

## Validation of the proposal for continuous improvement for internal competitiveness of the Ecuadorian Medium and Small Companies



## Validación de la propuesta de mejora continua para la competitividad interna de las Pequeñas y Medianas Empresas ecuatorianas

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### ABSTRACT

Due to the importance of the consolidation of the microenterprise sector in Ecuador, given the high percentage of failed enterprises, this research was carried out with the objective of validating the proposal for continuous improvement for the internal competitiveness of Ecuadorian Small and Medium Enterprises, prepared by a group of researchers from the Metropolitan University, Machala extension, in search of its immediate application. For this purpose, the method of validation by expert judgment was used. The results were satisfactory for the application of the proposal according to the assessments of the experts consulted, who proposed to improve some of the actions.

**Keywords:** validation; experts; Ecuadorian microenterprise sector.

### RESUMEN

Por la importancia que reviste el tema de la consolidación del sector microempresarial en el Ecuador, debido al alto porcentaje de emprendimientos fallidos, se realizó esta investigación con el objetivo de validar la propuesta de mejora continua para la competitividad interna de las Pequeñas y Medianas Empresas ecuatorianas, confeccionada por un grupo de investigadores de la Universidad Metropolitana, extensión Machala, en busca de su inmediata aplicación. Para ello se recurrió al método de validación por criterio de expertos. Los resultados fueron satisfactorios para la aplicación de la propuesta según valoraciones de los expertos consultados, los que propusieron perfeccionar algunas de las acciones.

**Palabras claves:** validación; expertos; sector microempresarial ecuatoriano.

## INTRODUCTION

Valdés and Sánchez (2012) analyzed Small and Medium Enterprises in the global context and their particularities in Mexico, exposing the serious difficulties they present for their establishment and entrepreneurship, due to instability in terms of access to credit, among others.

For their part, Martínez and Clark (2015), in studying territorial development in Ecuador, agreed with previous authors that the Microenterprise Sector of Small and Medium Enterprises did not materialize in its entirety, despite representing a high percentage of enterprises in Ecuador, according to data from the latest census conducted by the National Institute of Statistics and Census in the province of El Oro (INEC, 2015).

The Economic Commission for Latin America and the Caribbean (ECLAC) organized a technical workshop on promoting financial inclusion through development banking innovation policies, as part of the ECLAC project "Financial Inclusion of Small and Medium-sized Enterprises and Development Bank Innovation Policies", which analyses the state of financial inclusion in some Latin American countries. Its final objective was to identify and promote the development of a wide range of financial instruments that would allow Development Banks to foster the financial inclusion of small and medium-sized enterprises, since these constitute an important segment of the economic actors of developing economies and particularly in Ecuador (ECLAC, 2016).

The number of small and micro enterprises is 97.9%. In this sense, the research on the competitiveness of the Small and Medium Enterprise sector is relevant, as it is an employment dynamizing agent and this situation is not alien to the context of

the province of El Oro, where 99.7% of enterprises are distributed in micro (89.5%), small (8.4%) and medium (1.8%) enterprises, according to INEC (2015).

Although there is a good practice manual for small and medium enterprise support programs from IDEA (2009), and Diaz (2010) referred to microenterprises in development and their perspectives in other development research, they have not been effective or are generally unknown.

According to research by Neira (2016) for the financial inclusion of small and medium enterprises in Ecuador, regional banks have played an important role in the implementation of products and services aimed at them, as well as in financing public and private banks to specifically serve this segment. However, there is a need for larger credit lines with longer terms.

For example, the Banco de Desarrollo del Ecuador (BDE) grants loans for public investment and social housing, investment and financial education. In 2017, the BDE granted resources to finance the sewerage project, wastewater and rainwater treatment, and infrastructure renovation (BDE B.P., 2017).

According to Luciani, Zambrano and González (2018), a proposal of actions for the continuous improvement of the competitiveness of Ecuadorian Small and Medium Enterprises, based on the model of Cárdenas and Fecci (2007), should contain eight groups with diverse actions oriented in this sense, namely:

### **Group 1. Actions aimed at company managers (owners)**

The aim of these actions is that managers (owners), through their own learning, are able to make all staff understand that the importance of quality orientation is a strategic choice, motivated and driven by management and that it will be established as a permanent policy.

a) The management of companies should set their vision, mission and establish their strategic objectives.

b) At the administrative level, the importance of the training of directors must be assumed as a factor to improve the competitiveness of their companies, through their participation in Management Support Programs and mainly in those oriented to Strategic Planning.

