

Proposal of an integral model for measuring productivity in a convenience store in Villahermosa, Tabasco

Propuesta de un modelo integral para la medición de la productividad en una tienda de conveniencia en Villahermosa, Tabasco

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Abstract

Nowadays, any company needs to be productive and competitive in order to function well, which signifies that productivity means doing the job in the best way, optimising the resources available to achieve the goals set within the company, and in turn is based on tangible and intangible factors. This project was based on measuring productivity in a grocery store in Villahermosa, Tabasco. For this purpose, a tool was developed to measure 8 basic criteria for creating and maintaining productivity, to be applied to each department of the store. We then developed a productivity improvement model to address these opportunities.

Resumen

Actualmente, toda empresa u organización para su buen funcionamiento debe ser productiva y competitiva, deduciendo así, que la productividad es hacer el trabajo de la mejor manera posible optimizando los recursos disponibles para lograr nuestras metas establecidas dentro de la organización u empresa y a su vez, se basa en factores tangibles e intangibles. El presente proyecto, se basó en medir la productividad de una tienda de conveniencia en la ciudad de Villahermosa, Tabasco. Para ello, se diseñó un instrumento de medición de 8 criterios fundamentales para la creación y permanencia de la productividad, siendo aplicado a cada departamento de la sucursal. Posteriormente, se creó un modelo de mejoramiento de la productividad para la empresa y así mejorar las áreas de oportunidad.

Productivity, Competitiveness, Instrument

Productividad, Competitividad, Instrumento

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Introduction

In current contexts, the study of productivity and competitiveness in organisations is a transcendental topic for their existence, being precisely the field of study of this research work.

Every company or organisation must be productive and competitive in order to function well, thus deducing that productivity means doing the work in the best possible way, optimising the available resources to achieve the goals established within the organisation or company and, in turn, it is based on tangible and intangible factors.

A company or organisation that does not have productivity is a company that does not generate quality, therefore, it will not meet all the attributes that the customer requires, in addition to innovating in the creation of products, services and processes, to generate a significant change and achieve commercial efficiency.

Similarly, competitiveness is a consequence of productivity, since, by being effective and efficient, consumer expectations will be met and will allow a company or organisation to maintain itself and achieve its objectives. Competitiveness depends on the continuous improvement of productivity over the long term.

To be a competitive company in the market, it is necessary to be willing to change, as it is known that the current globalised market will always be in constant change.

This project was based on measuring the productivity of a convenience store in the city of Villahermosa, Tabasco. To do this, a measurement instrument was designed with 8 fundamental criteria for the creation and permanence of productivity, being applied to each department of the branch.

Subsequently, a productivity improvement model was created for the company to improve the areas of opportunity.

Methodology

This section shows a comprehensive productivity measurement instrument that was used to obtain information regarding the progress achieved in the total convenience store scheme. For the relevance of the study, it was decided to divide the application of the instrument by departments, which were:

- Human resources
- Commercial area
- Operations management

It is expected to obtain real and unbiased results, considering the elements that generate productivity and focusing on the participation of human capital in order to improve in the necessary areas and achieve integral growth.

The instrument shown in tables 1-8, consists of 8 fundamental criteria for productivity which are described below:

- **CRITERION 1: CUSTOMER SATISFACTION.** This module examines the effectiveness of the systems in meeting, anticipating and exceeding the full requirements and needs of customers before, during and after service delivery, and how it builds and strengthens a comprehensive and positive relationship with its customers.
- **CRITERION 2: LEADERSHIP.** This module examines the role and direct involvement of top management as the main "leader" of the continuous improvement process towards Total Quality. It also looks at their vision and commitment in the way they design, inspire, implement and evaluate the culture, through staff involvement and long-term performance and projection.

- **CRITERION 3: PEOPLE DEVELOPMENT AND INTELLECTUAL CAPITAL MANAGEMENT.** This module examines the systems and practices the institution has in place to identify, stimulate and optimise staff potential; how it designs its jobs, work systems, compensation and recognition schemes; training systems, skills and attitude development; and the promotion of staff health, well-being, satisfaction and motivation, as well as Intellectual Capital Management.

