Innovation as a Competitiveness Factor in SME'S Manufacturing Industry in Guadalajara, Mexico

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EXECUTIVE SUMMARY

Knowledge society organizations have developed into an area of major significance, such as customer relationship management in a context of rapid market transformation. The purpose of innovation is to efficiently enter areas of major significance in organizations, particularly in areas of operations. The present work is related to an analysis done with small and medium manufacturing companies in Guadalajara, Mexico. The methodological tool used was a questionnaire given to 418 organizations, all of them in Guadalajara and all SMEs. Also used was a statistical analysis using the Structural Equations Model (SEM) software EQS 6.1.

Keywords: Competitiveness, Innovation, Manufacturing Industry.

INTRODUCTION

One of the issues addressed in the research is innovation, which is one of the independent variables and is measured by two items, such as implementing changes and barriers to innovation. Its definition is given along with its factors and stats, like the situation in Mexico and Jalisco. To begin with, some theoretical discussions of the term are given.

The Global Innovation Index Report (INSEAD, 2013) places México on site 63/142 that is reflected in its competitiveness level, which is located on site 55/144, according to *The Global Competitiveness Report* 2013-2014 (WEF, 2014). Hence, the importance of identifying and promoting in a systematic way the major factors such as the relation between innovation and manufacturing to get more and new competitive advantages.

LITERATURE REVIEW

Today, innovation is considered by companies as a strategy to improve all departments, not just as something needed to survive. It is seen as a way to create future strengths that become competitive (Castellanos, 2003). Inside the innovation variable is a factor that measures the implementation of changes. Change refers to any situation where you leave behind certain structures, procedures and behaviors, to acquire others, to allow the organization or system to adapt to what is happening in the environment so as to be able to adapt to the context in which they find themselves and generate a persistence of efficacy and effectiveness when executing decisions.

Another factor within the construct is barrier to innovation. This can be a major obstacle for companies to generate and succeed. It is said that innovation is a mindset; a new way of thinking about strategies and practices for companies (Kuczmarski, 1997). Therefore, organizations must be prepared in all areas to accept and adapt to the best way.

Another dependent variable of this research is competitiveness, a term widely discussed and studied throughout history and with which we interact constantly, making it part of our lives. It helps us be successful in our lives. For companies, it is a way for them to get more benefits and be the best. They must compete to win the market. The meaning of the competitiveness of a company derives from its competitive advantage in methods of production and organization that is reflected in the price and better quality than their competitors' specific end product. It also reflects higher productivity and the ability to offer products with a higher value that rivals costs. Given this, it is summarized that competitiveness is associated with the competitiveness of individual companies, but also the competitiveness of enterprises, increased by the prevailing competitive environment in the industry (Romo & Abdel, 2005)

PROBLEM, HYPOTHESES AND RATIONALE OF THE STUDY

Small and medium enterprises in countries with low industrial development have serious limitations, such as inadequate infrastructure and scarce government supports, which hinder the implementation of innovation of marketing in small and medium enterprises. Further, several studies have established that the barriers to innovation among business organizations generally are associated with strategies, costs, human resources, marketing innovations and government policies (Baldwin & Lin, 2002; Mohen & Roller, 2005)

OBJECTIVE

Analyzing the existing relationship between innovation and competitiveness in SMEs in the manufacturing industry in Guadalajara City.

HYPOTHESE

- **H1:** The higher administrative capacity higher CRM
- **H2:** The higher innovation marketing higher CRM
- **H3:** The higher innovation higher level of competitiveness

ANALYSIS OF RESULTS

The results of the Confirmatory Factorial Analysis (CFA), presented in Table 1, show that the measurement model provides a good fit of the data. As evidence of the convergent validity, the CFA indicates that all items of the related factors are significant ($p<0.001$), which provides evidence of reliability and justifies the internal reliability and the internal reliability of the scale of business competitiveness (Nunally & Bernstein, 1994; Hair et al., 1995).