### **Group 2. Motivation-oriented actions**

Employee motivation is achieved by presenting, in a logical way, the relationship between total quality and people's job satisfaction.

a) Stimulate personal growth (esteem and self-fulfillment).

b) Improve hygiene in the work environment.

c) To motivate through participation, because in this way the creative potential of the personnel is taken advantage of.

d) Assign responsibilities and/or functions that are visible in charts and graphs.

e) Provide for a better organization of the work area.

f) Take care that positive positions are maintained in front of the problems, trying to motivate the group in the search for solutions.

g) Use criticism moderately and always to encourage work.

h) Establish a system of recognition and reward to reward personnel who qualify in a specialty.

### **Group 3. Actions aimed at encouraging Teamwork**

Team building is a process of planned and deliberate encouragement of effective working techniques, enabling the development of processes and relationships for positive change and improved performance. The work system of the companies facilitates the formation of teams, since there are dependency relationships between one operation and another. Teamwork seeks to improve the inputs and outputs of different processes (customer-supplier).

### **Group 4. Actions aimed at the training and qualification of personnel**

Companies have the need to train and educate staff in all areas and levels, this allows developing knowledge, skills and aptitudes, so that the organization is more efficient and competitive. The instruments that the company can use for the education and training of its personnel can be: talks and courses, didactic material, specialized technical literature, manuals and instructions, training in other areas, rotation of positions, expansion of positions, among others.

### **Group 5. Actions oriented to suppliers**

A successful process of continuous improvement must take into account the

participation of suppliers of inputs and raw materials. Any company looking for production lines that run without interruption and with reduced inventory must first find ways to ensure that purchases of materials arrive in a timely manner without affecting compliance with product delivery deadlines.

- a) Identify and qualify suppliers, considering quality, deliveries and costs.
- b) Predict the need for material and organize suppliers in delivery times.
- c) Ensure that the instructions on the order form are clear.
- d) Carry out joint activities with the suppliers, so that they provide technical information regarding the materials (characteristics and properties).

#### **Group 6. Actions aimed at waste management (environmental management)**

The objective of waste management is to define procedures and plan activities related to the treatment of waste, from its generation to its final disposal or disposal, in such a way as to safeguard people's health and minimize impacts on the environment.

- a) To carry out and/or participate in courses or talks referred to the importance of incorporating clean production practices, which allow the improvement of their processes and products in environmental and productive terms.
- b) It is proposed that companies present clean production projects.
- c) Establish a procedure and schedule to inspect incoming, stored or mixed

chemical compounds and designate areas for spill and cleaning plans.

#### **Group 7. Actions aimed at technological innovation**

Technological innovation is presented as a key factor to achieve higher levels of productivity, profitability and competitiveness, in this regard Small and Medium Enterprises must improve their financial capacity to invest in research and development, allowing them to close the gap in the level of incorporation of technology, with respect to large enterprises. To do so, they must:

- a) Acquire a new machine, instrument or equipment, make sure that the supplier contemplates training for operators, in addition to sufficient technical information.
- b) Implement a documentation base that includes, for example, manuals or catalogues of equipment, machines or instruments.
- c) Adapt or translate catalogs or manuals so that they are truly useful to the operators or managers.
- d) Access the instruments available for financing technological innovation.

e) Prefer legal software because it allows: access to technical manuals, warranty, technical support, training and free seminars offered by the brands.

#### **Group 8. Actions aimed at economic-commercial performance**

- a) Increase in sales and production.
- b) Increase in productivity: productivity is defined as the ratio between total costs

and units produced, i.e. total costs per unit of product.

c) Making investments: investments are seen as an indicator of the economic performance and dynamism of the enterprise and, at the same time, as an indicator of the awareness that enterprises have been acquiring with respect to the importance of quality.

d) Conduct management clinics: entrepreneurs should meet to discuss common problems, exchange experiences, support each other for negotiations, keep abreast of what is happening worldwide that may affect their companies, assess their position in the ranking, among others.

To make its application effective (according to the scientific problem: how can the proposal for continuous improvement in Ecuadorian Small and Medium Enterprises be effective for its application?), this must be validated, hence the main objective in this work is: to validate the proposal of actions for the continuous improvement of the internal competitiveness of Ecuadorian Small and Medium Enterprises. To this end, results of acceptance by the selected experts are expected.

## MATERIALS AND METHODS

Theoretical and empirical methods were used fundamentally.

