Ricea
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Influencia de los factores internos en la competitividad actual y futura en el sector comercial y servicios. Análisis multivariante percepcional

Influence of internal factors on current and future competitiveness in the commercial sector and services. Perceptional multivarial analysis

Influência de fatores internos na competitividade atual e futura no setor comercial e serviços. Análise multivariada perceptiva

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Resumen

La competitividad es un elemento indispensable para el éxito empresarial. Para ello, se necesita que las capacidades internas organizacionales sean objetivamente evaluadas y que se establezcan estrategias de mejora, desarrollo y consolidación. En este sentido, esta investigación se concretó con el objetivo de conocer la percepción de los empresarios del sector comercial y de servicios en torno a la influencia de los siguientes factores internos: capacidad de *marketing*, directivas, tecnología, innovación, calidad en la competitividad actual y futura. Se realizó una investigación cuantitativa, descriptiva, transversal, no experimental y correlacional, se aplicó un estudio multivariante, utilizando análisis de componentes principales, medida de adecuación de la muestra de Kaiser-Meyer-Olkin y prueba de esfericidad de Bartlet. Se entrevistaron 94 directivos comerciales y de servicios del municipio de Durango, se empleó un instrumento diseñado por Martínez, Charterina y Araujo, el cual se sustenta en la teoría de la visión de la empresa basada en los recursos, que sirve para evaluar las capacidades directivas, de innovación, calidad y *marketing*. Por sugerencia del panel de expertos al instrumento original se le incluyó la capacidad de

tecnología. En los resultados, según la percepción de los directivos, se hallaron las siguientes capacidades:

Capacidades directivas: Los empresarios entrevistados revelaron que la visión estratégica y la cualificación directiva son muy importantes para el desempeño de sus funciones.

Capacidades de innovación: Los directivos manifestaron que la innovación incremental y radical son las más importantes. La innovación, por ende, es uno de los elementos esenciales para una empresa, ya que permite adaptarse a los cambios y mantenerse en el mercado. Sin embargo, los directivos no visualizan esta importancia, lo que confirma la problemática de la falta de innovación en las empresas.

Capacidades de marketing: Los empresarios consideraron como relevantes las variables de prestigio de la empresa, conocimientos de clientes y competencia, capacidades para solucionar al cliente y *marketing* interno. Estas son las más significativas, pues permiten la consolidación de la empresa en el mercado.

Según lo anterior, se pudo determinar que las capacidades directivas influyen directamente en la innovación, la cual, a su vez, incide en la competitividad futura. Asimismo, la capacidad de *marketing* impacta claramente en la competitividad futura. Conforme a las hipótesis planteadas, se concluyó lo siguiente:

H1: Las empresas con capacidades altas de *marketing* logran mayor desempeño competitivo, ya que a mayor puntaje de *marketing*, mayor el nivel de competitividad actual.

H2: Las empresas con capacidades altas de innovación logran mejor desempeño competitivo, puesto que a mayor puntaje de innovación, mayor el nivel de competitividad actual y futura.

H3: Las empresas con capacidades directivas altas logran mejores capacidades de innovación, pues a mayor puntaje de las capacidades directivas, mayor nivel de innovación.

Por último, y según el análisis de componentes principales, se encontró que de las siete dimensiones estudiadas, existían tres factores que podían englobar a las demás, por lo cual se les denominó *marketing* innovador, *marketing* tecnológico y calidad directiva. Estas tres dimensiones explican que la variabilidad total del instrumento haya sido de 77.415 %.

Palabras clave: análisis factorial, competencia económica, empresa, percepción.

Abstract

The competitiveness is an element of high importance for the business success, for which it is required that the internal organizational capacities are objectively evaluated and that strategies of improvement, development and consolidation are established. The objective of the study was to know the perception of entrepreneurs in the commercial and services sector about the influence of internal factors: marketing, directives, technology, innovation, quality in current and future competitiveness.

A quantitative, descriptive, transversal, non-experimental and correlational investigation was used, a multivariate analysis was applied, using analysis of principal components, KMO and Bartlet sphericity test; 94 commercial and service managers from the municipality of Durango were interviewed, using an instrument designed by Martínez Santa María, Charterina Abando, Araujo de la Mata, under the Theory of the Vision of the Resource-Based Company, in which it is analyzed managerial, innovation, quality and marketing capabilities. The technology capacity was included in the original instrument at the suggestion of the Panel of Experts.

According to the results of the managers' perception, in terms of capabilities, it was found that:

Management skills, the entrepreneurs interviewed revealed that the strategic vision and managerial qualification are very important for the performance of their functions.

Innovation capacities, managers considered that incremental and radical innovation are the most important. Innovation is one of the most important elements for a company because it allows it to adapt to changes and stay in the market, however managers do not visualize this importance, which confirms the problem of the lack of innovation in companies.

Marketing capabilities, businessmen manifested a relevant importance to the variables of prestige of the company, knowledge of customers and competence, skills to solve the

customer and internal marketing. This capacity is considered one of the most significant since it allows the consolidation of the company in the market.

It was concluded according to the defined objective that managerial capacities directly influence innovation; and this, in turn, affects future competitiveness. Likewise, marketing capacity clearly impacts future competitiveness.

According to the hypotheses, it was concluded that, H1: Companies with high marketing capabilities achieve greater competitive performance, since the higher the marketing score, the higher the current level of competitiveness; H2: Companies with high innovation capacities achieve better competitive performance, since the higher the innovation score the higher the current and future competitiveness level; H3: Companies with high management skills achieve better innovation capabilities, since the higher the score of managerial skills, the higher the level of innovation.

