

COMPETITIVE STRATEGY TO ACHIEVE ISO-9001 CERTIFICATION IN SMALL AND MEDIUM SUPPLY ENTERPRISES IN CIUDAD JUAREZ, CHIHUAHUA, MEXICO

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Abstract

Competitiveness is a predominant factor in today supply companies of the manufacturing industry. In this paper, the analysis shows that it took place in the region of Ciudad Juarez, Chihuahua, Mexico in SMEs. To that end, a search for competitive strategies proposed by different authors in the literature of the subject. Besides performing a critical analysis of quality requirements that the customer deems necessary in its suppliers through a questionnaire created through Kano model focused on customer satisfaction. As a result of research results in a business strategy focused on obtaining the certification in quality management systems in the ISO international standard for small and medium businesses in the city. Also the result of this work demonstrates the degree of importance of having a certification in quality management system in the selection of suppliers for manufacturing companies in the region.

Keywords: Competitiveness, Business Strategy, ISO, Quality Management

Introduction

Having a business strategy that helps small and medium enterprises to develop is a topic that has generated great concern at the increasing number of SMEs in Mexico. According to the last census conducted by the National Institute of Statistics and Geography (INEGI) in 2009 on micro, small and medium enterprises shows that these companies have grown 39.4% between 2003 and 2008. These numbers show the great opportunity that exists for these kinds of enterprises SMEs, to operate a competitive business strategy which results in having a certification in the international standard ISO.

A study by the company WSFB Business Center in February 2013 indicates that 80% out of 4 million micro, small and medium enterprises do not have any kind of certification and nearly 50% do not use techniques in quality or productivity. Also according to figures from the Center for Business Competitiveness Development, only 10% of Mexican SMEs reach ten years of life and achieve the expected success. In addition to these figures according to the Survey of Supply Chain Assessment in Mexico 2008, the average time to solve complaints handled by SMEs is 7.5 days, when the average international best practices is 1-3 days. These data indicate a current problem in small and medium enterprises that serve the maquiladora industry suppliers.

Yet another important fact which creates the need to investigate the importance generated to have a strategy that leads to certification in micro and small enterprises in Mexico is obtained from the 2009 Economic Census conducted by the Secretary of Economy showing that 80% of SMEs cease its activities in its second year of operations and one of the reasons is that they do not have a certification that allows them to be placed in the foreign market.⁶⁸

1. Definition of Strategy

Rocha (1999) defines strategy as a method of analysis that allows to know the general characteristics of a particular market and all the elements that come together for the purpose of gaining competitive advantage. We study the conditions of different market segments where it waged competitive struggle, and also the structure of competitive forces as suppliers, competitors, buyers, substitutes and potential competitors.

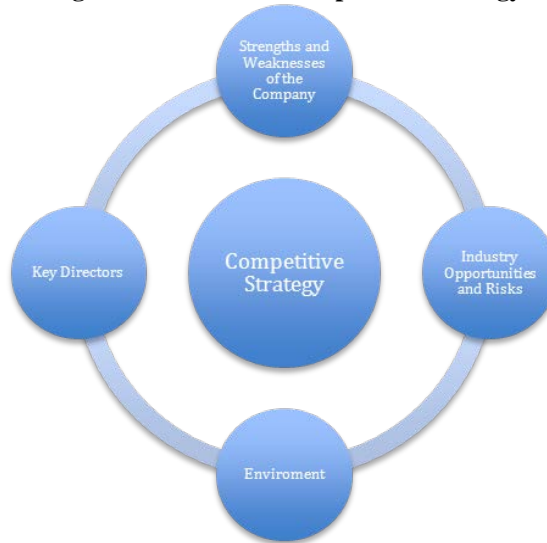
The business activity is carried out in a dynamic environment and a lot of changes strategy, analyze the factors that might influence the competitive environment, it is in function of time. The strategy has a lot of predictive exercise and exercising in a long-term horizon.

2. Factors of Competitive Strategy

The establishment of a competitive strategy has relation to four factors: two external and two internal. These are key factors for an optimal strategy for SMEs. There are different strategies for each firm size, which is why the manager has to take into account all the variables that are needed for the success of the business. The variables that need to be taken into account will be analyzed later. The factors for the establishment of a competitive strategy are shown below:

⁶⁸ "The importance of certifications for Mexican products". Competitiveness and Innovation Mexico-European Union.

Figure 1: Factors of Competitive Strategy



Source: Rocha (1999), Competitive strategy for business.

3. ISO Certification for Small and Medium Enterprises.

With the growing international market requires SMEs in Mexico reach ISO 9001, says Juan Carlos Gomez, who is a marketing manager in Mexico SAI Global. Small and medium enterprises must be certified to ISO 9001 to achieve new levels of development and quantitative and qualitative results with the incorporation of best practices in the globalized world. There is a false belief that the value of certification is very high, however, in an SME from one to ten employees the cost of quality management is one thousand dollars for a period of three years.⁶⁹

But certification is now a necessity that gives customers greater satisfaction and quality assurance in production processes, management and marketing.

