

## The impact of knowledge management on innovation for the development of tourism businesses in the Municipality of Caborca, Sonora

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### Abstract

The present study examines the measurement of the impact generated by the factor of knowledge management in innovation for the development of small tourism enterprises in the municipality of Caborca, Sonora. Research is quantitative, exploratory, descriptive type, with non-experimental design. The documentary and bibliographic technique was conducted to find the relationship between the variable dependent on innovation and the knowledge management as the independent in this study variable. We used a structured questionnaire as an instrument of measurement, which is applied by means of a census to 120 managers or entrepreneurs of small tourism businesses established in the municipality of Caborca, Sonora. Where you applied a statistical analysis that showed a positive and significant relationship between the factors of innovation with the knowledge management as independent variable, which allows asserting that knowledge management is a decisive factor for the development of tourism businesses of Caborca, Sonora.

### Development, Innovation, Knowledge Management, Small Tourism Businesses and Tourism

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## 1. Introduction

Competitiveness in the tourism sector requires a productive performance, that is, obtaining greater results with the same efforts and resources. Through the efficient and systematic use of tourism resources, to generate greater added value, wealth and well-being. This activity is capable of creating the necessary opportunities for regional and social development.

The world tourism organization (wto, 2013) defines tourism competitiveness as the capacity of a tourist destination to take advantage of its strengths efficiently. Influencing the benefits of companies, as it revalues their assets permanently. Where your employees get higher levels of wages and a better quality of life. Likewise, businessmen and authorities are optimistic about the quality of life of the local population, seeking their physical and social well-being. What brings as a result the attraction of new investments.

Thus, unwto (2013) considers competitiveness as the effectiveness of permanently attracting and satisfying its visitors. In addition to the political importance for countries that seek to make their tourism economies more competitive. The elements that determine the competitiveness of a tourist destination are: productivity, innovation, diversification, specialization, professionalization and sustainability.

Tourism is a dynamic sector with great potential for growth in the future, considering its importance as an engine of economic development for any region. The world tourism organization (wto, 2014), mentions that from 2000 to 2012 tourism grew at an average annual rate of 3.6% in the world, generating 9 points of the gross domestic product (gdp) worldwide, as well as the creation of one of every 10 jobs and participating with 6% of world exports.

The tourist activity in Mexico according to the federal tourism secretariat (sectur), generates an important economic impact, in comparison with other productive branches of the country. It is considered the third source of foreign currency in the country, generates 8.4% of gdp and more than 2.2 million jobs. Its multiplier effect benefits other economic activities related to tourism. It is also a support for the redistribution of income, since it prevents the accumulation of income that is concentrated in large populations and industrial centers. In addition to generating a demand derived in the various economic sectors of the country. (sectur, 2013).

Thanks to its transversal nature, it is a key factor for the development of any country, as a consequence of the derived demand and the multiplying effect it generates, benefiting other branches of the economy. In Mexico, tourism is linked to more than 50 economic activities, generating opportunities for micro, small and medium enterprises (msmes), creating, in turn, the productive chains with the highest added value for the country.

### 1.1 Justification

The importance of this research lies in the possibility that, based on this assessment, it will allow a categorization based on the impact of knowledge management, both in the design and in the implementation of a program for the development of tourism businesses based on an Innovation management model for the Municipality of Caborca, Sonora. The academic rigor of this research ensures that the results can be applied to similar development programs, both in the public and private sectors. That is to say, there is a possibility of appropriation of the methodology followed, this allows the desired link between the academy and the public, private and governmental sectors, resulting in a coordination that leads to the impact on sustainable regional development.

It also offers an alternative way of planning its long-term activities considering and aligning them with governmental plans, in such a way that it can have efficiency in the use of the resources involved, it will also be possible to determine the optimal way to work according to the chain of value that has been established to satisfy the requirements of the desired tourism market segments.

