact that the internal client recognizes the market for which it will produce generates a market orientation *per se*. Jiménez (2010) denotes that market orientation is a type of organizational intelligence that considers the present and future needs of the market, coordinates the actions of the entire business, and makes production factors converge for the same goal.

Ynzunza and Izar (2013) reflect on the skills derived from market orientation and state that it is a source of competitive advantage that has an effect on financial and market performance, thus proving that market-oriented businesses have a significantly higher performance than those businesses with lesser orientation, especially concerning factors related to the profitability obtained by the business, the adaptability of the same to changes in the environment, the satisfaction of customer needs and desires, etc.

The above allows emphasizing that market orientation, focused mainly on behavior, makes it evident that the intelligence generated can be detached from different employee attitudes and behaviors and fulfill, in a timely and anticipated way, the daily needs of the market.

Market intelligence has a lot to do with market orientation, that is, it is of utmost importance that businesses and organizations coordinate all their functional areas with the primary objective of developing a culture that allows employees to create behaviors specifically aimed towards the needs of customers, in other words, that they become increasingly interested in seeking ways to provide greater satisfaction to the customer and their needs.

According to Rincón, L. D., Rojas Berrio, S., and Montoya, A. (2013) who carry out an analysis of a large number of authors, the proposal is that “Market orientation is conceived within a market philosophy that positively impacts the members of an organization, with the sole purpose of fulfilling the objectives and achieving the proposed results” (p. 67). In this manner, it is understood that market orientation must be conceived as a form of production and marketing; businesses as such must perceive the relevance of these and concretize within their actions and organizational culture the intention to meet customer needs.

According to (Castellanos Ordoñez, Germán and Solano Arboleda, Daniel, p. 92) [...] the existing positive relationship between market orientation and business performance. The businesses that in one way or another manage to know and act on their market have a superior performance, creating a competitive advantage over their rivals. Market orientation is a capacity developed by businesses to successfully face competition, the changing and increasingly demanding tastes of their buyers, globalization, and the rapid changes in the local and global economy. The organizational culture and operational processes required in the development of market orientation as a strategic capability give businesses with that

characteristic a competitive advantage over their competitors. In the 21st century, market conditions are different from those of 30 years ago when the concept of market orientation was first introduced. At that time, the vast majority of businesses were manufacturing businesses and were located in developed countries. There are several trends in the market that are worth mentioning and studying in the future: 1) service businesses are becoming increasingly important in the economies of countries; 2) global manufacturing has moved to developing countries because of its low costs; China and India have become major players in the global arena; and 3) global trends regarding the environment and corporate social responsibility have given way to multiple non-profit organizations. It should be noted in the literature review that service businesses and non-profit organizations do not have a significant volume of empirical studies at the global level. In this sense, it is from 2010 onwards that empirical studies on the relationship between market orientation and business performance are growing in countries such as China and India. These new global trends will open up new avenues for research on the implementation of market orientation and the outcomes of businesses that implement it.

Methodology

This research was carried out using a quantitative approach, an empirical-analytical method, and an explanatory research type. As an instrument for collecting information, a survey was structured and applied in 2016, for which a sample was made *a priori* by intentional selection or convenience sampling that, according to Casal and Mateu (2003): “Consists of the selection by non-random methods of a sample with characteristics similar to those of the target population. In this type of sampling, representativeness is determined by the researcher in a subjective manner.” (p. 5); finally, with a sampling of 234 people, including managers, founders, and family business owners, it was specified that the population is infinite.

Based on the work by Jiménez (2010), the proposed measurement instrument was used to determine the degree of market orientation of the entities based on the following three items: *i*) customer orientation, which includes the particular characteristics of those businesses that show an interest in satisfying the needs and desires of customers; *ii*) competition orientation, which consists of reviewing the mechanisms that businesses use to study and analyze other similar organizations; *iii*) inter-functional coordination that refers to the analysis of the information that is collected and that is useful for each of dependencies of the business. These factors are chosen because it is possible to denote the configuration of these as a fundamental part of the organization and business action within the Nariñense community.