According to the Analysis of Principal Components, it was found that of the 7 dimensions studied, there were three factors that could encompass the others, for which reason they were called 1) Innovative Marketing, 2) Technological Marketing and 3) Managerial Quality. These dimensions explain the total variability of the instrument in 77.415%

Keywords: factor analysis, economic competition, company, perception.

Resumo

Competitividade é um elemento indispensável para o sucesso do negócio. Para fazer isso, você precisa que as capacidades internas organizacionais são avaliados objetivamente e estratégias de melhoria, desenvolvimento e consolidação são estabelecidas. Neste sentido, esta pesquisa foi concluída, a fim de conhecer a percepção dos empresários do setor comercial e serviços em torno da influência dos seguintes fatores internos: capacidade atual de marketing,, tecnologia, inovação, competitividade empresarial qualidade e futuro. um quantitativo, descritivo, transversal, de correlação experimental e pesquisa foi realizada, e a análise multivariada foi aplicado, utilizando análise de componentes principais, a medição da adequabilidade da amostra de Kaiser-Meyer-Olkin e teste de esfericidade de Bartlet. 94 comercial e de serviços do município de gestores Durango entrevistados, e um instrumento

desenhado por Martinez, Charterina y Araujo, que é baseado na teoria da visão da empresa baseada em recursos utilizados para avaliar as capacidades de gestão foi utilizada , inovação, qualidade e marketing. Por sugestão do painel de especialistas para o instrumento original, a capacidade tecnológica foi incluída. Nos resultados, segundo a percepção dos gerentes, foram encontradas as seguintes capacidades:

Habilidades gerenciais: Os empreendedores entrevistados revelaram que a visão estratégica e a qualificação gerencial são muito importantes para o desempenho de suas funções.

Capacidades de inovação: os gerentes afirmaram que as inovações incrementais e radicais são as mais importantes. A inovação, portanto, é um dos elementos essenciais para uma empresa, pois permite adaptar-se às mudanças e permanecer no mercado. No entanto, os gestores não visualizam essa importância, o que confirma o problema da falta de inovação nas empresas.

capacidades de marketing: Empresários considerados como variáveis relevantes prestígio da empresa, conhecimento do cliente e competência, capacidades para resolver cliente e marketing interno. Estes são os mais significativos, porque permitem a consolidação da empresa no mercado.

De acordo com o exposto, foi possível determinar que as capacidades gerenciais influenciam diretamente a inovação, o que, por sua vez, afeta a competitividade futura. Da mesma forma, a capacidade de marketing impacta claramente a competitividade futura. De acordo com as hipóteses, concluiu-se o seguinte:

H1: Empresas com elevadas capacidades de marketing alcançar maior desempenho competitivo, uma vez que a pontuação de marketing maior, quanto maior o nível atual de competitividade.

H2: Empresas com alta capacidade de inovação alcançar melhor desempenho competitivo, uma vez que uma maior inovação pontuação, maior o nível de competitividade atual e futuro.

H3: Empresas com altas habilidades gerenciais conseguir uma melhor capacidade de inovação, porque as habilidades gerenciais maior pontuação, maior inovação.

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Finalmente, de acordo com a análise de componentes principais revelou que as sete dimensões estudadas, houve três fatores que poderiam engolir outro, então eles foram chamados de marketing inovadora, marketing tecnologia e gestão da qualidade. Essas três dimensões explicam que a variabilidade total do instrumento foi de 77,415%.

Palavras-chave: análise fatorial, concorrência econômica, empresa, percepção.

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Introduction

Competitive organizations are the sustenance for the development and consolidation of a country's economy. This, however, can only be achieved if that nation has a competent, creative and innovative citizenship. Porter (2013) is one of the scholars who has most impacted with his theories on the competitiveness of countries, industry and the constitution and development of business clusters. In this regard, this author emphasizes that the industry must innovate and improve continuously, and that countries must find their competitive comparative advantage through a well-defined process to determine systemic competitiveness, which should incorporate the region, industry and the company. Competitive success, therefore, is found in the culture, in the ethical values of citizens and in the histories of each country.

In this sense, this research was based on the theory of the vision of the company based on resources, in which organizational performance and competitive success are mainly based on the company's internal resources, which are considered more important that external resources, since an adequate performance of those can generate a competitive advantage.

For this, the objective was to know the perception of entrepreneurs in the commercial and services sector around the influence of the following internal factors: marketing capabilities, directives, technology, innovation, quality in current and future competitiveness. In addition, the following hypotheses were proposed:

H1: Companies with high marketing capabilities achieve better competitive performance.

H2: Companies with high innovation capabilities achieve better competitive performance.

H3: Companies with high management skills achieve better innovation capabilities.

We chose quantitative, descriptive, transversal, non-experimental and correlational research. Similarly, a multivariate analysis was applied, in which the study of main components, the adequacy measure of the Kaiser-Meyer-Olkin sample (KMO) and the Bartlet sphericity test were used. 94 businessmen from the commerce and services sector of the municipality of Durango were interviewed. An instrument prepared by Martínez, Charterina and Araujo (2010) was applied, although adapted to the reality of Durango. The theory of the vision of the company based on resources was taken as a reference, which indicates that the business livelihood must be aimed at achieving a sustainable competitive advantage.

The results allowed to conclude that employers perceive, in general, that the managerial capacity directly affects the capacity for innovation, and that this influences the future competitiveness of the company. However, the technological and quality capabilities are not given the necessary relevance to sustain and project themselves in the market or to increase their productivity. Likewise, it was observed that the current competitiveness lacks representative correlation with the internal factors selected.

Finally, it could be deduced that entrepreneurs require more business training in strategic management, in general, and in the field of competitiveness and productivity, in particular, to determine competitive advantages and to establish the importance of internal factors that allow to position the company in the market.