- **CRITERION 4: INFORMATION AND TECHNOLOGY MANAGEMENT.** This module examines how data and information are designed, selected and managed, how their analysis and reliability are performed, and technology management.

- **CRITERION 5: STRATEGIC PLANNING.** This module examines the planning process and how you develop your strategies and define your strategic objectives to improve your overall performance and competitive position. It also looks at how it establishes and deploys, from strategic planning, its objectives and plans.

- **CRITERION 6: PROCESS MANAGEMENT AND IMPROVEMENT.** The fundamental elements of the Quality, Environmental Protection and Industrial Safety Management System are examined; the design, planning, control, improvement and standardisation of key and support processes and the way in which the institution evaluates and continuously improves them.

- **CRITERION 7: IMPACT ON SOCIETY.** This module examines how the organisation makes continuous improvement efforts in its physical, social or economic environment so that other institutions in its community develop their own Total Quality programmes.

- **CRITERION 8: RESULTS.** This module analyses the interrelationships between the institution's key indicators and the value created by the quality maturity of its processes and systems, staff and suppliers in the internal value chain and for its patients, sectors of influence and society in its social value chain.

The measurement instrument is shown below, focusing on the 8 criteria to be evaluated, which will be filled in by the researcher, indicating the percentage of progress made in each criterion. It is important to clarify that the percentage of progress is established through interviews with experts in each area and depending on the evidence shown in each criterion.

CRITERION 1: CUSTOMER SATISFACTION		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Do you have a method for obtaining up-to-date information and understanding the requirements and needs of your clients?					
2	Do you have programmes to empower staff in contact with customers?					
3	Do you have mechanisms for receiving and resolving customer non-conformities quickly and effectively?					
4	Do you have a system for determining customer satisfaction levels?					
5	Do you have indicators of the effectiveness and efficiency of your system in relation to customers?					
6	Do you have a benchmarking process to compare your system practices with other organisations?					
7	Do you have customer satisfaction system improvement cycles?					

Table 1 Comprehensive instrument for measuring productivity (Criterion 1)
Source: Own elaboration

CRITERION 2: LEADERSHIP		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Does it have a method for implementing the Quality System?					
2	Does it have mechanisms for top management involvement in the activities of the Quality process?					
3	Does it have quality principles and values in place, defined, updated, oriented and aligned?					
4	Does it assess the organisational culture and identify and address identified gaps in the desired culture?					
5	Does it have records of leadership performance results?					
6	Does it have mechanisms to encourage union participation in the Quality process?					
7	Do you have indicators of effectiveness and efficiency of your leadership practices?					
8	Do you have a benchmarking process to compare your leadership practices with other organisations?					

Table 2 Comprehensive productivity measurement tool (Criterion 2)
Source: Own elaboration

CRITERION 3: STAFF DEVELOPMENT AND INTELLECTUAL CAPITAL MANAGEMENT		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Does it have a method for implementing the Quality System?					
2	Does it have mechanisms for top management involvement in the activities of the Quality process?					
3	Does it have quality principles and values in place, defined, updated, oriented and aligned?					
4	Does it assess the organisational culture and identify and address identified gaps in the desired culture?					
5	Does it have records of leadership performance results?					
6	Does it have mechanisms to encourage union participation in the Quality process?					
7	Do you have indicators of effectiveness and efficiency of your leadership practices?					
8	Do you have a benchmarking process to compare your leadership practices with other organisations?					

Table 3 Comprehensive productivity measurement tool (Criterion 3)
Source: Own elaboration

CRITERION 4: INFORMATION AND TECHNOLOGY MANAGEMENT		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Do you have databases to plan, manage and evaluate your processes?					
2	Do you ensure the reliability, consistency, timeliness and updating of data and information?					
3	Do you consistently manage and analyse information and data including customer feedback?					
4	Do you have a method for managing technology?					
5	Do you have indicators of effectiveness to manage and improve your information and analysis and technology management systems?					
6	Do you have a benchmarking process to compare your information, analysis and technology systems with other organisations?					

