

## EFFICIENCY, INNOVATION AND PLANNING OF MARKETING MANAGEMENT IN SMEs

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### ABSTRACT

The purpose of the study was to evaluate the state of development of marketing management in 87 SMEs in Barranquilla (Colombia). The methodology used was the Modernization Model for the Management of Organizations (MMGO), from the EAN University (School of Business Administration, according to its Spanish acronym). Among the results are: A high correlation was established between innovation and knowledge, and the state of development of marketing management. With a multiple regression model, it was found that strategic planning and innovation can explain the state of development of marketing management. These factors are related and, when worked on together, can drive company growth. No significant relationship was found with the other components of the model such as logistics and environment. Evaluated entrepreneurs focus more on production than on the market but exhibit achievements in customer service. Associations and academia can encourage innovation to increase efficiency by using resources in the most efficient way; making known the usefulness of market research to understand the benefits perceived by clients and their proposals for change to materialize them in innovation. In congruence with neo-Schumpeterian theory, all efforts made to strengthen innovation will also improve the company's general competitiveness. The MMGO tool helps to make a diagnosis in aspects such as planning to design strategies that improve the relationship with the market.

**Keywords:** SMEs, marketing management, efficiency, innovation, planning.

*Eficiencia, innovación y planeación en gestión de mercadeo en PYMES*

### RESUMEN

El estudio tuvo como objetivo evaluar la gestión de mercadeo en 87 pymes de Barranquilla (Colombia); utilizó el Modelo de Modernización para la Gestión de Organizaciones (MMGO), de la Universidad EAN (Escuela de Administración de Negocios). Entre los resultados están: se estableció una alta correlación entre la innovación y el estado de desarrollo de la gestión de mercadeo. Con un modelo de regresión múltiple, se encontró que la planeación estratégica y la innovación pueden explicar el estado de desarrollo de la gestión de mercadeo. Estos factores están relacionados y, al trabajar en conjunto, pueden impulsar el crecimiento de la empresa. No se encontró una relación significativa con otros componentes del modelo, como la logística y el medio ambiente. Los emprendedores evaluados se centran más en la producción que en el mercado, pero muestran logros en la atención al cliente. Los gremios y la academia pueden fomentar la innovación para aumentar la eficiencia optimizando los recursos, dando a conocer la utilidad de la investigación de mercados para comprender los beneficios percibidos por los clientes y sus propuestas de cambio para materializarlos en innovación. En congruencia con la teoría neoschumpeteriana, todos los esfuerzos que se realicen para fortalecer la innovación mejorarán también la competitividad general de la compañía. La herramienta MMGO ayuda a realizar un diagnóstico en aspectos como la planificación para diseñar estrategias que mejoren la relación con el mercado.

**Palabras clave:** pymes, gestión de mercadeo, eficiencia, innovación, planeación.

### Introduction

According to data from the International Council for Small Business, published by the United Nations in June, 2019, small and medium-sized companies represent 90% of all companies in the world, generate almost 70% of jobs and account for 50% of the world's gross domestic product (GDP). They have to face different internal and external challenges, such as lack of time and personnel for planning activities (UN, 2024).

The main figures of Colombian Small and Medium sized Enterprises (SMEs) are similar to global ones: they represent 90% of the national productive sector and generate 80% of the jobs (National Department of Statistics, DANE, in National Association of Financial Institutions, ANIF, 2018). Short-term vision, low medium-term planning and low market diversification levels are among the main difficulties faced by SMEs in Colombia; they can even endanger their survival in their markets (National Association of Financial Institutions, ANIF, 2018). Other difficulties found by ANIF include reduced demand, competition with large stores, high raw material costs, fluctuations in exchange rates, and high taxation. These situations drive SMEs to take measures that facilitate their growth and permanence in the market. By improving their management, and working in other success factors, they could stand out despite their high operation costs and high levels of competition in their environment (Ghosh, et al, 2001).