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Background

Countries, industries, companies and people compete for resources, technology, products, services, customers, etc., which influences the search for more elements and possibilities to position themselves in the market (Porter, 2009). In the words of Mochón, Mochón and Sáenz (2014), competitiveness allows facing business competition in a globalized world with countries that are incorporated into international trade.

Being competitive, then, means being able to operate with advantages over other organizations that seek the same resources and markets in a context where consumers demand more and more quality, price, response time and respect for ecology (Cantú, 2011). In other words, to be competitive is the ability of an organization to offer not only better products and services, but also innovative solutions to meet the needs and expectations of the market (Chiavenato, 2011). This, therefore, is a capacity that a public or private organization must have - with or without profit - to achieve and maintain advantages that allow it to consolidate and improve its position in the socioeconomic environment in which they operate. These advantages are defined by their resources and their ability to obtain higher returns than those of their competitors (Mathews, 2009).

According to Belohlav (2003), competitiveness is related to quality, since it takes into account the capacity to supply goods and services through added value, which is reflected internally in their work systems. For this reason, management and quality theorists consider that competitiveness is linked to the ability to sustain the comparative and competitive business advantages that allow to position themselves pertinently in the market, with low cost, quality products and optimal services. Competitive organizations, therefore, are the sustenance for a country's economy to consolidate, which can be achieved if it has a competent, creative and innovative population.

For Hernández (2007) competitiveness in companies is measured through external and internal elements, from which competitive advantages arise. In fact, when they are used successfully, it is said that their business strategies are well supported (Hitt, Ireland and Hoskisson, 2008).

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In the analysis of the industry, Porter (2013) identified five competitive forces: 1) competition between companies, 2) the threat of new companies entering the market, 3) the possibility of using substitute products or services, 4) the power of negotiation of the suppliers, and 5) the negotiation power of the clients (Koontz, Weihrich and Cannice, 2013).

These competitive forces, according to Porter (2013), govern the intensity of competition and profitability in an industry, which is why the most powerful force predominates and is decisive from the point of view of formulating the strategy. Thompson, Strickland and Gamble (2007) mention that the strength of a global competitor is directly proportional to its portfolio of competitive advantages based on countries.

This means that the company's ability to compete is based on a combination of price and quality in the service or product. Therefore, when the quality is the same in competitive markets, suppliers will remain competitive if their prices are as low as the prices of their competitors.

Added to this, there are other variables that influence the level of competitiveness of industries or companies, such as market concentration, product differentiation, international prices of goods produced, industrial policy explicit in the sector, among others. .

Determinants of business competitiveness

The majority of the companies -indistinctly of the sector to which they belong- constantly seek to be competitive; To measure this, two areas of the company must be evaluated: external and internal (David, 2013; Koontz, Weihrich and Cannice, 2013). However, in this article only this last element was taken into account to audit the resources according to the weaknesses and strengths of the institution.

Tabla 1. Factores internos sujetos de evaluación en la empresa

Factores internos	Factores internos	Capacidades	Factores internos	Recursos tangibles e intangibles
Investigación y desarrollo	**Investigación y desarrollo**	**Investigación y desarrollo**	**I y D procesos**	**Recursos de innovación**
Producción	Producción	Producción	Manufactura	Recursos físicos
Operación	Operaciones			
Compras				
Marketing	***Marketing***	***Marketing***		
Productos y servicios				
Recursos humanos				Recursos humanos
Recursos financieros	Finanzas y contabilidad		Posición financiera	Recursos financieros
Imagen de la compañía				Recursos de reputación
Estructura				Recursos organizacionales
Clima organizacional				
Sistema de planeación y control				Recursos organizacionales
Relación con los clientes		Servicio al cliente		
	Gerencia		**Administración de alto nivel**	**Capacidades gerenciales**
	Sistemas de información			
		Distribución	Distribución	
		Ventas		
			Posicionamiento global	
			Relaciones con empleadores	
			Cultura de calidad	
Koontz, Weihrich y Cannice (2013)	David (2013)	Thompson, Strickland y Gamble (2007)	Wheelen y Hunger (2007)	Hitt, Ireland y Hoskisson (2008)

Fuente: Elaboración propia

Table 1 shows the contribution of internal factors of 5 authors, agree that the research and development, production, marketing, image of the company, organizational resources, customer service, management skills and distribution are important to determine the advantage competitive in a company.

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Theory of the vision of the company based on the resources

No company has access to unlimited resources, which is why entrepreneurs must decide the most appropriate way to optimize resources. With this support arises the theory of the vision of the company based on resources (VBR). Martínez, Charterina and Araujo (2010) indicate that the VBR assumes that the planned result of the company is to achieve a sustainable competitive advantage, since this can achieve higher income or returns. The VBR emphasizes on selecting the strategy and attributing to the management of the company the identification, development and application of resources to maximize performance.

A company has a competitive advantage when its profitability is higher than the average of the companies in its industry, and it has a sustained competitive advantage when it is able to sustain a performance above the industry average for several years. (Hill y Jones, 2005).

Resources are vital for competitive advantage, and are classified as tangible and intangible: the former are easy to quantify; however, the second ones become more important when they are integrated into business capacities (Cardona, 2011). David (2013) states that in the VBR approach organizational performance is determined mainly by internal resources, which are classified as physical, human and organizational. To achieve and maintain a competitive advantage, internal resources are more important than external resources.

Capacities

The VBR theory holds that internal resources help a company to examine and enhance opportunities and neutralize threats. For the purposes of this article, the following internal factors have been selected: marketing, directives, technology, innovation and quality.