In order to have a better understanding of innovation and its relationship with economic development, it is necessary to know the innovative activities that provide the best results for companies in the tourism sector, as well as to understand how the independent variable of knowledge management affects capacity to innovate of said companies. Likewise, indicators will be provided to compare the results with other innovative activities in the sector, which serve as an input for further empirical analysis of innovation. In addition to the surveys that cover the topics of the tourism sector.

Knowledge Management helps to know the processes, products or services and the demand that a company has, in such a way that it is understood how it is formed. In addition to the exchange of current and potential knowledge of the operation of the company. Therefore, a knowledge management system increases the competitiveness and innovation capacity of companies. Innovation implies the use of new knowledge or a new use or its combination of current knowledge.

Knowledge can be generated by an innovative company or by external acquisition such as the purchase of technology, so companies need to carry out innovative efforts to use the new knowledge (Oslo Manual, 2006).

## 1.2 Problem

Small and medium-sized tourism companies (MSMEs) are unaware of what the innovation management process consists of and this is reflected in the incipient development of new products and processes compared to other sectors (Gallouj and Sundbo, 1998; Hjalager, 2002 Volo, 2004). International organizations such as the UNWTO (2002) or the OECD (2006), have encouraged small businesses and destinations to incorporate innovation as their competitive strategy, still do not understand the sources and patterns of innovative activity in tourism, what is indispensable for the development of better policies for their support (Monfort and Camisón, 2009). For this reason it is necessary to know if there is a relationship between knowledge management and innovation for the development of small tourism businesses in the municipality of Caborca, Sonora.

## 1.3 Hypothesis

In response to the problem raised, the hypothesis was established: "The factor of knowledge management has a positive relationship in innovation for the development of tourism businesses in the Municipality of Caborca, Sonora".

## 1.4 Objectives

In order to respond to the problem and planned hypothesis, the following objective was defined that would allow us to "analyze the relationship of knowledge management to know its impact on innovation for the development of tourism businesses in the Municipality of Caborca, Sonora".

### 1.4.2 Specific Objectives

To know if there is a relationship between the independent variable of knowledge management and innovation for the development of tourism businesses in the Municipality of Caborca, Sonora. Analyze the level of the relationship that exists between knowledge management and innovation for the development of tourism businesses in the Municipality of Caborca, Sonora. Know the reliability of the applied instrument to obtain reliable and valid information that allows to carry out innovative efforts to use the new knowledge.

## 2. Theoretical framework

Innovation, in more specific terms, involves the purpose of improving the competitive position of companies by incorporating new technologies and knowledge of different types. The innovation process thus consists of a series of activities not only scientific and technological, but also organizational, financial and commercial; actions that, potentially, transform the productive and commercial phases of the companies. The concept of innovation is not a new phenomenon; since it is part of the history of humanity itself. It has a deep root in the natural tendency to think about new and better ways of doing things, and the creative capacity that drives them and tries to carry them out in practice (Fagerberg, 2003, Rodríguez, Hoyos, Izaguirre and Molina, 2011, Del Rio, Cardona et al.2012).

The concept of innovation was initially described by Schumpeter in 1934 as the development of new products, new processes, new markets and new sources of raw materials, to form a new industrial organization and coined the term of creative destruction as the source of a new cycle economics in the economy and the relations of innovation with economic growth.

The existing literature emphasizes the differences between the economic approaches of industrial innovation (Freedman, 1991), research and development (R & D) and innovation (Arrow, 1962), the differences between industries (Pavitt, 1984) as well as the function of the capacities of innovation and learning (Cohen and Levinthal, 1990).

On the other hand, in an analysis of entrepreneurial mindset and innovation, researcher Stevenson mentions that innovating does not only mean creating a new product, since it can be innovated by forming a new organization or a new form of production or by carrying out a specific activity. (Castillo, 1999). The European Commission (2004) defines innovation as the renewal and expansion of a series of products or services and their complementary markets; as well as the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organization, working conditions and workforce skills. (Carvalho, & Costa, 2011).

The Oslo manual (2006) defines four types of innovation: goods, processes, organizational and marketing, without considering social innovations that are not market oriented, so Echeverría (2008), proposes to identify good innovation practices and that criteria are established to develop a system of social innovation indicators.