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Long-term vision is related to strategic planning; on the other hand, market diversification is associated to knowledge and innovation management, and aspects related to demand and competition. Marketing management becomes the tool that drives the present and future of business since it allows resources to be organized through strategies focused on the best feasible product, with a value proposition that meets the requirements of a specific market niche. It is also useful when there are frequent changes in the environment and it becomes necessary to have the ability to sacrifice profits for greater added value for both industrial and end users (Magalhães-Teixeira, et al, 2025).

It is important to highlight that, according to Maddala and Miller (1993), the purpose of any economic system is to efficiently allocate scarce economic resources to the production of goods and services for the use of people. Resources for both producers and consumers will be allocated to achieve the greatest individual satisfaction without harm to others. Each enterprise seeks the best possible use of its inputs in the search for ways to increase its efficiency; innovation is one way to achieve it. In that connection, Raxmonjon-O'g'li (2023, p.55, 61) found that "The term production generally encompasses a transformation process in which resources (input factors) are used to generate products and added value (output) (...) The enterprises take advantage of new systems that are constantly under the pressure of innovation and rationalizers due to high flexibility requirements, and see the opportunity to achieve sustainable growth of production in new systems".

This article is based on research that used the Modernization Model for Organizational Management (MMGO), developed by the research group G3PYMES from EAN University (Pérez, et al., 2009a), to evaluate the management of 87 companies. It was created in order to improve the management of the SMEs. As a basis for the analysis, concepts of efficiency, marketing management, planning and innovation are first discussed. Then, the structure of MMGO is explained, emphasizing its marketing management component. Finally, results of its application to the 87 SMEs studied are discussed.

### **Theoretical aspects**

The following section will analyze concepts related to efficiency, organizational management, marketing, and innovation, which are the cornerstones of the model used.

#### **Efficiency, productivity and competitiveness**

According to the neoclassical theory of economics, enterprises are considered black boxes, focusing the analysis on their transactions rather than their productive activities. Technology was seen as an exogenous factor. Its importance has increased though, as significant technological improvements emerge, and international trade grows. On the other hand, the neo-Shumpeterian theory focuses on business innovation. Technology is no longer an external factor, and the environment is seen as a source of new ideas, the enterprise can learn and uses strategies to meet its market, while using innovation to increase its efficiency (Kataishi and Brixner, 2022).

Businesses are forced to adapt to the external circumstances in their environment. O'Kean (1994) explains that the competitiveness of any economy depends on its productivity, which is defined as the value created per hour of work. He states that productivity increases as business organization and technology innovation improve. At the same time, a stronger organizational structure is required to reduce costs. He also states that businesses have an economic role since they estimate the future in contexts of uncertainty and innovate in their production system or in the design of their products. These premises are valid for any single company or a group of them; the businessman must analyze the environment to establish the strategy. Productivity is then the result of achieving maximum production with the minimum use of inputs, productivity is influenced by competitiveness to the extent that consumer preferences have been determined. Kurniawan et al (2024) agree that technological innovation improves the production efficiency, product quality, and competitiveness.

In this sense, Navarro-Chávez and Delfín-Ortega (2020, p. 246) state that technical efficiency is achieved when "businesses reach the highest feasible production with the inputs they use. It is also necessary that the level of production obtained allows for advisable sales prices in order to maximize profit, a condition known as allocative efficiency of production". In this regard, Negrín, et al (2024) show that imperfections in the production process, choice of market segments and innovation processes are caused by the lack of control methods in management. The entire management system is affected in the long term by these circumstances. In a study carried out in Lesotho it was found that "the competitive intensity strategy emphasises that operators of SMEs need to be equipped with market strategic resources" (Amadasun & Mutezo, 2023, p.8). In Colombia, a study of the floriculture sector found that quality and technological innovation contribute to competitiveness (Rubio-Rodríguez, et al, 2025). It is clear that efficiency is a concept that links micro and macroeconomics with business administration.