In order to measure market orientation, two instruments were adopted. These instruments were proposed by Jiménez (2010), who uses the MKTOR scale developed by Narver and Slater (1990), and the MARKOR scale created by Kholi and Jaworski (1993); both scales acted in a

combined manner. Likewise, to measure organizational culture, a model of competing values was used, developed by Quinn and Rohrbaugh (1981, 1983), in which four organizational typologies are proposed: a) developmental or adhocratic; b) rational goal, a characteristic of market-oriented organizations; c) focused on internal processes, called hierarchical; and d) human resources, which is characteristic of businesses that value tradition, behavior, participation, and trust, called group trust. In the first measure it is necessary to denote that this measuring instrument is chosen precisely because the idea is to notice in the first measure if there is a type of approach that is centered on the orientation of the market, although recognizing that many of the organizations will have their focus in the internal organization due to its condition of family business and the syncretism between filial and organizational values, and an alternative option that is that of the human factor; this is chosen precisely because under the precepts of family a great amount of emotional bonds coexist, which in turn define some feelings around the work personnel.

Organizational culture, specifically in family businesses, was measured through the use of the F-PEC culture subscale, which assesses the extent of the influence of the family on business results; this scale, developed by Astrachan, J. H., Klein, S. B. and Smyrnios, K. X. (2002), assesses the degree to which family values and business values overlap, and also assesses the commitment of family businesses.

Innovation was measured through the scale developed by Atuahene-Gima (1996), taken from the document by Osorio (2014), adapted for research purposes. All item measurements were made on a 5-point Likert scale, considering in the same manner the following indicators: product novelty for customers; product novelty for the business; innovation-marketing adjustment; technological innovation adjustment; product advantage; inter-functional work teams; market success; and project impact performance.

It was possible to identify relevant theoretical aspects of organizational culture and innovation with the bibliographic review. For the determination of the existing relation between the analyzed variables, their innovation, and their organizational culture, the Ordinary Least Squares econometric model was used, which allowed establishing the behavior and elasticity that each one generated in the dependent variable, in addition to its dependency level, correlation and adjustment.

Results

Initially, the sector to which the surveyed family businesses in Pasto belong to was identified, classifying them by economic sectors, as shown in Table 1.

Table 1

Economic activity of family businesses in Pasto

Economic Activity	No. of businesses	%
Accommodation and food services	18	8
Vehicle trade and repair	111	47
Education	5	2
Manufacturing industry	23	10
Information and communication	11	5
Other service activities	61	26
Transportation and storage	5	2
Total	234	100

Source: Own elaboration

According to the table above, the tertiary or commerce sector is predominant in Pasto city, which is due to the fact that the Department of Nariño has not developed an industrial sector. According to the Statistical Yearbook of the Chamber of Commerce of Pasto (2015): “The economic activities in which most corporations were established for the second semester of 2015, were: Commerce and vehicle repair with 39 legally established corporations” (p. 33).

The main modality of the Pasto municipality is micro-enterprises (see table 2); according to the (Pasto Chamber of Commerce, 2015, p.15) as can be seen, for the movement by business size, 99% are classified as microenterprises and 1% as small enterprises; therefore, the fact that there are more small enterprises in the city and a minimum part of medium enterprises explains why not all the existing labor supply in the region can be absorbed.

Table 2

Size of family businesses in Pasto

Size	Frequency	%
Large enterprise	4	2
Medium-sized enterprise	2	1
Small enterprise	10	4
Micro-enterprise	218	93
Total	234	100

Source: Own elaboration

Determining factors of organizational culture

The following tables present a review of the determining factors of the organizational cultures of family businesses of the city of Pasto, considering the relevant factors such as the influence of the family hierarchy in the decision-making of the business or in aspects of the business itself, such as the structure of the organization.

Table 3
Organizational culture factors in family businesses in Pasto

Factor	Question	Significance level	P value
67	Family members are willing to make more of an effort than what is usually expected in order to help the family business succeed.	2.56%	0.11%
79	Stability is the most important aspect in the business.	1.63%	1.74%
85	The cohesive factor of the business is its commitment to innovation and development.	4.30%	6.87%
86	The cohesive factor of the business is the achievement of goals and tasks.	-0.33%	8.62%
87	The cohesive factor of the business are the formal rules and policies.	-0.76%	6.79%

Source: results from the Stata statistical software

When analyzing the factors in Table 3, it is possible to denote that a factor that is considered irrelevant to the organizational culture is that which underlies the question: are family members willing to strive beyond what is normally expected in order to help the family business succeed? Given that they have a significance level of 2.56 and a p-value of 0.11, this defines it as relatively low. While business stability (factor 79) is important, it does not contribute significantly to the study. However, variables that revolve around this are relevant, demonstrated with an elasticity of 1.63%. The variable that expresses that the cohesive factor of the business is the commitment to innovation and development (factor 85) ceases to be significant to the extent that it moves away from the 5% level of significance and is located at 6.87%, in addition, the elasticity it causes is low.