Marketing capabilities

Hooley, Broderick and Möller (1998), cited in Martínez, Charterina and Araujo (2010), consider competitive positioning as the link between marketing and business performance, substantive for the development of key resources. Marketing defines, anticipates, creates and satisfies the needs and desires of customers' products and services.

However, to determine the strengths and weaknesses it is necessary to understand the following functions of this internal capacity: 1) analysis of customers, 2) sale of products and services, 3) planning of products and services, 4) pricing, 5) distribution, 6) market research and 7) opportunity analysis (David, 2013).

Marketing capacity impacts on the depth and applicability of innovation, in such a way that the interaction between marketing and innovation dramatically improves organizational performance (Ros, González and Pérez, 2014). With marketing the company can achieve new ways to market their products or increase product differentiation, which can alter the competitive positions of companies (Thompson, Strickland y Gamble, 2007).

Management capabilities

The managers of the companies have the ability to understand and evaluate the economic performance of the company. Without such knowledge it is unlikely to achieve sustainable competitive advantages (Barney, 1991, cited in Martinez, Charterina and Araujo, 2010). For Hitt, Ireland and Hoskisson (2008), capacities are essential to create competitive advantages and are often based on the development, transmission and exchange of information and knowledge through the human capital of the company.

The directive function allows acquiring skills that frequently serve to assume greater responsibilities of management and decision making (Aguilar, 2000). It is necessary to emphasize that business success is achieved not only by the vision and strategy of the manager, but also by the capacities and efforts of the personnel of the organization.

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Technological capabilities

Technology has drastically modified business competition and is contributing greatly to generating unstable competitive environments through three categories: 1) the diffusion of technology and disruptive technologies, 2) the information age and 3) the intensity of knowledge (Hitt, Ireland and Hoskisson, 2008).

The type of technological capabilities at the company level developed by Lall (1992) is divided into three: investment capacity, production capacity and capacity to link. Bell and Pavitt (1995), cited in Bañuelos (2006), mention the technological capabilities that allow achieving an efficient and dynamic performance in companies. The capacities to propitiate the change in the technologies used in production are based mainly on specialized resources that are not necessarily derived from capital goods and technological know-how.

The technological capabilities allow the company to remain in an increasingly unstable and changing market, using communication technologies and technologies applicable to production and marketing processes.

Innovation capabilities

Innovation is one of the substantive elements for the development and consolidation of the organization, which is why it is a highly required competitive advantage in the company.

The Organization for Economic Cooperation and Development [OECD] (2007) considers that innovation can improve or generate a new product, good or service. Authors such as Molina (1995) indicate that innovation is the effect of a process that ends successfully with the application of an invention or an idea that allows optimizing the resources of the company or improving products or services, which means technological progress , social and economic.

For Porter (2009) the current competition is dynamic and evolving, so continuous changes are required around the products, marketing methods, processes and market segments. Innovation, therefore, refers not only to the creation of products with attributes

superior to those existing in the market, but also to the development of processes that serve to consolidate greater organizational effectiveness (Hill and Jones, 2005). Then, innovation creates added value in new products, as well as in production and administration processes. Therefore, it must be recognized that innovation is an indispensable element of business competitiveness.

Quality capabilities

Some companies manage to obtain a competitive advantage according to their penetration in the segmented market. This is achieved thanks to high levels of quality standards, differentiation of products and services, and through relevant distribution and marketing channels. Having specialization processes allows the company to participate in the high profitability and value-added markets (Porter, 2013).

In a consumer-oriented society, one of the capacities to compete is the combination of price and quality of the good or service provided, and the latter has become the most important, since it provides competitive advantages (Parody, Jiménez and Montero, 2016).

From a strategic perspective, quality exists when the goods and services of the company meet or exceed the expectations of the client. This, for this reason, is essential for the full satisfaction of the company's customers (Hitt, Ireland and Hoskisson, 2008). Quality is an indispensable requirement in the global economy and is an essential condition for competitive success, since other internal factors of vital importance for the achievement of competitive advantage converge in it.

Methodology

The study of competitiveness is multifactorial, since there are many variables that influence it. For this article only some of the internal factors of the company that directly impact on business competitiveness were taken into account. The non-experimental design was used, since the variables were not manipulated, but have been measured as they were presented in reality (Camarero, 2013).

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Likewise, it is a cross-sectional study because a single measurement of the variable was made in a given time (García, 2009), it is a descriptive research because it sought to detail properties, characteristics and important features of the phenomenon analyzed, and because we tried to find trends in a group around the perception of the internal factors of the company related to competitiveness. It is also quantitative because data of that nature are collected on each of the variables.

In relation to the measurement instrument, Martínez, Charterina and Araujo (2010) studied the Basque manufacturing companies and proposed the research methodology, as well as the applied instrument. This, however, was adapted to the reality of Durango, and the technological capabilities dimension was included to those already established by the aforementioned authors.

We used a panel of experts in administration, competitiveness and companies, who based on their experiences and academic knowledge analyzed the questionnaire and formulated their respective observations and suggestions. The restructured instrument collected and allowed to analyze data on the dimensions of competitiveness. To analyze the data, a Likert scale was used; Each possible answer was assigned the following numerical values: 5 = totally agree; 4 = partially agree; 3 = in agreement; 2 = disagree; 1 = totally disagree.