This same manual classifies innovation, according to the degree of modification it introduces on products or processes, in radical, improvement and incremental. This same classification is described by authors such as Damanpour (1996), Dewar and Dutton (1986); Ettlie, Bridges and O'Keefe (1984), and Gatignon, Tushman, Smith, & Anderson, (2002).

The Oslo Manual of the OECD (2006) which develops the procedures for obtaining and interpreting data on innovation and technological development. It establishes as growth factors of a region the development and diffusion of new technologies. This model indicates design as something essential for innovation. As well as the definition of the procedures, technical specifications and characteristics required for the conception, development, manufacture and marketing of new processes and products. The innovation could involve a new team, a new administration, organization and methods.

The development of the concept of innovation in the service sector has a key role to indicate the necessary factors in the success of organizations and allow them to be more competitive, which have been studied in both the empirical and the theoretical (Mejía y Arzola, 2007; Albornoz, 2009; Cárdenas, 2009; Coombs y Miles, 2000; Drejer, 2010). Small and medium-sized tourism companies (MSMEs) are unaware of what the innovation management process consists of and this is reflected in the incipient development of new products and processes compared to other sectors (Gallouj and Sundbo, 1998.

Hjalager, 2002 Volo, 2004). International organizations such as the UNWTO (2002) or the OECD (2006), have encouraged small businesses and destinations to incorporate innovation as their competitive strategy, still do not understand the sources and patterns of innovative activity in tourism, what is indispensable for the development of better policies for their support (Monfort and Camisón, 2009). Diaz, & Horrillo (2013), mention in their study that the growing importance of innovation is not reflected in the degree of development of tourism research, which is still scarce and recent (Hjalager, 2010, Peters and Pikkemaat, 2006).

Just as research on tourism innovation is incipient and scarce (Monfort, 2009, Hjalager, 2010), the studies are more focused on destinations, which are descriptive and based on application of territorial models of agglomeration and innovation systems, (Nordin, 2003, Prats et al., 2008, Sorensen, 2007, Jacob et al., 2008). The few studies at company level have a clear orientation towards technology (Alderbert et al., 2011) and / or have focused on the hotel sector (Camisón, 2000, COTEC, 2007, Martínez and Orfila-Sintes, 2009, Orfila- Sintes and Mattsson, 2009).

Even the debate on the conceptualization of tourism innovation is still open (Hjalager, 2010) and researchers highlight the emergence of deepening and adapting the approach to innovation to the peculiarities of the tourism sector, especially the non-technological characteristics, which refer to its roots with the territory, based on the company's relations with the agents of the destination (Vera, 1998, Longhi and Keeble, 2000) and the importance in the configuration and management of the tourist product (Rastrollo, 2002).

According to the Organization for Economic Cooperation and Development (Gurria, 2007), the innovation system includes the existence of research centers, universities and organizations that encourage and facilitate the adoption, adaptation and creation of new knowledge and forms of organization, production and marketing. Where access to tools and technologies that allow the distribution and processing of information and knowledge, constitute the medium for a knowledge-based economy. For Martin, Alama, Navas and López (2009), "the ability to innovate is critical to increase the value of the company, and therefore they assume it as part of their intellectual capital.

Starting from the intensive knowledge generated by the relationship between the consumer, the service and the organization, the creative capacity could result in new ways of developing, executing and consuming the service, that is, an innovation in services. Hence, the authors raise the need to create a model that explains the relationship between innovation and intangibles. Innovation is considered a strategic intangible asset in the theory of knowledge, it is also one of the intangible assets of intellectual capital and considered in the different measurement and management models. Where the link is carried out for the appropriation, use and sharing of knowledge by the company.

Knowledge management is another of the independent variables considered in the proposed model, which is understood as the art of transforming information and intangible assets into a constant value for clients and staff (PricewaterhouseCoopers, 1999) and for the OCDE is the management of intellectual capital, organizational competencies and human capital available in the organization. In the 1990s, the concept of Knowledge Management was described as the application of computer programs, as well as information and communication technologies (Wilson, 2002).