Table 4
MCO model for organizational culture

Factor	Coefficient	Typical Deviation	T statistical	P Value
Constant	-0,0007665	0,145665	-0,005262	0,9958
64	0,0476677	0,00858016	5,556	8,33E-08
65	0,12044	0,0225756	5,335	2,46E-07
67	0,0256218	0,0162914	1,573	0,1173

Factor	Coefficient	Tipical Deviation	T statistical	P Value
68	0,0406381	0,0225756	4,954	1,50E-06
69	0,053668	0,0126901	4,229	3,50E-05
70	0,023888	0,0114638	2,084	3,84E-03
71	0,0406381	0,0131212	3,097	2,20E-03
72	0,0382801	0,00790046	4,845	2,45E-06
73	0,0283353	0,007322903	3,866	1,00E-04
74	0,0495093	0,0093293	5,307	2,83E-07
75	0,0420892	0,00870124	5,004	1,18E-06
76	0,0441069	0,00870124	5,069	8,76E-07
77	0,0340723	0,0104422	3,263	1,30E-03
78	0,0546923	0,0102496	5,336	2,45E-07
79	0,0162835	0,0119469	1,363	1,74E-01
80	0,0297436	0,0100285	2,996	3,40E-03
81	0,0503737	0,0120814	4,17	4,46E-05
82	0,064676	0,00703581	9,192	3,85E-17
83	0,0455995	0,00684986	6,657	2,40E-10
84	0,131914	0,0259389	5,086	8,10E-07
85	0,0430477	0,0235274	1,83	6,87E-02
86	-0,00331752	0,0189916	-0,1747	8,62E-01
87	-0,00766613	0,0185022	-0,4143	6,79E-01

Mean of the dependent variable	3.420584	D.T. of the dependent variable	0.331292
Residual sum of squares	3.166108	D.T. of the regression	0.122787
R – Squared.	0.876192	Correct R – squared	0.862632
F(23, 210)	64.61650	P value (of F)	3.39e-82
Log - verisimilitude	171.3981	Akaike criterion	-294.7962
Schwarz criteron	-211.8685	Hannan – Quinn criteron	-261.3598

Source: results from the Stata statistical software

The variables that establish the achievement of goals, business tasks, rules, and formal policies as cohesive factors of the business (factors 86 and 87) behave with negative elasticity, that is, while these strengthen, organizational culture is affected by 0.33% and 0.76%, respectively. These two factors are also not significant in the model, as evidenced by the statistical results.

In the same sense, a negative β_0 shows that the organizational culture variable is mainly explained by the factors mentioned, and that any change that occurs outside of them leads to a negative effect of the item. In other words, the model includes all the fundamental variables in its determination; all those outside the model, expressed by β_0 , will negatively vary the dependent variable, that is, organizational culture.

This can be compared with the conclusions obtained in the research entitled: *El proceso de la empresa familiar Polos desde el imaginario social* (The process of the family business Polos from the social imaginary), by (Coral R., A., 2008, p.52), carried out in the Municipality of Túquerres, Nariño Department, in terms of organizational climate, concluding that: The family-business environment is disrupted by communication difficulties and defensive attitudes towards conflict, which do not allow access to the other to promote conciliation and agreement (...), in addition to stressful situations generated by financial difficulties (...), family conflicts permeate the working environment.

In the same way, there is no marketing department for these companies, members of family businesses must develop: surveys, price checks, advertising guidelines, etc., which feed knowledge to managers or owners to make decisions regarding investment, purchases, or other aspects related to the business. In this order of ideas, the brand of the product, the label, and the packaging are based on the demands of the market and the law requirements, as is the case of food products. It is indisputable that the vision of the clients is fundamental and, therefore, to be aware of their expectations is key for decision making. With this information, it can be sustained in a concrete way that there is a lack of organization as far as the actions that each of the members of the family carries out; and since there is no structure that formulates the possibilities of control within the organization, it is necessary to denote in the same measure that this is a flaw that tries in many cases to settle the possibility of maintenance of the companies in the market. The aforementioned is in line with the precepts exposed by Corona and Téllez (2011), who explain that the organizational changes under the familial logic alters competitive actions to a great extent.