Another author mentions that ISO 9001 certification adds credibility to their operation and guarantees that the company has its processes under the regulations (Mehmet & Emre, 2012). And also helps to reduce costs, open bridges with other markets and creates a competitive advantage for small and medium enterprises (Evangelos, 2010). And although certified SME base is small in comparison with other countries, such as Brazil which doubles the number of certifications, the growth potential in Mexico is great.⁷⁰

Now shown in Table 1, the different certifications that are applicable for SMEs in Mexico and are valid internationally.

⁶⁹ El Sol de México . (May 6, 2011). Required certify SMEs: SAI Global.

⁷⁰ Castro, 2007. “ *Advantages of ISO-9001 for SMEs*”,

Table 1: ISO Certifications

Certification	Accreditation Agency	Goal
ISO 10003:2007	ISO	It is a guide for an organization that helps plan, design, develop, operate, maintain and improve an effective and efficient dispute settlement process of complaints that have not been resolved to the organization.
ISO 9004:2009	ISO	Provides guidance to organizations to support the achievement of sustained success by focusing quality management. This is applicable to any organization, regardless of its size, type and activity.
ISO 9001:2008	ISO	Specifies requirements for a quality management system where an organization must demonstrate its ability to offer products that meet the needs and legal requirements, and aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and legal requirements.

Source: International Standard Organization. Shows the different certifications you can count on an SME.

The ISO is recognized as one of the best management practices and quality assurance companies to prove to anyone interested the reliability of the products and / or services offered by an organization (Demuner, 2009). Its use also guarantees the quality and increases the credibility and trust between client and provider, facilitating the integration of production chains (CONACYT, 2011).

There are various reasons that lead to handle a certification in small and medium enterprises. The market-related factors, customer service, efficiency as a starting point for quality improvement are all these motivating forces seek certification (Brown & van der Wiele, 1997).

Quazi and Padibjo (1998) found that certified SMEs in ISO-9000 in Singapore found a large number of benefits including: increased customer preference, improved image quality of the company, market competitiveness, according to customer requirements, and well documented established procedures and a vision founded on the pursuit of total quality management (TQM).

ISO-9001 Certification is based on four criteria represent the pillars of its structure (Demuner, 2009), these criteria are:

1. Responsibility for the direction: Top management shall provide evidence of its commitment to the development and implementation of quality management system, so as to ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction.

2. Resource Management: The organization shall determine and provide the necessary human and material resources.
3. Product realization The organization shall plan, develop, and monitor the processes needed for product realization, while respecting their coherence with the requirements of all system processes.
4. Measurement, analysis and improvement: Consider the planning and implementation of monitoring processes needed to demonstrate conformity of the product and the continuous improvement of the effectiveness of the quality management.

Finally there are 8 principles through which the system is based certification of quality management systems ISO 9000. These principles are:

1. Customer Focus
2. Leadership
3. Involvement of People
4. Process Approach
5. System Approach to Management
6. Continual Improvement
7. Factual Approach to Decision Making
8. Mutually Beneficial Supplier Relationships

These principles help companies understand more deeply what it means to implement a quality management system and certified, giving confidence to customers, its management system to get the results that companies in other countries have achieved.

4. Important Variables For Competitive Strategy

The variables that are considered important for the creation of a competitive strategy focused on small and medium enterprises that serve manufacturing suppliers of Ciudad Juarez, are obtained by applying a survey of the major organizations that are part of the manufacturing industry in Ciudad Juarez. The measuring instrument is obtained by using the Kano model for developing questionnaires on customer satisfaction.

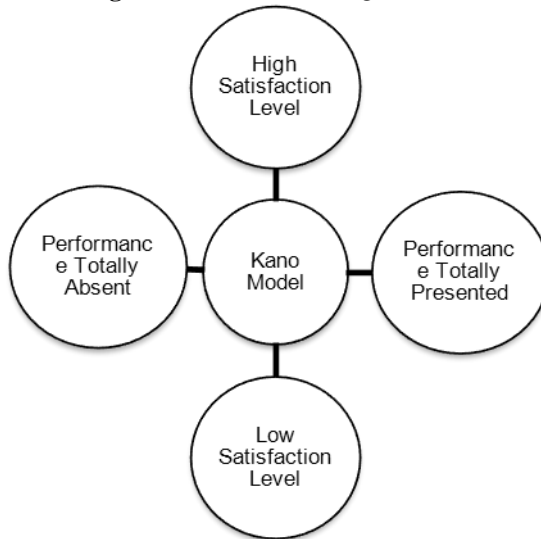
The steps for developing the questionnaire are:

1. Development of Questions
2. Validate the questions and make adjustments
3. Calculate the required sample size
4. Apply the questionnaire to stakeholders

The Kano model is useful for the interpretation of the "voice of the customer" in the subsequent processes of product development or implementation of services. Kano (1984) defines qualitatively the relationship between the attributes of the product or service with customer satisfaction and offers five types of attributes of the products and / or services: 1. - It must be, 2. - Unidimensional, 3. - Attractive, 4. - Indifferent,

5. opposite, as shown in Figure 2, which details the quadrants in which the model Kano is based.