This same author mentions that there are few companies that have carried out the implementation of knowledge management in their organizations. Considering only 35% of 451 companies that were analyzed in a study in 2000 by the Bain Company, reaching only a 3.5 level of satisfaction on a scale of five points. In addition, it was found that knowledge management ranked 19th out of 25 factors considered most important in business management. In contrast to the 70% that used benchmarking and 80% strategic planning.

Currently there is acceptance among researchers that the factor of knowledge management can be considered as a strategy, management and innovation in organizations (Sveiby, 1990, Nonaka and Takeuchi, 1995, Von Krogh, Nonaka and Aben, 2001). The life cycle of knowledge is carried out by organizations in an accelerated way, because knowledge is explained through explicit knowledge, which can be codified and implicit or tacit knowledge, which can not be codified, but which can be found in the experience and skills of staff (Birkinshaw and Sheehan, 2002). So the success of companies in their learning will be according to how they transform the knowledge of human capital (tacit knowledge that people have) into explicit knowledge or structural capital (Sharma, Siddiqui, Sharma, Sing, Kumar, Kaushal and Banerjee, 2007).

Studies conducted by Gustavson and Harung, (1994) and Choueke and Armstrong (1998), observed that in a work group environment where experiences are shared, small businesses have greater learning and the ability to make changes, which offer the competitive advantages.

Like the analysis carried out in the small companies of England, where it was found that learning and knowledge orientation are more important for companies to survive and develop in the long term through the innovation of their strategies than the environmental aspects of their system (Penn, Ang'wa, Forster, Heydon y Richardson, 1998); (Salojarvi, Furu y Sveiby, 2005).

### 3. Methodology

The research carried out was quantitative, exploratory, descriptive, with a non-experimental design, in which the documentary technique was used to recognize the relationship between innovation as a dependent variable and the independent variables of knowledge management, as well as the bibliographic technique in the elaboration of the frame of reference and finally in the field technique a structured questionnaire was used, since according to Corbetta (2007) who considers that the questionnaire is the most used in quantitative research.

For the elaboration of the survey, the approach based on the "subject" that deals with the attitudes and innovative activities of the company as a whole was considered. This is prepared so that they are representative of each sector of activity such as tourism in this case and that can be comparable internationally. (Oslo Manual, 2005). The questions to the subjects to survey were standardized, which means that all the subjects are asked the same question formulated identically. The standardization of the stimulus is a fundamental characteristic of the sample survey, which allows the answers to be compared and analyzed with statistical techniques (Corbetta, 2007).

The objective of the instrument was to analyze whether there is a relationship between knowledge management and innovation for the development of tourism businesses, which was made known at the beginning of the questionnaire, as well as the purpose of measuring the perception of the entrepreneur and / or manager of the impact that the aforementioned factors have. The survey was prepared in four sections, which consisted of items related to the general information of the interviewee and his company; direct questions about knowledge of innovation in tourism businesses.

The third consisted in measuring the relationship of the variables; fourth and last consisted of four items to weight the relationships of processes, services, organization and marketing with each of the variables. The following Likert scale was used for each of the responses of the reagents used in the measurement of the dependent and independent variables, where one (1) is totally disagree; two (2) disagree; three (3) is Neither agree nor disagree; four (4) is in agreement and five (5) is totally in agreement.

Subsequently a validation of the instrument was carried out with experts of the subject and once the validation was obtained, a pilot test of the instrument was carried out to generate the corresponding analyzes that assure us that the results that were obtained have the corresponding reliability and validity.

The population considered was the total of the 120 companies providing tourism services for which a census was conducted to all tourism entrepreneurs in the hotel and restaurant industry, through a personal interview, as they can have an overview of the companies and handle the concepts of the variables.

Once the surveys were applied, the analysis of the collected data was carried out to determine its validity and reliability, proceeding to its tabulation, using the SPSS program for the analysis of the results such as reliability using the Cronbach's Alpha, matrix of correlations, the coefficients of collinearity and the summary of the model with the square R.