Tabla 2. Variables incluidas en cada una de las dimensiones

Capacidades	Variables
F_1: Capacidades de *marketing*	P1. Prestigio de la empresa
	P2. Conocimiento de clientes y competencia
	P3. Capacidad para soluciones al cliente
	P4. *Marketing* interno
F_2: Capacidades directivas	P6. Visión estratégica directiva
	P7. Cualificación directiva
	P8. Inversión en formación y desarrollo de empleados
	P9. Innovación en dirección y gestión
F3: Capacidades tecnológicas	P10. Páginas de internet
	P11. Correo electrónico
	P12. Compras electrónicas
	P13. Ventas electrónicas
F_4: Capacidades de innovación	P14. Innovación incremental en productos o servicios
	P15. Innovación radical en productos o servicios
	P16. Innovación en proceso de productivos y comerciales
	P8. Inversión en formación y desarrollo de empleados
	P9. Innovación en dirección y gestión
	P17. Inversión en I+D+i
	P18. Contratación de universidades y centros tecnológicos para innovación
F_5:Capacidades de calidad	P3. Calidad en el servicio
	P19. Calidad objetiva del productos o servicios
	P20. Calidad subjetiva. Prestigio de productos o servicios
F6: Competitividad actual	P21. Ventas superiores a competidores
	P22. Rentabilidad superior a los competidores
	P23. Márgenes comerciales superiores a los competidores
F_7: Competitividad futura	P24. Previsión de incremento de ventas
	P25. Incremento de la rentabilidad
	P26. Incremento de los márgenes comerciales

Fuente: Elaboración propia (adaptado de Martínez, Charterina y Araujo, 2010)

As shown in Table 2, each of the dimensions of internal business competitiveness is found with their respective reagents: 4 for marketing capabilities, 4 for managerial skills, 4 for technological capabilities, 7 for innovation capacities, 3 for capabilities of quality, 3 for current competitiveness and 3 for future competitiveness. The SPSS program, version 22,

was used to process, register and codify the information, and with the results the pertinent tables were elaborated according to the variables.

The population, on the other hand, is the universe of events, objects or individuals that are intended to be studied according to the research approach. The sample, on the other hand, is the subgroup or subset of the population that is going to be studied, and the subgroups must present the same characteristics of the population (Hernández, Fernández y Baptista, 2011).

Tabla 3. Población de las empresas de Durango

	Población	
Sector	**Estado**	**Municipio**
Comercio	2387	1139
Servicios	3983	2025
Manufactura	977	359
Total	**7347**	**3523**

Fuente: Elaboración propia a partir de los datos del INEGI (2017)

Table 3 shows the number of companies in the state and municipality of Durango in the commerce, services and manufacturing sectors. Where when reviewing the business population of the state of Durango -consulting in the web page of the INEGI (2017) -, it was found that the state population is constituted by 7347 companies; in the municipality of Durango 3523, the sample stratified by convenience was calculated, in which only companies from the commerce and services sectors are included, with a confidence level of 90%, and a confidence interval of 10%, leaving a sample of 94 companies.

The characteristics and restrictions of this study are the following: 1) companies with 6 minimum employees, 2) companies registered in SAT, 3) companies located in the municipality of Durango, 4) belonging to the commerce and services sector, 5) construction, energy generation, mining and agriculture sectors, 6) the owner or general manager was interviewed, 7) the study was conducted from January to May 2017, in a single visit to the company.

Principal component analysis

For Landero and González (2012) the principal components analysis (PCA) is a data reduction technique that transforms a set of p variables measured in a numerical scale to a set of p orthogonal and maximum variance linear combinations, arranged in order decreasing variance. The ACP is a multivariate technique that treats a set of variables by reducing the number of data and identifies a group of fictitious variables constituted from the composition of the observed variables (Bernal, Martínez y Sánchez, s. f).

By Polanco (2016), The main objectives of the ACP are: 1) extract the most important information from a group of multivariate data, 2) compress a set of multivariate data conserving important information, 3) synthesize and analyze the description of a data set and the distribution of variables. In short, the ACP is the most widely used technique of multivariate data reduction statistics, which determines the existing information in a data set and synthesizes the variables in smaller quantities.

Multicollinearity and interdependence of variables

To test the multicollinearity assumption or the possibility of expressing a variable in linear function of others and the strong linear relationship between the variables, five criteria are usually considered: 1) inspection of the correlation matrix, 2) determinant of the correlation matrix, 3) test of Bartlett's sphericity, 4) Kaiser-Meyer-Olkin sample adequacy measure and 5) inspection of the elements outside the main diagonal of the matrix of anti-image correlations (Landero and González, 2012).

According to Raykov and Marcoulides (2008), in the behavioral, social and educational sciences ACP is used to measure unobservable skills, since it serves to reduce the multitude of data obtained to a few components, which represent the latent variables.

Results and Discussion

From the data analyzed in the SPSS, the following results were obtained: the reliability of the instrument was determined through the statistical validation of a pilot test in which 30 companies participated. With these results, the Cronbach's alpha was calculated to measure the homogeneity of the questions. The result was 0.904, which is acceptable and reliable, as it approaches the extreme 1 (Tavakol and Dennick, 2011).

Table 4 shows the internal capacities studied and their respective results of Cronbach's Alpha, as well as a general Alpha of the instrument.

Tabla 4. Resultados del alfa de Cronbach por factor interno

	Capacidades	Reactivos	Preguntas	Alfa de Cronbach
Factor interno	F1 Capacidades de *marketing*	4	1, 2, 4, 5	0.661
	F2 Capacidades directivas	4	6, 7, 8, 9	0.767
	F3 Capacidades tecnológicas	4	10, 11, 12, 13	0.774
	F4 Capacidades de innovación	7	14, 15, 16, 8, 9, 17, 18	0.838
	F5 Capacidades de calidad	3	3, 19, 20	0.769
	F6 Competitividad actual	3	21, 22, 23	0.770
	F7 Competitividad futura	3	24, 25, 26	0.870
	Alfa de Cronbach del instrumento			0.904

Fuente: Elaboración propia

As a general criterion, George and Mallery (2003) suggest the following registers to evaluate the values of Cronbach's alpha coefficients: a) alpha coefficient> .9 = excellent, b) alpha coefficient> .8 = good, c) alpha coefficient > .7 = acceptable, d) coefficient alpha> .6 = questionable, e) coefficient alpha> .5 = poor, f) coefficient alpha <.5 = unacceptable.