Figure 2: Kano Model Quadrants



Source: Own, based on the Kano Model. Displays the quadrants that handles Kano model in which attributes must locate containing the product or service to be assessed to interpret the voice of the customer.

An attribute is considered to be "must be" if its absence produces absolute customer dissatisfaction but their presence does not increase satisfaction. A Unidimensional attribute is considered when compliance helps increase satisfaction and vice versa. Now an attribute is considered "attractive" if it leads to greater satisfaction was not expected to be within the product or service. Instead an attribute "indifferent" is listed as the attribute whose presence in the product or service contributes greatly to customer satisfaction. And finally an attribute is considered as "opposite" if its presence causes dissatisfaction and vice versa.

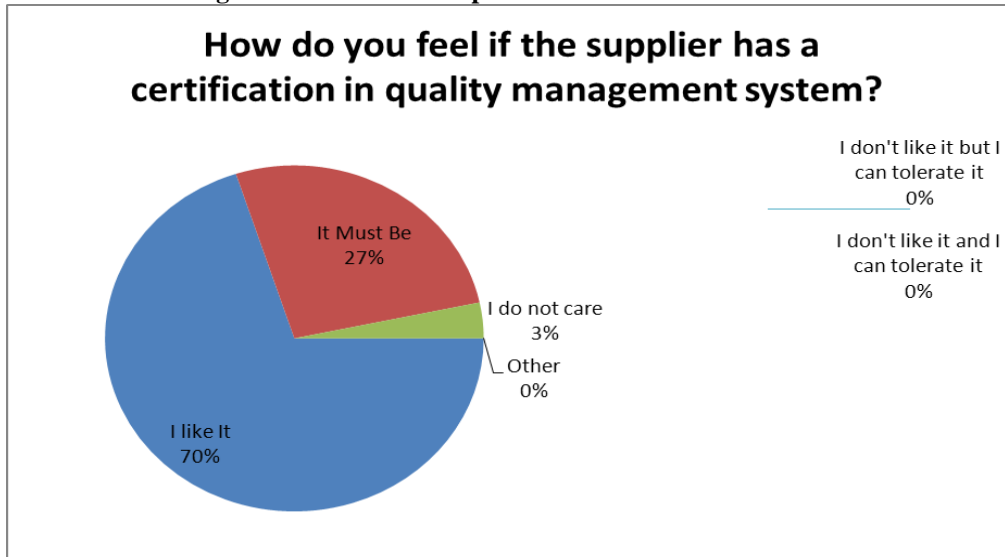
So for the integration of the customer's voice is meaningful within the company, it is important to: Keep attributes "must be", integrating a good number of unidimensional and attractive attributes, the attributes indifferent avoid as much as possible and avoid the opposite attributes.

These attributes, as well as the interpretation of the customer's voice, are obtained by implementing a questionnaire that includes the attributes that the product or service has to be evaluated. Each attribute in question includes a functional form (attribute or characteristic is in the product) or in a dysfunctional (attribute not found in the product).

Besides the 5 types of attributes listed above there is a type of attribute called questionable. This attribute type occurs when selecting a like or dislike of both functional and dysfunctional sides.

Figure 3 shows the results on the perception that businessmen are manufacturing in Ciudad Juarez on the certification of quality management system of its suppliers.

Figure 3: Business Perceptions About the Certification



Source: Own Elaboration based on survey results.

The results of the survey are shown in Table 2, where you can see the answers to questions in order to obtain the perceptions of employers and / or final customers.