#### **Organizational management**

Key concepts in organizational management are brought together in the classic theories of administrative thought, based on the publications of Frederick W. Taylor (1911) and Peter F. Drucker (2003). Among them, the management concept is worth reviewing because it can guarantee the success or failure of the organization. According to Drucker (2014), management is the distinctive organ of organizations because they all need to be managed, therefore, the greatest responsibility falls on the person who performs the management functions who is appointed to make the most fundamental decisions in the organization. This person must develop specific skills to be able to establish strategies, according to their resources, to adapt the organization to the conditions of globalization and competitiveness that arise today and that affect its internal practices (Aranguren, 2006).

Tamayo et al (2014) see organizational management as the ability to achieve objectives, representing it as the point of convergence of three dimensions: human development, working conditions and productivity. Another way of seeing organizational management is proposed by Ortiz and Pérez (2010), it is presented as a set of specialized factors; made up of: strategy, markets, culture, finances and human resources. The profitability of organizations, especially, corresponds to the effects of these factors.

All these approaches to the concept of organizational management imply the alignment of strategies towards the achievement of objectives and goals. According to Medina, et al (2017), it involves the management of components such as human talent, marketing, logistics, processes, among others, as well as physical and financial resources, in addition to culture with principles and values.

## Marketing management

Management is more than the administration of the resources of a company, it is directing those resources with visible results. The term relates to marketing and corporate image, as any negative result of the business is seen as a lack of management (Robbins & Coulter, 2005). There are small and medium-sized companies in the world that direct their strategic market planning towards production and sales, as it is the case of SMEs in South Africa, where marketing principles contribute to business success (Van-Scheers & Makhitha, 2016).

When business objectives are determined from marketing management, strategy and operation may be easily controlled (Havlíček, 2011). Tools as market research are essential for strategic management focused on the market (Gebhardt, et al, 2019). A strategy shall be designed for acquiring and coordinating information on initial market research and product quality advertising, to make them more efficient and profitable for both manufacturers and retailers (Guan, et al, 2019). These goals are obtained through the analysis of the information resulting from the research.

Just as learning strategic management can be favored when theory and practice are combined (Yoder, 2019), it is convenient for SMEs to combine administrative theory with business practice to improve their management. The growth of this type of organization can occur by project development that generates value and performance in a profitable manner (Smyth, 2014). For instance, research carried out in Ghana with 225 companies determined that SMEs concentrate on the most profitable clients, using performance measures such as survey ratings, growth rate and knowledge of needs (Abrokwah-Larbi, 2024).

Marketing management, according to Ospina and Sanabria (2010), allows the organization to bring its products to the customers and, therefore, helps it to fulfill its social and economic function. The main function of marketing management is to achieve the orientation of the company towards the consumer (Kotler and Armstrong, 2012), so that its continuity is guaranteed to the extent it succeeds in satisfying the changing needs of the client, providing innovative solutions that generate future growth (Cooper, 2011).

## Planning and innovation

In studies carried out in SMEs, it has been found that strategic orientation, innovation capacity and organizational strategic planning positively and significantly affect their performance, Rizan et al (2019), other authors such as Batra, et al (2018) have also studied strategic planning and its relationship with innovation. In this regard, Heredia-Bustamante et al (2023) note that many innovations arise from seeking operation times or costs, and that strategic plans based on innovation help to evaluate where the market is heading to, in order to adjust the strategy. In terms of Park, et al (2004), innovation is the ability to generate changes aimed to solve needs in a company in a way that increases its competitiveness with the corresponding improvement of its positioning in the market. Through access to external knowledge and prior investment in innovation, productivity and growth rate improve (Löf and Nabavi, 2015). In the same sense, Marroquín and Ríos (2012) point out that there is a positive relationship between innovation and GDP per capita.

In turn, Bermúdez and Correa (2011) see innovation and knowledge as tools for generating changes in the situation of the organization in terms of competitiveness, positive changes imply the evaluation of the organizational plan and updating knowledge, to identify the skills of employees and the distribution of work groups to take advantage of the capabilities of each individual.