Table 4 Comprehensive instrument for measuring productivity (Criterion 4)
Source: Own elaboration

CRITERION 5: STRATEGIC PLANNING		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Do you have a method for developing your strategic planning?					
2	Do you determine strengths, weaknesses, threats and areas of opportunity?					
3	Do you have mechanisms to ensure that the Mission and Vision are in place and shared by staff?					
4	Do you have identified the main strategic performance indicators of your institution?					
5	Do you have a methodology to deploy Strategic Planning in the operation?					
6	Do you have a methodology to carry out the referential process of Quality practices?					
7	Do you use efficiency and effectiveness indicators to improve your Strategic Planning System?					
8	Do you have improvement cycles for your Strategic Planning System?					

Table 5 Comprehensive productivity measurement tool (Criterion 5)
Source: Own elaboration

CRITERION 6: PROCESS MANAGEMENT AND IMPROVEMENT.		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Do you have a method for the analysis, development and improvement activities of your services?					
2	Do you have a Quality Management, Environmental Protection and Safety System?					
3	Are your Quality Management and Environmental Protection systems certified by a third party?					
4	Do you systematically apply the National Occupational Health and Safety Standard?					
5	Do you have methods for process improvement?					
6	Do you have effectiveness and efficiency indicators to improve your Quality, Environmental Protection and Safety Management Systems?					
7	Do you have a methodology for benchmarking your systems with other institutions?					
8	Do you have improvement cycles for your systems?					

Table 6 Comprehensive productivity measurement tool (Criterion 6)
Source: Own elaboration

CRITERION 7: IMPACT ON SOCIETY		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Does it have mechanisms to stimulate and facilitate the development of other companies and institutions in its area of influence in the Total Quality process?					
2	Does it use indicators of effectiveness and efficiency to manage and improve its system for promoting the culture of quality?					
3	Do you have a methodology for benchmarking your quality culture promotion system with other organisations?					
4	Do you have improvement cycles for the promotion of quality culture?					

Table 7 Comprehensive productivity measurement tool (Criterion 7)
Source: Own elaboration

CRITERION 8: RESULTS		Progress in %				
		20	40	60	80	100
SUBCRITERIA						
1	Do you have outcome indicators for your key and support processes?					
2	Do you have outcome indicators for profitability, performance, productivity and target achievement?					
3	Do you have outcome indicators that show the impact on growth, profitability, productivity, achievement of objectives and targets; derived from the systems of: Customer Satisfaction, Leadership, Staff Development and Intellectual Capital Management, Information and Technology Management					
4	Information and Technology Management, Strategic Planning, Process Management and Improvement, and Impact on Society.					
5	Do you analyse your comparative position with other institutions?					
6	Do you have properly documented favourable and unfavourable levels and trends over the last year? If so, please attach graphs for points 1, 2, 3 and 4.					

Table 8 Comprehensive productivity measurement tool (Criterion 8)
Source: Own elaboration

Results

After the application of the instrument in each department, the data were processed and the following results were obtained:

HUMAN RESOURCES	Percentage
Customer satisfaction	93%
Leadership	91%
Personnel development and intellectual capital management	89%
Information technology management	78%
Strategic planning	90%
Management and process improvement	93%
Impact on society	83%
Results	80%
	87%

Table 9 Results in percentage of the Human Resources area

Source: Own elaboration

With respect to table 9, in the area of human resources, there is a deficiency with respect to criterion 4 (information and technology management), where 78% of the answers to questions 5 and 6 indicate that there is no knowledge of the effectiveness indicators for managing and improving the information and analysis systems. However, it is worth noting that criterion 6 (management and improvement of processes) has 95%, which indicates that they have methods, analysis, development and improvement in their services, they have a quality management system, environmental protection and safety, safety standards and they have cycles of improvement in their systems.

COMMERCIAL AREA	Percentage
Customer satisfaction	84%
Leadership	91%
Personnel development and intellectual capital management	86%
Information technology management	87%
Strategic Planning	89%
Management and process improvement	89%
Impact on society	93%
Results	90%
	89%

Table 10 Results in percentage of the Commercial area

Source: Own elaboration

In the commercial area, criterion 1 (customer satisfaction) has 84%, which is the lowest percentage in the graph, which is why it indicates non-conformity, as the answers obtained in questions 3, 4, 5 and 6 did not show knowledge about the mechanisms for receiving and resolving customer non-conformities quickly and effectively, nor about levels of satisfaction, indicators of effectiveness and efficiency, nor a reference process for comparison with other organisations.