**4. Results**

In order to know the reliability of the information obtained, the Cronbach's Alpha was used, taking with the dependent variable Y: "Innovation" and as an independent variable the variable X1: "Knowledge Management", resulting in an Alpha of .78 for the dependent variable and a value of .92 for the independent variable, which indicates the reliability of the instrument. (Table 1. Reliability statistics)

	Cronbach's alpha
Innovation	0.78
Knowledge management	0.92

**Table 1** Reliability statistics  
*Source: Own elaboration*

For the measurement of the degree of relationship of the variables under study, an analysis of the correlation was performed to better understand the data obtained between the dependent variable Y: Innovation and the independent variable X1: Knowledge Management, also obtained a significance of 0.000, less than .01. Setting the probabilities that the reported correlations are due to chance in the form of random sampling error. Also indicating a linear and positive relationship with a correlation of .676 (Table 2. Correlations).

	INN	GC
Innovation	1	
Knowledge management	0.676**	1
** p<.01		

**Table 2** Correlations  
*Source: Own elaboration*

When analyzing the collinearity where there is a relationship between the two variables analyzed, a coefficient of collinearity VIF of 1,000 was found, which expresses a complete collinearity with a Beta value of .676 and a "t" value of 5.647 between the variable of Y: Innovation as a dependent and the variable X1:

Knowledge Management, as an independent variable (Table 3. Coefficients)

Model		Non standardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
		B	standard error	Beta			Tolerance	VIF
1	(Constant)	1.597	.283		5.647	.000		
	GESTIONC	.619	.062	.676	9.961	.000	1.000	1.000

a. Dependent variable: FINAL INNOVATION

**Table 3** Coefficients  
*Source: Own elaboration*

In the summary of the model, a square R of .676 was found, which indicates that the model is explained in 46%, with a level of significance of 0.000, indicating the certainty that the results obtained (Table 4. Summary of the model).

Model	R	square R	Standard error of the estimate	Change statistics			Sig. Change in F	Durbin-Watson
				Change in F	gl1	gl2		
1	.676	.457	.40594	99.219	1	118	.000	2.105

a. Predictors: (Constant), GESTIONC  
b. Dependent variable: FINAL INNOVATION

**Table 4** Summary of the model  
*Source: Own elaboration*

**5. Conclusions**

As a result of the analysis obtained, it can be confirmed that there is a significant relationship between the dependent variable Y: Innovation and the independent variable X1: Knowledge Management, for the development of small tourism businesses in the municipality of Caborca, Sonora. Therefore, the established hypothesis can be verified where: "The factor of knowledge management has a positive relationship in innovation for the development of tourism businesses in the Municipality of Caborca, Sonora."



It was also possible to achieve the objective of analyzing the level of impact existing in the relationship of knowledge management to know its relationship in innovation for the development of tourism businesses in the Municipality of Caborca, Sonora. This will help to know the processes, products or services and the demand that a company has, in such a way that it is understood how it is formed. In addition to the exchange of current and potential knowledge of the operation of the company.

It was also possible to obtain the reliability of the results with the analysis of the applied instrument, which will allow to carry out innovative efforts in a reliable way to use the new knowledge in the development of tourism businesses in the municipality of Caborca, Sonora. Allowing a categorization based on the impact of knowledge management, both in the design and in the implementation of a program for the development of tourism companies based on an innovation management model for the Municipality of Caborca, Sonora.

Therefore, it can be said that knowledge management is an important factor in the efforts that are planned in the development of tourism companies, as mentioned above, the relationship between innovation and intangible. Innovation is considered a strategic intangible asset in the theory of knowledge, it is also one of the intangible assets of intellectual capital and considered in the different measurement and management models. Where the link is carried out for the appropriation, use and sharing of knowledge by the company.

With the implementation of a knowledge management system, the competitiveness and innovation capacity of the companies can be increased.

Innovation implies the use of new knowledge or a new use or its combination of current knowledge. In the same way, the indicators will allow comparing the results with other innovative activities of the sector, which serve as an input for further empirical analysis of innovation.

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