Innovation management in SMEs, according to some researchers, is considered as a management system of processes, products and strategic changes, based on management and control plans and objectives (Havlíček, et al, 2013). Authors such as Cerezo-Narváez, et al., (2019) seek to propose the standardization of R&D&I (research, development and innovation) processes in SMEs, showing how to choose, design, implement and test an innovation management system in the context of industry 4.0. Also, with the purpose of improving management capacities in SMEs, Xu (2018) proposes a customer management system to solve efficiency problems and limitations in service provision.

According to the research on innovation management, carried out by Alfaro-García, et al. (2017) in 91 SMEs in Morelia, Mexico, the most valued areas in those companies are: innovation strategy, organization and structure, management of knowledge and projects. A study carried out in 25 SMEs in Bogota (Colombia) found that 88% of them consider that innovation is a differentiating factor to improve competitiveness, and that between 2018 and 2020, 80% introduced some innovation, especially new products, which is something closely related to marketing management (Gómez-Cristancho, et al, 2021). Another study, of 34 entrepreneurial projects in Colombia, concluded that innovation, continuity in the market and identification of the needs of consumer in their market segments are fundamental factors to differentiate themselves and remain in the market (Angulo-Luna, et al, 2022).

Also in Colombia, Sanchis-Ilopis, et al (2024) found that innovations are more profitable in the short term when companies made only process innovations, because if they made process and product innovations simultaneously, changes take longer to generate benefits. A study conducted in Finland took similar aspects into account and concluded that product innovation had an impact on market performance (Nisula, et al, 2023). Pasciaroni and Barbero (2024), in Argentina, detected that companies allocate a low proportion of their sales to internal innovation, since they concentrate their efforts on the acquisition of machinery. Cruz-Rincón et al. (2022, p. 16) found that Colombian SMEs: "should promote cooperation agreements with industrial and non-industrial sources to boost their marketing and innovation capabilities to achieve superior performance".

Likewise, innovation management interacts with knowledge (Tassabehji, et al, 2019), promoting the creation of open collaboration ecosystems, where internal and external knowledge may flow easier, increasing the capacity for innovation. Correct strategic direction and an integrated common vision generate successful innovation (Pitchayadol, et al, 2018). To achieve this, managers must not only promote external knowledge of the client but also the interaction between the different departments. This interaction may prevent the overestimation of initial results that may potentially stifle the innovation in the long term (Zhang, et al, 2024).

## Methodology

This research addresses the approach of the MMGO model, developed by the G3PYMES research group of the EAN University in Colombia. The instruments of the Modernization Model for the Management of Organizations (MMGO) matrix were applied.

MMGO is a method to identify the state of development of organizational components that can be applied in SMEs from different economic sectors, with the purpose of identifying their orientation towards management modernization, innovation and competitiveness (Pérez, et al, 2009b). In the modernization process, the components constitute four stages where the companies are located (Pérez et al, 2009b), giving the improvement guidelines until reaching the level of modernization proposed by the company.

**Data collection**

For data collection, a questionnaire with 16 components, and 225 questions classified into 114 variables was used. The marketing management component has 26 questions and the innovation, 31. In this study, 8 of the 16 components were analyzed. The objective of the study is to identify which aspects have a significant influence on marketing management in the SMEs under study.

The instrument was created by G3PYMES, a research group of the EAN University (Bogota, Colombia), that applied the matrix of MMGO in a research project approved and financed by the EAN University for validating the model. Results of this research were published in the *Universidad y Empresa Magazine* in a paper directed by Carlos Plaza (2016)

It should be noted that the MMGO model has been applied in various research on strategic management, evaluation and analysis, in Colombian SMEs, developed by authors such as Ramírez-Garzón and Pérez-Urbe (2020). It yielded favorable results in terms of improving organizational management and formulation of management strategies in SMEs.

Regarding the strategic planning component, MMGO presents it as one that: “facilitates the achievement of business objectives related to productivity, comprehensive quality, effectiveness, competitiveness, profitability and efficiency” (Pérez et al., 2009a, p.118), it is accomplished by the evaluation of indicators related to the system of goals, expressed in the mission, vision and business objectives, corporate values and strategies.