The method of evaluation criteria through experts by peer comparison methodology is used as a strictly theoretical validation instrument, where the stages of the methodology described by Ramírez and Toledo (1999) are complemented. Elaboration of objectives:

The following objectives are evaluated:

1. Determine the measurement variables in the efficiency of the proposal of actions.
2. Identify indicators to determine the usefulness of the proposal in the development of Ecuadorian Small and Medium Enterprises.
3. Determine the relationship of environmental variables associated with the proposal.
4. Determine the percentage by which the level of importance of the proposal should be assessed for the municipal Decentralized Autonomous Government (DAG) at canton level.
5. Highlight the different results that are carried out during the research.
6. Selection of experts to identify the execution of public management for the development of Ecuadorian Small and Medium Enterprises and determine the variables that affect them.

## RESULTS AND DISCUSSION

### Validation by method of expert evaluation criteria

The study by experts was applied to evaluate the fulfillment of the first three objectives, as a method of structuring and support in the application of the variants of the proposal and validation of the research problem. Twenty-two experts linked to the public and private sectors were selected for their qualities: professional ethics, mastery, intuition and breadth of approach, for impartiality and independence of judgement at the time of

making their assessments (a prerequisite for obtaining the highest quality of results). Among these we have public entities of governmental direction: Municipal GAD (3); Parish GAD (4); Provincial Council of Machala (3); Ministry of Agriculture, Livestock and Fishing, Machala extension (2); programs linked to the state: National Plan for Good Living (3). As part of public training and research

entities: Universidad Metropolitana, extension Machala (4); Universidad Técnica de Machala (3). The estimates were considered for the importance and degree of knowledge and influence through their experience in the field of study creating, from the proposal, 16 variables contained in the eight differentiated groups (See table 1 below).

**Table 1.** - Summary of variables taken from the proposal by groups

<b>GROUPS</b>	<b>VARIABLES (type)</b>
1. Actions oriented to the administrators (owners) of the enterprises	Strategic direction (economic and management dimension)
	Directors' training (economic and management dimension).
2. Motivation-oriented actions	Attention to the employee (social dimension).
	Working conditions (social dimension).
3. Actions aimed at encouraging teamwork.	Teamwork (social dimension).
4. Actions aimed at training and qualifying personnel	Personnel training (social dimension).
5. Supplier-oriented actions	Optimization of suppliers (economic and management dimension)
6. Actions aimed at waste management (Environmental Management)	Adequate waste management (environmental dimension).
	Environmental education (environmental dimension).
	Clean production (environmental dimension).
7. Actions aimed at technological innovation	Technological renovation and computerization (economic and management dimension).
8. Actions oriented to economic-commercial performance	Diversifying products (economic and management dimension).
	Sales with quality (economic and management dimension).
	Making investments (economic and management dimension).
	Exchange with other businessmen (social dimension)
	Place in the positional ranking (social dimension)

Source: Own elaboration on the basis of the proposal

The selected experts have a high level of university qualification, of which 30 % PhDs in Science, 60 % MSc, and 10 % third level degree. Analyzing their experience and strategic link, with a high level of specialization in the topic of public management and commercial development, ratified by the follow-up they have had in the research: 75% of experience from 10 to 15 years, 25% with more than 15 years of experience, the experts consulted reflected a high competence coefficient, with an error of 2.5%. In order to carry out the experts' assessment, the competence coefficient was determined and 20 experts were selected from 22 proposals.

The variables of the economic dimensions refer to the determinants of the microentrepreneurial sector and of the microcommercial activity, it being noted that the average work experience was greater than 11 years, together with the high level of technical qualification.

Of the 22 experts consulted, two cases were discarded in this research, which means that, for the evaluation of experts, an error of 9% is made.

For the choice of the methodology, the peer-comparison methodology was used (Ramírez Urizarri & Toledo Fernández, 1999).

In the execution of the methodology to identify public management variables and

determine the importance for the development of microenterprises at the canton level, the following actions were carried out: consider as optimal the variables in which the value assigned by the expert was excellent and very good, showing the efficiency of the proposal through the variable at the time of applying it.

The variables were identified in workshops with experts in the field of commercial public management for the microenterprise sector of the canton, for an evaluation of criteria by experts. It was requested that they indicate with a cross in the box the economic, social, environmental dimensions that they consider as necessary elements to be taken into account in the proposal, which were evaluated from the design or instrumentation.

On the basis of these dimensions, scale levels were designed, whose order was 1= Excellent, 2= Good, 3= Regular, 4= Deficient, which allowed us to observe the times when the variables had the highest scores on the selection of the level of excellence. The values offered by the experts about the variables in the three dimensions were statistically processed using the SPSS software version 15.0 for Windows. Below, statistical position data are presented that were estimated to determine the variables of importance of the proposal (See table 2).