According to these standards, the questionnaire of this investigation had an excellent validity for having obtained 0.904. In terms of capabilities, we can point out the following: a) the marketing had 0.661 = questionable, b) the managerial, technological, quality and current competitiveness capacities ranged between 0.767 and 0.774 =

acceptable, c) the innovation obtained 0.838, while the Future competitiveness recorded 0.870 = good.

Table 5 shows the results of each of the internal factors and their respective internal correlations through a matrix of Pearson correlations.

Tabla 5. Matriz de correlaciones de Pearson

Capacidades	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**
F1 Capacidades de *marketing*	1.000	.428	.183	.509	.599	.330	.353
F2 Capacidades directivas	.428	1.000	.061	**.746**	.203	.372	.385
F3 Capacidades tecnológicas	.183	.061	1.000	.336	.241	.193	.428
F4 Capacidades de innovación	.509	**.746**	.336	1.000	.311	.346	.483
F5 Capacidades de calidad	.599	.203	.241	.311	1.000	.202	.325
F6 Competitividad actual	.330	.372	.193	.346	.202	1.000	**.732**
F7 Competitividad futura	.353	.385	.428	.483	.325	**.732**	1.000

a. Determinante = .045

Fuente: Elaboración propia

According to the interpretation standards indicated by Jiménez (2016), the low positive correlations are those that are within the range 0.20 to 0.40, in this case, managerial skills and quality, management skills and current competitiveness, managerial skills and future competitiveness, skills of marketing and current competitiveness, marketing capacity and future competitiveness, technological capabilities and innovation, technology and quality, innovation and quality capabilities, innovation and current competitiveness, quality and current competitiveness, quality and future competitiveness.

The moderate positive correlation is between 0.40 to 0.60, and are the following: managerial and marketing skills, marketing and innovation capabilities, marketing and quality capabilities, technological capabilities and future competitiveness, innovation capabilities and future competitiveness .

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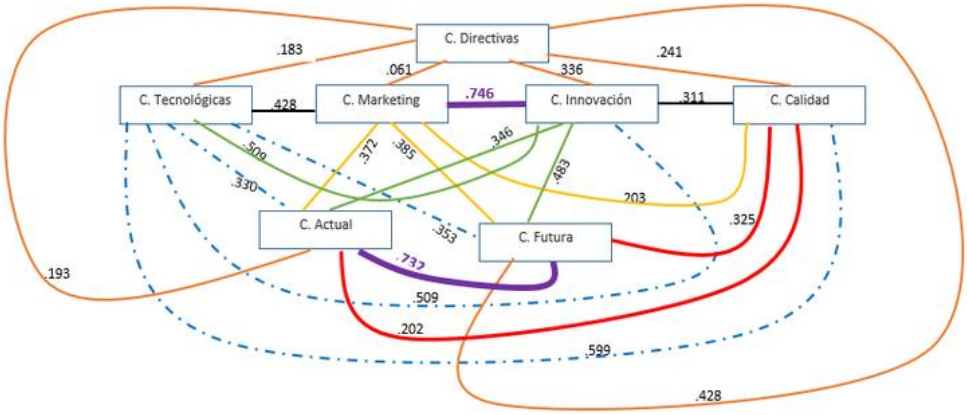
The high positive correlation is in a range of 0.60 to 0.80, since they are the ones with the highest correlation. In this are the following factors: managerial skills and innovation, current competitiveness and future competitiveness.

Figura 1. Relación de asociación interfactorial



Fuente: Elaboración propia

Figure 1 graphically represents Pearson's correlation matrix and shows how the factors are related to each other, so that their level of association can be demonstrated. Also, of each dimension with the current competitiveness and future competitiveness.

Table 6 shows the results obtained with the KMO Test of sampling adequacy and the Bartlett sphericity test

Tabla 6. Prueba de KMO y Bartlett

Medida Kaiser-Meyer-Olkin de adecuación de muestreo		.664
Prueba de esfericidad de Bartlett	Aprox. chi-cuadrado	297.478
	Gl	21
	Sig.	.000

Fuente: Elaboración propia

Landero and González (2012) indicate that the KMO values relate the correlation coefficients in the following way: a) below 0.5 = inadequate, b) between 0.5 and 0.6 = low dependence, c) between 0.61 and 0.70 = median, d) between 0.81 and 0.90 = high, and e) greater than 0.91 = very high.

According to the above, the statistics of the study of the sampling adequacy of the model prove that the dependence was low, since the result obtained from KMO was 0.664 (median adequacy).

Bernal, Martínez and Sánchez (s.f.) and Landero and González (2012) explain that the Bartlett sphericity test, if the null hypothesis is maintained (p> = 0.05), indicates independence of the variables. If it is rejected (p <0.05), it means dependence between the variables.

According to Raykov and Marcoulides (2008), Bartlett's test evaluates the data set analyzed in relation to the correlation matrix of the population, in which the variables analyzed are not related to each other, that is, they are independent. In this case, the result is less than 0.05, which means that the principal component analysis can be carried out.