Also, in the research conducted at the *Universidad Peruana de ciencias aplicadas a la escuela de empresa*, entitled: *Estudio de la cultura organizacional de una empresa familiar peruana, y las posibles soluciones para evitar que este sea un obstáculo en el crecimiento estratégico* (Study of the organizational culture of a Peruvian family business, and possible solutions to prevent it from becoming an obstacle to strategic growth) (2016), it would be beneficial to compare that organizational culture is one of the most important aspects of the family business that wants to stay in the market. However, another aspect that is denoted as essential is the knowledge of the market, as this allows them to stay in it and position themselves in the environment, offering clients what they need and require. In this specific case there is a partial difference because although these factors are important, the most relevant are in the achievement of business goals and tasks. Formal rules and policies also show that they are a fundamental variable, and this in turn is an indirect part of the organizational culture.

In the same way, in the results of the research: *El clima organizacional como factor de competitividad en las franquicias de comida rápida en Tijuana, c.c. México* (Organizational climate as a factor of competitiveness in fast food franchises in Tijuana, c.c. Mexico) by María

Virginia Flores Ortiz, Alfonso Vega López, and Edgar Armando Chávez Moreno (2015), it is determined—with regard to the organizational culture adopted by family-type businesses, especially in the commerce sector—that it is possible to emphasize the existence of a good environment and communication among the members of the business. In the case of this research, this can be constituted within the knowledge and information of formal rules and policies. This is the greatest similarity found in the two researches; and, given this similarity, it is important to highlight both communication and the flow of information as some of the most important factors within the family-type business. In addition, within this item there is the ability to adapt to the various family needs, from which it becomes necessary to formulate a vision, a mission, objectives, values, and principles that allow the company to follow the desired course, to project itself into the future, and to establish its fundamental purposes and responsibilities as a result of its operation. This is a point that businesses in Pasto have not established because, given the informality of their organizations, these actions have not been implemented. In that sense, businesses do not have a very normative character, which does not allow them to have clear objectives, and these are expressed in a generalized manner by the head of the business who is also the head of the household.

Also, in the conclusions of the research “*Experiencia generacional y transmisión de poder como elementos de la cultura organizacional en empresas de familia de Campeche, México*” (Generational experience and transmission of power as elements of organizational culture in family businesses in Campeche, Mexico), by Román Alberto Quijano García, Luis Alfredo Arguelles Ma, José Alonzo Sahuí Maldonado, and Deneb Elí Magaña Medina (2015), it is expressed that “the business culture is manifested by the very individual way in which the founding partner has run the business according to their own vision of the business-family link, stating that getting involved in the family business has had a positive influence on their life”. This is a similarity that is expressed very much inside the companies in Pasto. From the information collection instrument it can be noted that family businesses had, in the first instance, an “ancestor” that was essential to start the business that is maintained until now, i.e. given the competitive advantage that this person develops, it is that the business is maintained in time and in the market. It is necessary to note that according to the research that is contrasted “most of the interviewees do not perceive that their family and the business share a large part of their values”, and it is at this point where there are substantial differences with the companies belonging to the market in Pasto, given that the members of the household have established rules, and these are taken as formulas to raise businesses and establish them.

A research that serves as a support to understand the situation adjacent to the municipality of Pasto and the way in which family and organizational values are integrated is the one entitled “*Ética organizacional aplicada. Estudio de caso de una organización de servicios sociales en España*” (Applied organizational ethics. Case study of a social services organization in Spain),

by Carla Cubillos Vega (2018), where it is stated that The underlying values in the statements of the people who make up a given organization have been explored and explained, analyzing the degree of coherence of these values with the supposed values that the entity declares to have. The way in which these values are reflected and influenced in practice has also been investigated. Therefore, the values of the business are quite related to the values expressed and practiced by its professionals. Likewise, it is estimated that these values or guidelines for action are shared with a great deal of consensus by the people interviewed, which would allow suggesting the existence of a fairly shared ethical culture, despite the fact that there were quite a few communication and relational shortcomings at central level.

With this affirmation it can be denoted that there is an extrapolation of the familial and personal values towards the organization as such. This verifies that the families as such manage to generate a syncretism between their work life and their family life. However, what is not shared is precisely the communication systems that are established as an important variable at the level of the organizational climate because although in the investigation of Cubillos (2018) they are not presented, they can be found in the current research.

Innovation factors

In the analysis of innovation, factors 44 to 63 were considered, as can be observed in Table 5.