**Table 2.** - Data from the statistical variables analyzed by the experts

<b>DIMENSIONS</b>	<b>STATISTICAL VARIABLES</b>			
<b>ECONOMIC DIMENSION</b>	<b>MEAN</b>	<b>MEDIAN</b>	<b>MODE</b>	<b>Standard Deviation</b>
Strategic management	1,75	2,00	2	,444
Management training	1,70	2,00	2	,470
Supplier optimization	1,05	1,00	1	,224
Technological renovation and computerization	1,60	2,00	2	,503
Diversify products	1,60	2,00	2	,503
<b>SOCIAL DIMENSION</b>				
Employee care and working conditions	1,95	2,00	2	,224
Teamwork	1,35	1,00	1	,489
Positioning	1,35	1,00	1	,489
<b>ENVIRONMENTAL DIMENSION</b>				
Waste management and clean production	1,35	1,00	1	,489
Environmental education	1,00	1,00	1	,000

Source: Own elaboration

Taking into account the experts' assessment of the items, the median and mode were considered, demonstrating a level of coincidence in the three dimensions between mode and median; However, the economic dimension had high values, logical results because of the qualification of the experts and their direct relationship with their expertise in the field of development of the microenterprise sector.

If we observe in table 2 the frequency of the value of the score of each expert for each variable, it was obtained that the medians of the social and environmental dimensions coincided in their majority; therefore, the level of importance of the items in both dimensions is the same for the experts. However, the median level of the economic dimension was of greater

importance and should be determined and assessed for the efficiency and execution of the proposal.

The mode match parameters for the three dimensions were equal to one; that is, most of the variables are considered applicable to the proposal. All of this justifies the selection of the median. Therefore, the values obtained, as well as the relationship of each dimension, are useful for the criteria and decision making in the execution of said proposal.



### **Validation by peer comparison methodology of the proposal of actions for the development of Ecuadorian SMALL AND MEDIUM-SIZED ENTERPRISES.**

In the validation of the groups and actions for the implementation of the proposal, the experts gave their criteria to refine it. In order to carry out this evaluation, the 20 experts were considered and a table was prepared whose horizontal and vertical cells present evaluation parameters, which are determined in the expert's opinion, on the objectivity of the results. The following criteria were applied by the evaluators:

VA: Very Adequate.

QA: Quite Adequate.

A: Adequate.

PA: Poorly Adequate.

NA: Not at all adequate.

In order to answer whether some of the proposed groups and actions should be revalued or kept unchanged, the table of cumulative absolute frequency (fa) and cumulative relative frequency was elaborated, determining the cut-off points and values by the inverse of the normal curve. The quotient of the sum of the category number and the number of aspects was obtained. The cut-off points to determine the degree of adequacy of each group with its actions, according to the opinion of the experts consulted regarding them, is as follows:

Very Adequate: -0.68; Quite Adequate: -0.71; Adequate: 0.73; Poorly Adequate: 1.19

If you compare the difference (N-P) for each group and their actions with the points of this, it will be had:

**Table 3.** - Evaluation of experts by groups and actions of the proposal

<b>STEPS</b>	<b>CATEGORIES</b>
G1	Very Adequate
G2	Very Adequate
G3	Adequate
G4	Adequate
G5	Very Adequate
G6	Adequate
G7	Poorly Adequate
G8	Very Adequate

*Source:* Own elaboration based on expert judgement

As can be seen in table 3, only group 7 of the proposal, that is, the one related to actions oriented to technological innovation, was indicated as Poorly Adequate, which indicates that it should be reviewed.

### **Improvement of the proposal for actions on the basis of the experts' criteria**

The experts point out that group 7 should include actions related to social communication, marketing and promotion, such as website design, folding commercials, radio and television advertising, among others, with scope according to the budget available, hence it should be included. Some referred to the fact that in group 6: Actions oriented to waste management (Environmental Management), in spite of having been evaluated as Adequate, actions should appear to save water and electricity.

For the results presented in this validation, the proposal is suitable to be applied, being responsible for this work the municipal Decentralized Autonomous Government (GAD) and the parishes, with support from institutions, especially universities and others, such as: territorial delegations of the National Institute of Popular and Solidarity Economy, Ministry of Industry and Productivity, Coordinating Ministry of Production, Employment and Competitiveness and the Ministry of

Agriculture, Livestock, Aquaculture and Fisheries, as well as the owners of the companies themselves.

Groups 6 and 7, that is, actions oriented to waste management (Environmental Management) and actions oriented to technological innovation, respectively, should be perfected with the actions suggested by the experts.

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