Tabla 7. Varianza total explicada

Componente	Autovalores iniciales			Sumas de extracción de cargas al cuadrado		
	Total	% de varianza	% acumulado	Total	% de varianza	% acumulado
1	3.287	46.963	46.963	3.287	46.963	**46.963**
2	1.090	15.578	62.541	1.090	15.578	**62.541**
3	1.041	14.874	77.415	1.041	14.874	**77.415**
4	.815	11.637	89.052			
5	.359	5.130	94.182			
6	.223	3.185	97.367			
7	.184	2.633	100.000			

Método de extracción: análisis de componentes principales

Fuente: Elaboración propia

Table 7 shows the total variance explained, in which the criterion of Kaiser (1960), cited in Raykov and Marcoulides (2008), was applied and 3 components were obtained, that is, of the 7 components only 3 had an eigenvalue greater than 1.

There is a total variance explained by the first three factors of 77.415%; The first rotated marketing factor explains 46.963% of the common variance, the second factor 15.578% and the third technological 14.874%. The total variance explained by them is greater than 2/3, which may seem satisfactory for many practical purposes.

Table 8 shows the factors that are included in the new components, analyzed through the analysis of main components.

That is, component 1 contains all the factors (1, 2, 3, 4, 5, 6, 7); component 2 is composed of factors 1, 7, 6 and 3, and component 3 is made up of factors 2, 3 and 5. This means that component 1 (composed of all the factors) will be called innovative marketing, the component 2 technological marketing, and component 3 quality management (Raykov y Marcoulides, 2008).

Tabla 8. Matriz de componente[a]

	Componente		
	1	2	3
Factor 4	.805		
Factor 7	.786	.478	
Factor 1	.719	-.433	
Factor 2	.703		-.522
Factor 6	.681	.446	
Factor 3	.460	.469	.462
Factor 5	.580		.610

Método de extracción: análisis de componentes principales
a. 3 componentes extraídos

Fuente: Elaboración propia

Conclusions

The results indicate the following: 1) the managers frequently refused to answer, 2) many companies were found that did not coincide with the domiciles registered in the tax office, 3) a lot of time was devoted to each of the surveys, because entrepreneurs needed to talk about various situations that afflicted them.

Likewise, it was found that managers frequently ignored the issue and argued that the Government needed to provide them with training to achieve the consolidation of the company in the market and to have greater business knowledge.

On the other hand, after having performed the data analysis, and trying to respond to the objective established in this article (to know the perception of entrepreneurs in the commercial and services sector around the influence of the following internal factors: marketing, directives, technology, innovation, quality in current and future competitiveness), the following conclusions were reached about the capacities:

1. Marketing capabilities: For the entrepreneur, all the variables of prestige of the company (knowledge of clients and competence, skills to solve the client and internal marketing) are significant. They know that all marketing factors are very important for the development and consolidation of a company, since these can give a competitive advantage. In this capacity it stands out that the businessmen gave greater relevance to the knowledge of clients and the competition, which is significant because this variable is essential to consolidate and develop a company.
2. Management skills: The businessmen said that they are in agreement with the variables of strategic management vision and managerial qualification, although they do not attach greater importance to the investment in training and the development of employees. These variables, however, are essential, since it depends on the employees to stay updated on technologies and new developments, which directly affects the good performance in the jobs.
3. Innovation capacities: The managers indicated that the variables of incremental innovation and radical innovation are the most important, but not innovation in

process. The variables of investment in employee training and development, innovation in management and management, as well as investment in R + D + i, and the hiring of universities and institutes do not have the importance they should have.

With the above, the hypotheses raised in this article can be answered:

H1: Companies with high marketing capabilities achieve better competitive performance.

This hypothesis is true, since, effectively, the higher the marketing score, the higher the level of current competitiveness

H2: Companies with high innovation capabilities achieve better competitive performance.

This hypothesis is affirmative, since, certainly, the higher the innovation score, the higher the level of current and future competitiveness.

H3: Companies with high management skills achieve better innovation capabilities.

This hypothesis is true, since the higher the score of managerial skills, the higher the level of innovation.

This research confirmed -based on the results of the perception of the entrepreneur of the commerce and services sector- that the importance of managerial, innovation and marketing skills are substantive for the future competitiveness of the company, but not the technological and quality capabilities . Therefore, a greater awareness of entrepreneurs around these two capacities should be promoted, since they are indispensable to remain in the market and to increase productivity.

According to the results obtained in the Pearson correlation matrix, the capacities that have correlation are the following: directives and innovation, future and current competitiveness. Also, with the results of KMO and Bartlett's sphericity test, the main components analysis could be performed. In this it was determined that there are three dimensions that can encompass all the factors, which were called innovative marketing, technological marketing and managerial quality. Together, the three dimensions explain 77.415% of the total variability of the instrument, the level requested as a structural validity criterion.

Finally, it was found that the most significant capacities, according to the Pearson correlation coefficient, were marketing and innovation, which have a positive impact on the increase in future competitiveness.

References

Aguilar, E. (2000). El diseño de la retribución de los directivos y su efecto sobre los resultados empresariales. *Revista Economía Industrial*, (333), 131-148. Recuperado de https://dialnet.unirioja.es/servlet/articulo?codigo=496774.

Bañuelos, E. (2006). *Capacidades tecnológicas en empresas originadas en instituciones de investigación: el caso de Mappec S.A de C.V*. Trabajo presentado en el Primer Congreso Iberoamericano de Ciencia, Tecnología, Sociedad e Innovación CTS+I Recuperado de www.oei.es/historico/memoriasctsi/mesa14/m14p01.pdf.

Belohlav, J. (2003). Calidad estratégica y competitividad. *Revista Gestión y Estrategia*, *4*(8), 83-92. Recuperado de http://gestionyestrategia.azc.uam.mx/index.php/rge/article/view/496/491.

Bernal, J., Martínez, M. y Sánchez, J. (s. f.). Modelización de los factores más importantes que caracterizan un sitio en la red. XII Jornadas de ASEPUMA. Recuperado de https://doaj.org/article/c9ca70a6aed248d89a531034554ee68f.