Table 5
Innovation factors

Factor	Question
44	The market quota objectives have been fulfilled since the launch of the new product or service.
45	The profit objectives have been fulfilled since the launching of the new product or service.
46	The innovated product or service is adjusted to the skills of the vendors, the promotion, distribution, and delivery skills.
47	The innovated product or service adjusts to the service systems of the customers of the business.
48	The innovated product or service is adjusted to the ability and capabilities of the business to do market research.
49	The innovated product or service fits into the existing product or service lines of the business.
50	The innovative product or service offers unique benefits to customers.
51	The innovative product or service offers unique benefits superior to the competition.
52	The innovative product or service provides higher quality than the competition.
53	The product or service was very innovative, it replaces a very inferior product or service.
54	The innovative product or service requires a great effort of learning on the part of the customers.
55	It takes time before customers really understand the benefits of the innovative product.
56	The new product or service raises the price for customers.

57 The innovative product or service improves the profitability of the business compared to other products.

58 The innovative product or service improves sales and improves by itself through the use by customers of other products or services of the business.

59 The innovative product or service improves the structure of the important costs for the business.

60 The production process of the innovative product or service is totally new for the business.

61 The innovative product or service was completely new to the business.

62 A work team has been created to develop the new product or service.

63 There is coordination between management and staff during the development of new products or services.

Source: Osorio (2014) adapted for research purposes

From the information in the table above, the results shown in Table 5 were obtained.

Table 6
MCO model for the dependent innovation variable

Factor	Coefficient	Tipical Deviation	T statistical	P Value
Constant	-0,0248817	0,0069316	-3,59	0,0004
44	0,0499182	0,00248292	19,81	3,30E-50
45	0,0658098	0,00301113	21,86	2,55E-56
46	0,0487128	0,00260271	18,72	7,21E-47
47	0,0504111	0,00195781	25,75	2,47E-67
48	0,0461041	0,00368633	12,51	2,84E-27
49	0,0516423	0,00224349	23,02	1,07E+59
50	0,0492073	0,00207259	23,74	9,28E-62
51	0,0495248	0,00197751	26,38	4,90E-69
52	0,0489909	0,00228177	21,47	3,47E-55
53	0,050331	0,00210031	23,96	2,18E-62
54	0,046313	0,0035868	12,91	1,49E+28
55	0,0526498	0,00380805	13,83	1,87E-31
56	0,0439861	0,00411943	10,68	1,36E-21
57	0,0547302	0,00298086	18,36	9,05E-46
58	0,0517767	0,00436102	11,87	2,77E-25
59	0,051226	0,00405958	12,62	1,26E-27
60	0,0564071	0,00194169	29,05	4,98E-76
61	0,0481216	0,00224898	21,4	5,72E-55
62	0,0457773	0,00317494	12,42	2,44E-33
63	0,0540115	0,00206477	26,16	1,91E-68

Source: results from the Stata statistical software

Thus, it can be appreciated that all the factors that comprise the innovation item have a high significance in the model, since they are below 5% and the variation they cause on the innovation variable is positive. Factor 45 is the one that contributes the most to innovation, referring to the variable that expresses that it has been possible to meet the profit objectives since the launch of the new product or service, providing an elasticity of 6.58%; followed by the variable that states that the innovated product is totally new for the company (factor 60), which provides an elasticity of 5.64%. The degree of determination for this model is high, given that it is located at 99.90%, and indicates that the innovation is really explained by each of the established factors. This vehemently denotes that the theory explained in this research document can be verified in local markets, in this specific case in the Pasto market.

José Luis Esparza Aguilar, Domingo García Pérez de Lema, and Antonio Duréndez Gómez Guillamón (2009) conducted the research: *Gestión estratégica y competitiva de las empresas familiares turísticas mexicanas: Un estudio empírico en la región de Quintana Roo* (Strategic and Competitive Management of Mexican Family Tourism Businesses: An Empirical Study in the Quintana Roo Region) (Mexico). In it, it was analyzed how family businesses make use of different factors of competitiveness, such as strategic planning, training and professionalization of human resources, as well as management, accounting, and financial tools; in this case it is denoted that the essential factors for innovation have their concern in the public who receives products or services. Given this, some weaknesses were found that family businesses should remedy, in this specific case starting with constant innovation processes where it is possible to coordinate all aspects of production to generate an improvement in customer satisfaction.

In this way, it is possible to mention that family businesses attach great importance to the implementation of a complex and thorough strategic planning, use few financial resources for the formation of human capital, and do not make frequent use of management and efficiency tools, such as accounting records, various economic analyses, strategic planning, and the Balanced Score Card. These behaviors are reflected in both researches, and they increase the problems with regard to business planning and do not provide tools for innovation in products and services that meet the needs of the business. It is also not possible to make a detailed and rapid analysis of the financial situation of the business, because there is no technical accounting system. This is due precisely to the lack of inclusion of various technologies within the business.