On the other hand, MMGO refers to the management of innovation and knowledge as: “innovation turns out to be the method, the tool to generate technologies and to give value to knowledge”. Innovation and knowledge management are the “most important strengths when competing in a market segment”. (Pérez et al., 2009a, p.312).

Marketing management, based on MMGO, combines the organizational contributions of Henri Fayol (1974), who considers it as an administrative process that integrates planning, organization, direction, coordination and control, with McCarthy’s 4Ps model: product, price, place and promotion (Anderson and Taylor, 1995). Based on the above, the following factors are assessed: company orientation towards the market, market planning and control, market research, consumer behavior and segmentation, product or service strategy, price strategy, distribution strategy and structure, sales strategy, communication strategy and customer service.

MMGO is designed in a modular way through development stages presented in table 1.

**Table 1.**  
Features of the development stages of the MMGO model

Stage 1: survival (0-25 points)	Stage 2: internal development (26-50 points)
Informal processes.	Process under construction.
Authoritarian (feudal) management.	Not a very functional board of directors (partners).
Implicit strategies.	Management pays attention to some of the collaborators.
Presence in local captive markets.	Some professional individuals in the management of the company.
Knowledge rests with the manager.	Lack of modern management tools.
Product orientation instead of market orientation.	Product orientation.
Survival condition.	Expanded local market.
Low productivity.	Formal accounting and budget analysis essays.
Functional processes.	Undocumented strategies.
Artisanal production, empirical education and low specialization of the workforce.	Compliance with legal requirements only.
Few professional individuals in the management of the company.	Goods or services design elements.
Local market.	
Compliance-oriented accounting.	
Stage 3: formalization (51-75 points)	Stage 4: external development (76-100 points)
Professional individuals in critical positions.	Learning, development and monitoring efforts.
Formal processes.	Management practices.
Continuous improvement efforts.	Organizations that learn to learn.
Starting with ISO management systems.	Innovative operations.
Regional and national market.	Knowledge generation and management.
Formal finance department.	Company in continuous learning.
Strategic direction implemented.	Operative management system, ISO based or other.
Nearby countries market.	Regular benchmarking.
Formalization process.	Flexible.
Well-being organizational culture.	Technically defined processes according to organizational components.
Operative board of directors.	Market orientation.
Development methods for new goods or services.	Orientation to value creation.
Improved goods and services.	Prospective analysis with indicator systems.
	Global insertion.
	Organizational culture of harmony that generates quality of life.
	Explicit research and development.
	Differentiated products.

Note: Adapted from Pérez et al., 2009a, p.45.

As can be seen in table 1, the companies evaluated are classified into stages 1, 2, 3 and 4, according to the level of maturity at which they are located. Organizations must overcome the stages by designing modernization improvement routes contextualized to their needs (Estrada-López, 2008). Stage 1 is called survival; 2, internal development; 3, formalization and 4, external development (Vargas-Guzmán, et al, 2022).

### Type of research

The research approach used is non-experimental, because the variables were not manipulated by the researcher, and its organizational management components were deliberately observed (Hernández, et al, 2014); that is, the phenomena are observed as they develop in their natural environment.

The type of research was quantitative with a transversal design, based on data collection and analysis to validate ideas (Bryman & Bell, 2016). It starts from deduction, that is, the approach is previously identified, classified and analyzed, and then data are collected to achieve systematicity and logical consistency. Variables are measured, and the measurements obtained are assessed using statistical methods. Results were processed with the SPSS version 21 software, looking for their relationships in the different components of the MMGO instrument.

### Population and sample

The population was made up of small and medium-sized companies, legally constituted, with commercial registration in Barranquilla, Colombia, updated as of 2018, with less than eight years of creation. According to the registration in the database of the Barranquilla Chamber of Commerce, there were 5,682 companies; its classification was carried out according to the characteristics of the research (Battaglia, cited by Hernández, et al, 2014). Once the general population was determined, a sample size of 360 companies was calculated, with a confidence level of 95% and a sampling error of 5%, with an equal probability of being chosen and simple random sampling for finite populations.