Camarero, L. (2013). *Estadística para la investigación social*. México: Alfaomega.

Cantú, H. (2011). *Desarrollo de una cultura de calidad*. México: McGraw Hill.

Cardona, R. (2011). Estrategia basada en los recursos y capacidades. Criterios de evaluación y el proceso de desarrollo. *Revista Electrónica Forum Doctoral*, (4). Recuperado de http://publicaciones.eafit.edu.co/index.php/forum-doctoral/article/download/1754/1755/.

Chiavenato, I. (2011). *Teoría general de la administración*. México: McGraw Hill.

David, F. (2013). *Conceptos de administración estratégica*. México: Pearson Prentice Hall.

García, B. (2009). *Manual de métodos de investigación para las ciencias sociales*. México: Manual Moderno.

George, D. and Mallery, P. (2003). *SPSS for Windows step by step: A Simple Guide and Reference*. 11.0 Update. Boston: Allyn & Bacon .

Hernández, S. (2007). *Administración, pensamiento, proceso, estrategia y vanguardia*. México: McGraw Hill.

Hernández, R., Fernández, C. y Baptista, P. (2011). *Metodología de la investigación*. México: McGraw Hill.

Hill, Ch. y Jones, G. (2005). *Administración estratégica: un enfoque integrado*. México: McGraw Hill.

Hitt, M., Ireland, R. y Hoskisson, R. (2008). *Administración estratégica, competitividad y globalización, conceptos y casos.* México: CENGAGE Learning.

Instituto Nacional de Estadística, Geografía e Informática [INEGI] (2017). *Directorio Estadístico Nacional de Unidades Económicas de Durango.* Recuperado de http://www.beta.inegi.org.mx/app/mapa/denue/default.aspx.

Jiménez, C. (2016). *Guía para la elaboración de la tesis o investigación en ciencias sociales y ciencias médicas*. Recuperado de https://www.tesiseinvestigaciones.com/uploads/2/0/0/2/20021199/gu%C3%ADa_de_tesis.pdf.

Lall, S. (1992). Technological Capabilities and Industrialization. *World Development*. 20(2). 165-186. Recuperado de https://www.sciencedirect.com/science/article/pii/0305750X9290097F

Koontz, H., Weihrich, H. y Cannice, M. (2013). *Administración una perspectiva global y empresarial*. China: Mc Graw Hill.

Landero, R. y González, M. (2012). *Estadística con SPSS y metodología de la investigación*. México: Trillas.

Martínez, R., Charterina, J. y Araujo, A. (2010). Un modelo causal de competitividad empresarial plantado desde la VBR: capacidades directivas, de innovación, marketing y calidad. *Investigaciones Europeas de Dirección y Economía de la Empresa*, *16*(2), 165-188 Recuperado de www.redalyc.org/pdf/2741/274120099009.pdf.

Mathews, J. (2009). *Competitividad: el significado de la competitividad y oportunidades de internacionalización para las Mypes*. Perú: Media Corp Perú. USAID. Recuperado de http://comunidadilgo.org/back/_lib/file/doc/portaldoc199_3.pdf.

Mochón, F., Mochón, M. y Sáenz, M. (2014). *Administración: enfoque por competencias con casos latinoamericanos.* México: Alfaomega.

Molina, H. (1995). *La innovación tecnológica y sus implicaciones estratégicas y empresariales: un enfoque descriptivo*. España: Instituto de Cultura Juan Gil-Albert Recuperado de https://dialnet.unirioja.es/servlet/libro?codigo=19590.

Organización para la Cooperación y el Desarrollo Económicos [OCDE] (2007). *Manual de Oslo. Guía para la recogida e interpretación de datos sobre la innovación.* OCDE y EUROSTAT. Recuperado de www.oecd-ilibrary.org/.../manual-de-oslo_9789264065659-es.

Parody, K., Jiménez, L. y Montero, J. (2016). Análisis de los factores internos de competitividad: caso de las empresas lácteas del Cesar, Colombia. *Revista Ciencias Estratégicas*, *24*(35), 199-210. Recuperado de https://revistas.upb.edu.co/index.php/cienciasestrategicas/article/viewFile/7604/6936.

Polanco, J. (2016). El papel del análisis por componentes principales en la evaluación de redes de control de la calidad del aire. *Comunicaciones en Estadística*, *9*(2), 271-294. Recuperado de http://revistas.usta.edu.co/index.php/estadistica/article/viewFile/2654/3128.

Porter, M. (2009). *Ser competitivo*. Barcelona: Deuso.

_____. (2013). *Estrategia competitiva*. México: Patria.

_____. (2013). *Ventaja competitiva*. México: Patria.

Raykov, T. and Marcoulides, G. (2008). *An Introduction to Applied Multivariate Analysis*. United States of America: Routledge Taylor & Francis Group.

Ros, S., González, T. y Pérez, C. (2014). Innovación y desempeño en las empresas de servicios: la interrelación entre las capacidades de marketing dinámicas y operativas. *Revista Economía Industrial*, (391), 95-104. Recuperado de https://dialnet.unirioja.es/servlet/articulo?codigo=4664614.

Tavakol, M. and Dennick, R. (2011). *Making sense of Cronbach´s alpha. International Journal of medical education*. (2), 53-55. DOI: 10.5116/ijme.4dfb.8dfd.

Thompson, A., Strickland, A. y Gamble, J. (2007). *Administración estratégica, teoría y casos.* India: McGraw Hill.

Wheelen, T. y Hunger, J. (2007). *Administración estratégica y política de negocios*. México: Pearson Prentice Hall.