Once determined by essential factors in each of the variables, a model of ordinary least squares was made in order to correlate the variables of the study, as follows:

Market orientation

When using the market orientation variable as dependent and analyzing the influence of each of the variables over it, the following was obtained:

Table 7
MCO 2 model with market orientation as dependent variable

Variables	Coefficient	Tipical Deviation	T statistical	P Value
Constant	2,81544	0,513386	5,484	1,11E-07
Orientation to competition	-0,00190073	0,0521537	-0,03644	0,971
Interfunctional coordination	-0,0202647	0,0809295	0,2504	0,8025
Market responsiveness	0,0174199	0,086396	0,2016	0,8404
Generation, and dissemination of information	0,259273	0,0671631	2,014	0,0452
Resultados del negocio	0,0304537	0,0560802	0,543	0,5876
Innovation	0,239985	0,0516615	4,645	5,76E-06
Organizational culture	-0,0407179	0,131823	-0,3089	0,7577
Mean of the dependent variable	3.818376	D.T of the dependent variable	0.647168	
Residual sum of squares	79.14581	D.T. of the regression	0.591779	
R – squared	0.188968	Correct R- squared	0.163848	
F(7, 226)	7.522473	P value (of F)	3.18e-08	
Log-verisimilitude	-205.2002	Akaike criterion	426.4004	
Schwarz criterion	454.0429	Hannan – Quinn criterion	437.5458	

Source: results from the Stata statistical software

Table 7 shows the importance of variables such as innovation, generation, and dissemination of information within the family business when deciding its market orientation policies; the first reflects an elasticity of the dependent variable of 23.99%, having a too high level of significance. The second represents an elasticity of 25.92%, with a p-value of 4.5%. Both variables lead to a positive change in market orientation.

On the other hand, the variables of orientation to competition, inter-functional coordination, and organizational culture lead to a negative variation in the dependent factor. The capacity of the business to respond to changes in competition represents a positive elasticity of 1.74% for the dependent variable, with a too high p-value, which infers that it is a variable of little significance for the relationship.

In concrete terms, it can be said that market orientation is more relevant and produces significant positive changes—factors such as innovation and communication within the company—; while, in concrete terms, companies do not monitor companies that are considered to be competitors, nor is there an adequate organizational culture. These two being aspects that can be identified as options for improvement.

Table 8
MCO 4 model with market orientation as a dependent variable

Variables	Coefficient	Tipical Deviation	T statistical	P Value
Constant	11,28077	0,30273	1,231	3,37E-05
Generation, and dissemination of information	0,316954	0,0891681	3,555	0,0005
Innovation	0,220495	0,0531731	4,147	4,75E-05
Mean of the dependent variable	3.818376	D.T of the dependent variable		0.647168
Residual sum of squares	79.33245	D.T. of the regression		0.586029
R – squared	0.187055	Correct R - squared		0.180017
F(2, 231)	26.57610	P value (of F)		4.09e-11
Log-verisimilitude	-205.4758	Akaike criterion		416.9515
Schwarz criterion	427.3175	Hannan – Quinn criterion		421.1311

Source: results from the Stata statistical software

If the previous table is observed, it can be identified that the two main determinant variables of the dependent variable market orientation are the generation/distribution of information among the different dependencies of the family business and the innovation it adopts to improve its competitiveness. The two variables imply positive elasticities of market orientation and are highly significant. The determination coefficient (R squared) for the model is 18.71%, which shows that they are not the only variables that can determine the dependent variable, and that even within the business models of the city of Pasto there is a convergence of other types of variables that may be more significant, determined by an independent factor β_0 . Within the model, the variable information generation and distribution explains market orientation by 31.69%, and innovation explains market orientation by 22.05% (see Table 8).