Table 1. Internal Consistency and Convergent Validity

Variable	Indicator	Factor loading	Robust t-Value	α of Cronbach	IFC	IVE
Implementing changes	AIC1	0.722	1.000	0.875	**0.586**	**1.751**
	AIC2	0.732	13.708			
	AIC3	0.739	13.848			
	AIC4	0.685	12.847			
	AIC5	0.708	13.276			
	AIC6	0.675	12.672			
	AIC7	0.687	12.879			
Barriers to innovation	AIB2	0.607	1.000*	0.910	**0.588**	**2.268**
	AIB3	0.677	11.075			
	AIB4	0.747	11.888			
	AIB6	0.748	11.899			
	AIB7	0.741	16.819			
	AIB8	0.717	11.551			
	AIB9	0.785	12.293			
	AIB10	0.713	11.500			
	AIB11	0.636	10.564			
Financial performance	FP1	0.780	1.000*	0.879	**0.757**	**1.454**
	FP2	0.905	20.571			
	FP3	0.891	20.191			
	FP4	0.829	18.388			
Costs	PC2	0.762	1.000*	0.808	**0.651**	**1.181**
	PC3	0.807	15.683			
	PC4	0.852	16.320			
	PC5	0.636	12.253			
Technology	TE1	0.781	1.000*	0.918	**0.698**	**1.914**
	TE2	0.832	18.098			
	TE3	0.831	18.073			
	TE4	0.831	18.072			
	TE5	0.754	16.015			
	TE6	0.811	17.530			

S-BX ^{2} (df 386=) =794.5364 ($p < 0.000$); NFI =.878 ; NNFI =.924 ; CFI =.933;

RMSEA = .046

* =Parameter constrained to this value in the identification process

*** = $p < 0.001$

With respect to the evidence of the discriminant validity, measurement of the scale of the business competitiveness level was through two ways. You can see in more details in Table 2. First, the range of 95% of confidentiality: none of the individual elements of the correlation factors matrix contains the value 1.0 (Anderson & Gerbing, 1988). Second, the variance extracted between each pair of factors is higher than its corresponding VEI (Fornell & Larcker, 1981). Therefore, reliability and convergent and discriminant. See Table 2.

Table 2. Discriminant Validity of the Theoretical Construct Measures

Variables	Implementing changes	Barriers to innovation	Financial performance	Costs	Technology
Implementing changes	**1.751**	-0.193	0.4280	0.487	-0.1710
Barriers to innovation	0.285, 0.101	**2.268**	0.1330	-0.198	0.2660
Financial performance	0.318, 0.538	0.284, 0.112	**1.454**	-0.046	0.3120
Costs	0.037, 0.229	0.130, 0.038	0.170, 0.362	**1.181**	0.2320
Technology	0.363, 0.611	0.275, 0.067	0.216, 0.408	0.124, 0.340	**1.170**

The hypotheses were tested in the theoretical model of innovation and business competitiveness, using the Structural Equations Model (SEM) software EQS 6.1 (Bentler, 2005, 2006; Brown, 2006.

The nomological validity of the theoretical model was analyzed through the performance of the chi-square test, in which the theoretical model was compared with the measurement model, not finding significant differences (Anderson & Gerbing 1988; Hatcher, 1994). The results of this analysis are presented in Table 3.

Table 3. Results of the Theoretical Model of Business Competitiveness

Hypothesis	Structural Relationship	Standardized Coefficient	Robust T Value	FITs
H1: Implementing changes, higher competitiveness.	Implementing changes → Competitiveness	0.658	11.320	$S\ BX^2$= 794.5364 df=386 p = 0.000
H2: A lower barrier to innovation, higher competitiveness.	Barriers to innovation → Competitivenesss	0.531	14.15	NFI =.878 NNFI =.924
H3: The higher innovation, higher level of competitiveness.	Innovation Competitiveness → Level of	0.553	21.350	CFI = .933 RMSEA =.046

*** = $p < 0.001$

CONCLUSSION

The primary focus of this study was the simultaneous effects of innovation on firm performance. This study suggests that innovation contributes to firm performance. The findings provide support for the proposed relationships between innovation and firm's superior performance. The results of the theoretical model have revealed that an effective increase in implementing changes and breaking down barriers to innovation support an increase in competitiveness. The influence of innovation on competitive organizations is crucial and relies especially on manufacturing innovations

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