It is important to highlight that in criteria 2 and 7 (leadership and impact on society) they show that they know and apply a good method of quality systems, as well as the participation of top management in the activities of the same, the principles and values of quality are in force and defined, and highlight that they have indicators of effectiveness in their leadership practices, as well as a referential process to compare their practices with other organisations.

OPERATIONS MANAGEMENT	Percentage
Customer satisfaction	91%
Leadership	94%
Personnel development and intellectual capital management	84%
Information technology management	87%
Strategic planning	90%
Management and process improvement	95%
Impact on society	90%
Results	88%
	90%

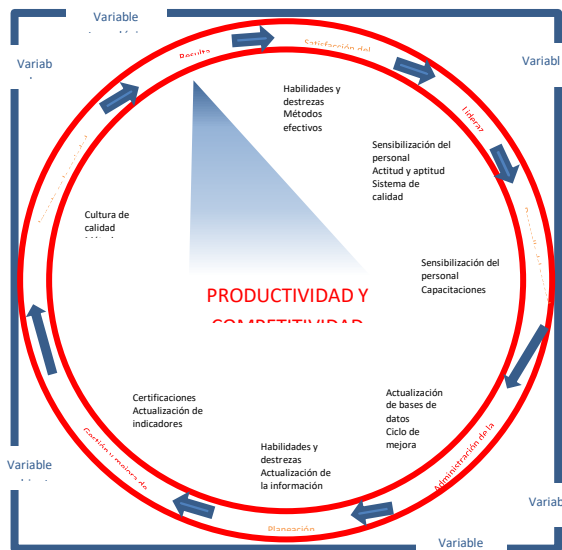
Table 11 results in percentage of the Operations Management area

Source: Own elaboration

As can be seen in table 11, which belongs to the area of operations management, we observe that in criterion 7 (impact on society), which corresponds to 80% and is the lowest of the criteria evaluated in this area, it is mainly due to the fact that the way in which the organisation makes continuous improvement efforts in its social, physical and economic environment to help other organisations develop their own quality programmes is neutral, they have improvement cycles for the promotion of quality culture without updating, which means that their environment does not develop in an efficient manner. However, in criterion 6 (management and improvement of processes), with 95%, the fundamental elements of the Quality Management, Environmental Protection and Industrial Safety System stand out, where they have efficient methods for analysis, development and improvement of services, as well as certifications of their Quality Management and Environmental Protection System, indicators of effectiveness and efficiency for the improvement of this system and improvement cycles.

Improvement proposal

The following is a graphic representation logically ordered according to the results obtained from the application of the integral productivity measurement instrument to the respective areas of the organisation, with this information it was possible to determine the structure of the productivity model:



When analysing the results obtained from the self-diagnostic instrument through the integral productivity measurement model, it was possible to identify some deficiencies in the convenience store and according to the organisation's personnel, it refers to the management of information and technology where there are some opportunities for improvement such as updating information in the databases to plan, manage and evaluate processes, consistent analysis of information and data, including customer feedback. This analysis can provide the organisation with opportunities for improvement.

Having knowledge about the current situation of the organisation, we started with the sensitisation of the staff to motivate and work in synergy, as it is difficult for staff without sensitisation to undergo training.

Proposing to the organisation to develop skills and abilities is of great benefit, as if this aspect is exploited in an adequate way, an active participation can be achieved when making a significant change within the company, in addition the personnel can develop the aptitudes and capacities for a good leadership.

A database update is proposed to the organisation for optimal information management, updating information in the databases, efficient improvement cycles, measurement indicators, for a noticeable improvement in the areas of the company.

Around this, there are also the six variables of the context that must be taken into account, as well as the projection that they have, since they have a direct or indirect impact on the organisation.

Conclusions

In the present project a productivity improvement model was proposed for a convenience store in Villahermosa, Tabasco, this model will help the company to improve the areas that were low in productivity of the areas analysed through the measurement instrument based on 8 criteria, with which we were able to measure 3 areas (Human Resources, Commercial Area and General Management).

The model is adaptive and flexible to the variables of the context and with important elements to be useful in the context that is used, in this way, the study guides the company towards productivity and in the same way, aims to boost competitiveness to achieve a successful position in the current market.

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