Relationship of the innovation and organizational culture variables

By correlating the innovation and organizational culture variables to make an interpretation of the market-oriented variable, the following behavior was obtained:

Table 9
MCO 5 model with market as a dependent variable

Variables	Coefficient	Tipical Deviation	T statistical	P Value
Constant	3,32198	0,414616	8,012	5,55E-14
Innovation	0,287119	0,0466608	6,153	3,32E-09
Organizational culture	-0,0448779	0,131096	-0,3423	7,32E-01

Mean of the dependent variable	3.818376	D.T of the dependent variable	0.647168
Residual sum of squares	81.71216	D.T. of the regression	0.594754
R – squared	0.162670	Correct R- squared	0.155420
F (2, 231)	22.43841	P value (of F)	1.24e-09
Log-verisimilitude	-208.9338	Akaike criterion	423.8675
Schwarz criterion	434.2335	Hannan – Quinn criterion	428.0471

Source: results from the Stata statistical software

According to the above, innovation is a variable that generates a positive elasticity on market orientation, while the organizational culture variable generates negative effects. The first obtains again a high degree of significance, criterion with which it does not fulfill the second independent variable evaluated. Thus, market orientation is explained by the innovation that is made within the businesses, while organizational culture does not have the same positive effects on the first one.

The following research analyzes organizational culture variable without taking innovation into account in the city of Pasto: *Análisis de la orientación al mercado y la cultura organizacional de las pequeñas empresas de la industria de artes gráficas local* (Analysis of market orientation and organizational culture of small businesses in the local graphic arts industry), by (Héctor Luis Ávila Baray (2009), it states that organizational performance can be permeated by the influence of organizational culture on the market orientation of a company and, in this case, the situation experienced by family businesses in Pasto. It is also possible to conclude that various statistical analyses (providing evidence) show that there is a relationship between market orientation and organizational culture that characterizes the local graphic arts industry. The businesses with the greatest market orientation are characterized by an enterprising organizational culture and those with the least market orientation are dominated by the organizational culture of consensus, i.e. agreement among the members of the company. However, contrasting the results of the research analyzed with the present research, it is convenient to affirm that companies in and of themselves find in innovation the motivation to succeed in bringing together family members in organizational environments.

According to Sixto (2010), innovation is the factor through which it is possible to satisfy the needs of the market. It is in this manner that businesses manage to remain in the conceptual algorithms of the customers, and to be accepted by these. Thus, they discover the necessities of the customer and make them a reality. However, it is necessary that every one of the agents linked with the business create, in their dependencies, generation processes of suitable information. The idea is to surprise the customer from each of the productive process variables.

Regarding the organizational culture and its relationship with innovation, Terzaghi (2010) states that it is necessary for companies to generate situations and a work environment that benefits the creation of new products and the adoption of new technologies. For this, the co-

llaboration and the commitment of the human talent involved in the projects of the business is important, even more so when it is a matter of family, which at the core of its operation has established norms and rules. This is evidently a conceptualization that at the present time is being generated by the family businesses in Pasto.

Table 10
Causality test 1

Null Hypothesis	Observations	F-statistic	Probability
INNOVATION does not granger cause -MARKET			
ORIENTATION	232	3,77680	0.0243
MARKET ORIENTATION does not granger cause		3,94927	0.0206
INNOVATION			
ORGANIZATIONAL CULTURE does not granger cause			
MARKET ORIENTATION	232	3,16799	0.0440
MARKET ORIENTATION does not granger cause		0,21048	0.8104
ORGANIZATIONAL CULTURE			
ORGANIZATIONAL CULTURE does not granger			
Cause INNOVATION does not granger cause ORGANI-	232	0,66835	0.5136
ZATIONAL CULTURE		1,51486	0.2221

Source: results from the Stata statistical software

In the evaluation of the causality relationship that the variables have, shown in Table 10, it can be observed that the null hypotheses raised are the following:

- Market orientation is not caused by innovation and vice versa.
- Organizational culture is not caused by market orientation and vice versa.
- Innovation is not caused by organizational culture and vice versa.
- Given the results, it can be stated that in general there is no causal relationship between the variables of the study, that is to say, that its action is considered independent and based on dissimilar factors; however, when those variables that are considered insignificant are excluded, the following results are obtained:

Table 11
Causality test 2

Null Hypothesis	Observations	F-statistic	Probability
INNOVATION does not granger cause MARKET			
ORIENTATION	232	3,77680	0.0243
MARKET ORIENTATION does not granger cause		3,94927	0.0206
INNOVATION			

Source: results from the Stata statistical software

In the previous table it is evident that innovation is not only a highly significant variable in the model, it also leads to market orientation, given that the null hypothesis is rejected, with a relevant level of significance. Market orientation is also explanatory of innovation, its probability being a little higher than the previous one. These results can be contrasted with those of Michaels, Eric T. and Boecker, Andreas (2017) in the document entitled “Competitive strategies among Ontario farms marketing direct to consumers”, in which the following results stand out: “it has been found that a business orientation is positively associated with the intensity of both product and marketing innovation, suggesting that proactive and innovative companies are more likely to participate in the development of new products or implement changes in the marketing of products”; this is the present situation of the companies in the city of Pasto. Furthermore, a market orientation is positively associated with product innovation and marketing. In this case, it is first recognized that the businesses that currently work under the family type, are comprised of people who have a broad relationship with the local market and with the needs of the population. This allows them to provide the precise products needed by the community. It is also convenient to say that most of the times the different areas of the company are leveraged by the same people; this gives continuity to the process and generates goods that complement each other.