To locate the study population, telephone and email contact was established (this stage in 2023). 360 SME managers were selected at random. Response was received from 130 companies. Appointments were agreed to administer the survey and finally, 87 of them were attended. Due to the specific nature of the information required, questionnaires could only be answered by the general manager of each company, thus the sample was taken from those most interested in knowing the state of development of their company's management and future possibilities of intervention.

Therefore, the criterion of accessible population was taken, according to Arias-Gómez, et al (2016). Ibáñez (2006) defines the population as the set of elements or individuals that meet the characteristics intended to be studied. The accessible population is the one that has the same characteristics, but with a smaller number of individuals, and therefore is the one susceptible to study, considering inclusion and exclusion criteria.

The largest participation was obtained from companies dedicated to wholesale and retail trade (30%), followed by industrial companies (18%), accommodation and restaurants (11%); others are from sectors such as construction, advertising, health, education, and transportation.

Due to the specific nature of the information, it could only be answered by the general manager of each company, thus the sample was taken from those most interested in knowing the state of development of their company's management and future possibilities of intervention.

Studied components were strategic planning, marketing management, innovation and knowledge management. A multiple-choice questionnaire was used. Answers allowed to classify the companies into one of four stages, each one having three levels: insufficient (I), development (D), maturity (M). Each component, points out Ramirez (2016), is part of a matrix that indicates in detail the descriptors and levels in which the company is located.

### Data analysis

Data were obtained from primary sources using a structured questionnaire as the collection technique. Based on the data gathered, scores were divided into four groups and the components of the companies were categorized, according to the stages suggested by the MMGO management model instrument. To do this, information from the companies was consolidated for each component according to different stages. The Pearson correlation statistical technique was used between the components in bivariate management analysis identified in the MMGO management model. Finally, multiple linear regression was applied to study the interaction between the components of the model.

### Results

The marketing management matrix monitors activities that respond to the way companies commercialize products, segment the market, implement product, sales and communication strategies. It also considers how they plan and control the operations, and how they use market research to obtain customer feedback. For example, being in stage 1, in terms of marketing planning, indicates that the company does not have a defined plan; 2, that it has an unwritten and short-term plan; 3, has a written plan contemplated for 1 to 3 years; and 4, written plans for 4 years or more.

The 87 SMEs studied obtained an average score of 41.2, placing them in development stage 2, in the marketing management component. This indicates that their research and development, planning, execution and control of variables processes are evaluated as deficient when compared to satisfiers in terms of products, prices and distribution. In general, it is noted that for these companies the most important outcome was the product; their motto might be: good product will sell well.

Specifically, market orientation (59.2) and customer service (55.1) had scores greater than 50. These indicators are in stage 3. They show that the companies in the study are more interested in meeting the sales budget and service and customer loyalty activities than determining or controlling management results.

The other indicators had scores between 25 and 50, placing them in stage 2; however, the indicators that presented the lowest scores were: market research (25.8) and market planning and control (28.7), showing that companies only consulted secondary sources to obtain data on market variables; they presented weak market research. Additionally, planning and marketing control were informally accomplished.

Found results show strong correlations between the components of 'marketing management' and 'strategic planning' (0.72) and 'marketing management' and 'innovation and knowledge' (0.70).

In the multiple regression analysis, marketing management was taken as the dependent variable and, to begin with, all the components of MMGO were taken as independent variables. Afterwards, some of the components were discarded until those that better explained the behavior of the marketing management exhibited by the model were obtained.

The first checked model included a constant parameter and had environment, organizational culture, logistics, innovation and knowledge, planning and strategy, production management, and human management, as predictor variables. Table 2 shows that 79.3% of variability is explained by the model; independence of the residuals is assumed because the value of the Durbin-Watson statistic is between 1.5 and 2.5.

**Table 2.**  
Model summary

R	R squared	R squared corrected	Standard error of estimate	Durbin-Watson
.793	.629	.595	12.828085	2.078

Table 3 shows that the ANOVA F statistic has a significant value, given that the p-value is zero, that is, less than 0.05. It indicates that the linear regression model is appropriate for the analysis of the variables. That is, there is a significant linear relationship between the marketing management component and the set of all components taken together.