Table 2: Results of the Survey

Variable	1	2	3	4	5
a) Time Deliveries	67%	33%			
b) Flexibility of Supplier				57%	43%
c) Product's Quality	73%	23%		4%	
d) Cost Reduction		3%	7%	43%	47%
e) Capacity			3%	43%	53%
f) Certification	70%	27%	3%		

Measurement: (1) I like it (2) it must be, (3) I do not care, (4) Dislike but tolerate it, (5) do not like and do not tolerate. (a) Response to Question How do you feel if the product is delivered on time and without delay?, (b) Response to Question How do you feel when a supplier does not have the flexibility to supply different products and varied when you need it?, (c) Response to Question How do you feel if the product you receive is of the desired quality and lasts long awaited?, (d) Response to Question How do you feel if the product cost to acquire greater compared to that of other suppliers?, (e) Response to Question How do you feel when a supplier can not offer higher product volumes you need in a short time?, (f) Response to the question: How do you feel if the supplier has a certification in quality

management system?. The respondents report a 67% on-time delivery is important for choosing a provider that flexibility can also be tolerated by customers but shows a dissatisfaction in general and shows that 43% of respondents see the lack of flexibility as a weakness to be eligible for your company's commissary, and finally according to the survey results 70% of companies perceive certification as a mandatory attribute with which the supplier must have.

Taking into account the results of the survey that was applied, variables are obtained that customers consider important in a company that is a manufacturing provider of Ciudad Juarez, Chih. Mexico. These variables are summarized in Table 3, which shows the classification that is given to each of them for the subsequent creation of competitive business strategy proposed by the present work.

Table 3: Classification of Variables

#	Requirement	Functional	Disfunctional	Classification
		Scale level chosen by majority	Scale level chosen by majority	
1	Time Deliveries	1	5	Mandatory
2	Flexibility of Supplier	4	1	Attractive
3	Product's Quality	1	5	Unidimensional
4	Cost Reduction	4 and 5	1 and 2	Attractive
5	Capacity	5	1	Unidimensional
6	Certification	1	4 and 5	Mandatory

Source: Own Elaboration. Displays the customer requirements considered important for good performance in the supply. The detailed classification if the attribute is considered attractive, giving dimensional mandatory or understand how dimensional attribute that causes the customer satisfaction increases and vice versa. Attractive attributes are what lead to increase customer satisfaction being that this attribute was not considered within the product or service. And finally the mandatory attributes are those whose absence increases customer dissatisfaction.

5. Business Strategy Proposal

As mentioned in previous paragraphs, it is important that small and medium enterprises to design a business strategy that will generate a competitive advantage in the market. That is why this research proposes a series of activities that the small and medium enterprise in manufacturing purveyance of Ciudad Juarez can be used to achieve certification of its quality management system to achieve a competitive advantage over other suppliers of the region.

The actions proposed to achieve certification combined with the variable that satisfies customer preferences, are shown below in Table 4.

Table 4: Business Strategy Proposal

Proposed Action	ISO Criterion	Variable/Requirement of Satisfied Customer
Identify Enterprise Processes	Generalities	Cost Reduction. Capacity
Establishing the relationship between each of the processes	Generalities	Product's Quality Flexibility
Create a quality policy	Documentation	Product's Quality Time Deliveries
Keeping track of operations and business critical data	Documentation	Capacity Cost Reduction
Develop and sign a management commitment to the shares of the company	Responsability for the direction	Flexibility
Meet the requirements of customers, communicate them and planning action	Responsability for the direction	Time Deliveries Cost Reduction Flexibility
Periodic review by the direction of the policies, objectives and quality system	Responsability for the direction	Product's Quality
Identify and provide the materials needed for the quality management	Resource Management	Cost Reduction Capacity Product's Quality
Train staff responsible for each of the processes	Resource Management	Flexibility Capacity Product's Quality
Formation of a working environment that encourages proactive practice	Resource Management	Product's Quality Cost Reduction
Describe each of the key process procedures	Product realization	Product's Quality
Customer Related Processes	Product realization Responsability for the direction	Product's Quality Flexibility
Implement a system for measuring customer satisfaction in each of the stages of the process	Measurement, analysis and improvement	Product's Quality Time Deliveries Cost Reduction
Create a system for tracking and correction of nonconformities product and / or service that the company provides	Measurement, analysis and improvement	Quality
Periodic monitoring of the quality management system	Measurement, analysis and improvement	Quality Cost Reduction

Source: Own Elaboration. It shows the strategy proposed by the research which makes a comparative central criteria of ISO-9001 certification.

Conclusion

Getting a certification in quality management system results in the generation of competitive advantage over other companies in the same industry within the market. Achieving certification is currently no easy task for entrepreneurs looking to excel and generate more profits within their

organizations, it is for this reason that you need to expand the study on what kind of strategies should take the small and medium enterprises in order to maximize their growth and allow an optimal development in the region of Ciudad Juarez.

To carry out the competitive strategy is necessary that small and medium enterprises engaged in activities that lead to a position in the market as organizations that show the quality of their products and services in compliance with certifications in their quality management systems. This in turn, lead to a better performance in the industrial sector.

The strategy that arises as a result of the research is based on four main criteria that manages the series of ISO 9000 certifications. Based on achieving them, is how to create a comprehensive strategy to help SMEs understand in a better way the certification besides creating a business strategy that manages to extend the company in the long run.

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