Conclusions

Based on the study carried out in the city of Pasto, it is necessary to first define that the productive and commercial activity that businesspeople are carrying out mostly is trade and the repair of vehicles. Likewise, it is indicated that the majority of the businesses that are constituted as such have the quality of micro and small enterprises, consisting in a percentage of 97%. With the above affirmation it is possible to evidence that Colombia handles the same productive logics that the rest of Latin America, where the incidence of the MSMEs is also significant. In the concrete analysis of the variables it is possible to identify that, at present, the family businesses of the city of Pasto do not present formal rules and policies, which makes the division of tasks and the coordinated action of activities very difficult. In the same sense, there is no fixation of achievements to long, medium, and short terms, thus, it rarely presents an adequate organization of times and spaces of action. Given these factors, the presence of a low competitiveness, sustainability, and expansion of markets is evidenced. In this manner, it is factual that there is direct correlation between the theory proposed by Corona *et al.* (2003) and the reality of the region.

At this point, it is necessary to stress that one of the factors that settle the risk of closure of MSMEs in Pasto is innovation, thus recalling the correlation factor of the two variables. This generates a significant action on the market orientation, thus allowing the establishment

of the business with products that solve specific problems of the population, and significantly improve the income of organizations, thus being able to remain throughout time. It should be noted that innovation processes are carried out by young members of families. It is necessary to understand that market orientation is the variable that presents more causality on the innovation variable for the businesses analyzed, with a correlation coefficient of 87%.

Bearing in mind the work of Cortes *et al.* (2010), it can be seen that businesses that focus their innovation processes on the satisfaction of customers are those that survive over time, especially if they are family businesses. Evidently, this is the strong factor currently present in businesses in Pasto. Now, this can be considered a way to establish better business conditions and resolve the possibility of bankruptcy that is currently present in organizations. It is necessary to note that currently there are different problems that are related to competitiveness, and this is a way to increase it.

According to the study, due to the results of low market orientation and innovation in family businesses, it is necessary to develop a process of awareness and training as a global objective in the process of academic training, with direct experiences in the business field. This allows making the right decisions and evaluating the opportunities of the environment, which is in itself represented as a form of qualification of human talent, but also symbolizes support for the family environment.

Regarding the innovation that precedes the inclusion of new forms of production and commercialization, a low level of technological incorporation is noted in the region; this fact is explained by the scarce public and private investment historically registered by the Nariño Department. This condition can be significantly diminished if an adequate market orientation is presented.

According to (Solarte, C. Solarte, M. Arcos, C., 2017, p. 26) it is worth mentioning that it is of total importance that just as there are different programs that help to train and direct people and the creation of new companies, it is necessary that there are also various programs or policies to help guide the processes with respect to business issues such as market orientation, innovation, and organizational culture, these three items are strategic resources for a significant improvement in business results.

From the perspective of the authors, and under the worrisome look of the business actions in the city, it is important to point out that conscious plans that generate a real level of innovation must be formulated in order to break behavioral paradigms in the population, who mostly think that current regional businesses do not meet their expectations. It is necessary to clarify that this situation occurs precisely because regional markets are crowded with products that are not produced within the region and that have quite different specifications.

In the same measure, it is necessary to determine, in a reliable way, the variables that denote an incidence inside organizational culture, because although businesses in Pasto are

considered as friendly—fulfilling the precepts of the American Business Review (2010)—, it is necessary that these are competitive so that they remain in the market.

Consequently, it is understood that the head of the family is generally the director of the company, and this often creates processes of nonconformity within the productive action. To avoid these conflicts requires initiating appropriate organizational processes that allow family members to take an important hierarchical level and adequate empowerment.

In general, competitiveness, innovation, and organizational culture, although variables that are apparently not related to each other, are considered quite relevant for the maintenance of a business throughout time. To this end, greater attention is needed by medium and small businesses in the city of Pasto, including these variables as essential procedural aspects in the determination of their productive activities.

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