**Table 3.**  
ANOVA

Model	Sum of squares	gl	Root mean squared	F	Significance
Regression	21221.524	7	3031.646	18.423	.000
Residual	12506.542	76	164.560		
Total	33728.066	83			

When running the coefficient model and analyzing the significance of each of the components, it is observed that some components are not significant at the 5% level, as shown in table 4.

**Table 4.**  
Model coefficients with all of its components

	Unstandardized coefficients		Standardized coefficients	t	Signif.	95.0% confidence interval for B	
	B	Standard error	Beta			Lower limit	Upper limit
(Constant)	12.775	3.311		3.859	.000	6.181	19.369
Planning and strategy	.553	.152	.514	3.634	.001	.250	.857
Organizational culture	-.035	.112	-.037	-.317	.752	-.258	.187
Production management	.051	.136	.052	.378	.707	-.219	.322
Human management	-.197	.145	-.235	-1.354	.180	-.486	.093
Logistics	.074	.102	.084	.730	.468	-.129	.277
Innovation and knowledge	.437	.118	.417	3.694	.000	.202	.673
Environment	.111	.110	.104	1.002	.319	-.109	.330

Taking the above into account, we proceeded to exclude each component that does not meet the 0.05 level of significance, one by one until a regression model with significant coefficients was found. The result is shown in table 5.

**Table 5.**  
Model coefficients with significant components

	Unstandardized coefficients		Standardized coefficients	t	Significance
	B	Standard error	Beta		
(Constant)	13,758	2,824		4,872	0,000
Planning and strategy	0,494	0,099	0,458	4,968	0,000
Innovation and knowledge	0,417	0,098	0,394	4,275	0,000

The resulting model included a constant parameter and had innovation and knowledge, and planning and strategy as predictor variables, marketing management was the dependent variable.

Finally, the resulting model is obtained after debugging the components that did not meet the significance level at 0.05. 'Strategic planning' and 'innovation and knowledge' explain the dependent variable 'marketing management', demonstrating that 'strategic planning' and 'innovation and knowledge management' have significant influence on the marketing management of SMEs in the study.

## Discussion

Strategic planning and 'innovation and knowledge management' show a causal relationship with marketing management, which implies that SMEs should strengthen strategic planning and management of innovation and knowledge to improve their marketing management. As Papke-Shields and Boyer-Wright (2017) indicate, improvements that include innovation and knowledge management pave the way to business success.

In the management of innovation and knowledge, it is important that companies work on improving processes, organizing for innovation, carrying out control and monitoring, and managing personnel for innovation (Havlíček et al., 2013. Sánchez, et al, 2016). These factors are related and, when worked on together, can drive company growth.

Marketing management depends on strategic planning and the management of innovation and knowledge. It is useful to work on general planning and innovation to obtain better results in marketing-related factors such as communication strategy, sales, distribution, product, marketing planning, segmentation, customer service and market orientation. Some authors suggest that improvement strategies should be designed first; then, plan strategies, using information gathered by market research. Product definition, according to the market in which the company is going to develop, should be the last step (Guan et al., 2019).

To achieve this, it is essential, according to Herrera, et al (2015), that the company takes seriously all types of available information, not only about the external behavior of the market, but also about the knowledge acquired within it. It is clear that the company must be attentive to all information it receives that allows it to improve consumer service. For example, the use of its own invoices as an information input, where it can follow up on its clients. In this sense, Zhang et al, 2024, explain that the interaction between the different areas of the organization is important to promote knowledge. This helps innovation to be long-term oriented to the extent that sellers keep it in mind.

On the other hand, results of the present study show that entrepreneurs focus more on the product than on the market. Similar conclusion was obtained by Van-Scheers and Makhitha (2016) in a study carried out with South African SMEs. It was found that planning is carried out around production and sale.

Innovation processes in organizations, says Robayo (2016), must offer a response to both unforeseen and already existing opportunities. Organizations should realize that it is no longer the same environment as a few years ago, where everything seemed stable and predictable. Now you can see a series of external factors that force them to manage their processes in a different, much more open way. Technological changes, for example, are made in leaps and bounds and by the time the company implements them, the changes are almost obsolete. That is more complex for small and medium-sized companies, which tend to have less availability of financial resources, personnel and time.

For SMEs to remain, grow and be competitive in the market, they need to improve components such as strategic planning and innovation, which have a direct influence on marketing management, according to the findings of this study. Similar results were found in another research carried out in Colombia with 1,571 companies (Beltrán-Díaz, et al, 2023), it revealed that technological innovation promotes organizational innovation, and that investment in technology increases the capacity for innovation in marketing. Another research in Colombia, by Gómez et al. (2021), found that innovation increased competitiveness.

Regarding the method, other investigations have developed internal comparison procedures. For example, a study carried out in Colombia divided the sample into 93 companies that showed intensive use of marketing strategies and 83 that did not use them too much; a Likert scale of the Global Competitiveness project was used for the diagnosis. To compare the two groups, researchers created a dummy variable and performed a t-test comparing means. They found a relationship between marketing and competitiveness in SME companies (SME's) (Moreno-Gómez, et al, 2023). For this analysis, the MMGO tool was used, the method is easier to apply than other similar tools and it allows the companies to be classified into four previously validated stages. The analysis was applied to a significantly larger sample than in other studies with MMGO. Additionally, MMGO is a model adapted to Colombian cultural characteristics.

## Conclusions

The actions of SMEs are, on many occasions, the result of unpremeditated activities due to the scarcity of resources they face, which limits the time available for planning. The MMGO tool helps to make a diagnosis in aspects such as planning to design strategies that improve the relationship with the market.

Most of the time, MMGO methodology has been implemented as a diagnostic tool and to prepare an improvement plan for a single company (although a database has been integrated). In the present case, it was applied simultaneously to 87 companies, which illustrates the possibilities of using the tool with a greater scope and to analyze general trends.

The companies analyzed are in stage two (internal development) in marketing management, having passed stage one (survival). As it was established that strategic planning and innovation have influence on marketing management, if improvements are implemented in these two areas, one can move, in marketing management, to stage three (formalization) or four (external development), which is the highest.

No significant relationship was found between marketing management and several factors, such as organizational culture, production management, logistics and the environment. Not to say that they are not important factors, but they should not be a priority in a management plan if short-term changes in marketing management are to be achieved, as planning and innovation should be. This

is applicable, for example, in government, university or private programs. Innovation requires elements such as technological advances, processes and specifically dedicated personnel; planning to establish a vision and communicate it internally is required too.

Now, since results of the marketing management component revealed that entrepreneurs believe in their product and its benefits but have a vague understanding of market research and indicators in the marketing area, improvements should be oriented towards finding which benefits are perceived by customers; how the products meet their expectations and what changes they propose to be evaluated in the development area as an innovation. Thus, weak areas of marketing management are strengthened, while those that have adequate management are promoted and connected with innovation and planning. The focus of selling the product is transferred to the market's point of view. All of which leads to an improvement in the efficiency of each SME and, overall, to the strengthening of the economic sector to which it belongs.

Consumers and companies are linked in the same chain. Small and medium-sized companies can lead development, to the extent that they strengthen their solution capacity, especially oriented to the long term. According to the neo-Shumpeterian model, these efforts in innovation and knowledge not only improve marketing management, but they also strengthen the entire competitiveness of the company.

The main limitation of this study lies in the difficulty that the tool, which is extremely extensive, must be answered only by the general manager; these circumstances reduced the planned sample and prolonged the application time.

### Declaración de Conflictos de Interés

No declaran conflictos de interés.

### Contribución de autores

Autor	Concepto	Curación de datos	Análisis	Investigación/ metodología	Proyecto/ recursos y fondos	Supervisión	Escritura inicial	Redacción y edición final
1	x		x	x	x	x	x	
2		x	x					x

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