

## Study of high specialty hospitals of the private sector in the city of Villahermosa, Tabasco, for the generation of a development model of the productivity

### Estudio de los hospitales de alta especialidad del sector privado en la ciudad de Villahermosa, Tabasco, para la generación de un modelo de desarrollo de la productividad

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#### Abstract

Productivity is fundamental for today's organizations, not only for transformation organizations, but also for those that provide services. This is the case of the present investigation that focuses specifically on the study of the health sector taking as reference the High Specialty Hospitals of the private sector, in the city of Villahermosa, Tabasco. The research is carried out through a systemic and comprehensive approach, considering both internal and external elements that affect productivity, therefore, ten elements have been established that include current priority aspects to achieve productivity and therefore the quality of organizations. It should be noted that the compilation according to the information contained in the aforementioned elements is taken directly from the experts linked to the study context. It is important to note that the participation of the leaders in the self-assessment is of great importance to have a comprehensive outline of the organization's scenario. In the present investigation different strategies were managed to achieve real participation.

**Objectives, Methodology, Contribution, Productivity, Hospitals, Comprehensive approach**

#### Resumen

La productividad es fundamental para las organizaciones actuales, no sólo para las de transformación, sino también para las que brindan servicios. Este es el caso de la presente investigación que se centra específicamente en el estudio del sector salud tomando como referencia a los Hospitales de alta Especialidad del sector privado, en la ciudad de Villahermosa, Tabasco. La investigación se lleva a cabo a través de un enfoque sistémico e integral, considerando los elementos tanto internos como externos que inciden en la productividad, por lo tanto, se han establecido diez elementos que engloban aspectos actualmente prioritarios para lograr la productividad y por ende la calidad de las organizaciones. Cabe señalar que la recopilación de acuerdo a la información contenida en los elementos antes señalados es tomada directamente de los expertos vinculados con el contexto de estudio. Es importante señalar que la participación de los líderes en el autodiagnóstico es de gran importancia para tener un esquema integral del escenario de la organización. En la presente investigación se manejaron diferentes estrategias para lograr una participación real.

**Objetivos, Metodología, Contribución, Productividad, Hospitales, Enfoque integral**

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## Introduction

The productivity is of great importance for the good operation in the organizations since it is required to realize the established processes with efficiency and effectiveness, taking advantage of in the best possible way the available resources. That is why the General Hospitals of Villahermosa Tabasco must maintain a continuous improvement in their processes, to provide a quality service to the community.

In order for the service in the hospitals of Villahermosa to be adequate, full attention must be given to the right-holder (user), however, that need is not met and even the workers show disagreement since they do not have the necessary budget to invest in maintenance, updated equipment, medicines or food suitable for the right holder. Patients, relatives, nurses and doctors admit that, in these hospitals, some new or recently remodeled, there are no medicines and there are no doctors and sometimes no nurses. (Contreras S. J, 2015 mayo 05).

Because of this, several studies have been carried out since previous years related to the measurement of productivity for the implementation of improvement strategies.

Within these studies focused on general hospitals in Villahermosa, we can highlight the research carried out by the Engineers: Aguirre Manzo, Castro Ramón and Cruz González (February, 2009) of the Villahermosa Technological Institute, called "Model of improvement of productivity for Quality management "applied in the High Specialty Hospital Gustavo A. Rovirosa Pérez. The research contemplates a proposed model, which is based on forming intellectual capital and following the established programs.

In 2014, different hospitals implemented improvement projects and programs such as awareness-raising and training to strengthen workers in terms of quality under a technical, operational and human approach. In order to improve the attention processes, some strategies were modified and new ones were applied, for example: "Together we build quality" that is based on the development of the culture of quality in the services and on improving the waiting times of the users. (Secretaria de Gobierno, 2014 mayo 26).

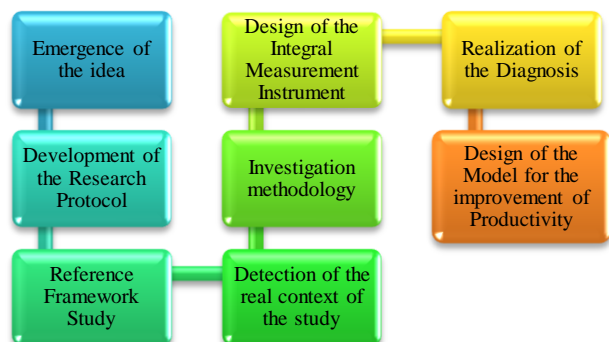
In 2014, the Women's Hospital was the unit with the highest productivity in the state, which is why in June 2015 the state government invested in highly specialized medical equipment in order to improve the service of all general hospitals, Community and regional governments, giving better attention to users, leaving behind the hospital crisis. (Palmas R., 2015).

One of the modifications that was made in January 2016 at the State level, was to analyze the objectives that the health sector has directly related to the officials of each general hospital and the Secretary of Health, Rafael Gerardo Arroyo Yábar, declared before the jurisdictional heads and the directors of hospitals of high specialty, general that in the state dependency there must be public officials who serve the population and not that they are to be served in a personal way. (Gobierno de Tabasco, 2016 enero 12).

## Methodology

The present investigation is subjective - quantitative, since an integral instrument is used for the measurement of the productivity in which each owner of the process at his discretion and by means of information that backs it must choose what percentage of qualification has each sub-element of the different elements that make up the instrument, this is where from the subjective to the quantitative, these percentages are represented in graphs which show the situation of the general hospital just as much is its productivity. In the first instance we proceed to the detection of factors for such use the storm or brainstorming.

In this stage the description of the methodology for the development of the present investigation is placed, considering the work of a systemic way and with a logical order to reach the objective of the investigation. For which the following figure is presented:



**Figure 1** General outline of the methodology for the investigation.

Source: Researcher contribution

For the study of Productivity in the General Hospitals of Villahermosa, because of the hospitals that meet the characteristics established in the study, a representative sample was taken, and since there are few elements of the population and the sample complies with the specific description necessary for the research and the contribution that was intended to provide in the present work, three general hospitals of high specialty were studied.

These Hospitals, have the characteristic of being High Specialty so they maintain a continuous operation 24 hours a day, 365 days a year; They have clinical and surgical procedures, involving professionals from different disciplines, with specialized knowledge and a high degree of skill, who use special spaces, equipment and high technology to do so, which should not fail at the moment they are required.

**Results**

An Integral Instrument for the Measurement of Productivity (IIMP) was used to generate the diagnosis, to the Hospitals of high specialty which is composed of 10 elements and each element has sub-elements, designed to obtain information relative to the advances reached in the Integral scheme of the organization.

The evaluation was applied to each leader of each area of the Hospitals, since they know in detail the processes they perform.

The results will give us an integral panorama, and will show if it is working in team under a systemic approach, for the achievement of the established objectives. In order to create solution proposals that help the growth and considerable improvement of the hospital service.

The objective of the Integral Measurement Instrument is to obtain information that will show a 360 ° scenario, related to productivity progress.

The results obtained were used as self-diagnosis and thus, identify the red centers that impact hospitals, with the aim of taking corrective or preventive actions, by controlling the processes.

Instrument: (first element example)

Element 1: Measurements related to the User.

*Objective:* Know all the aspects related to the Right Holder and that impact on the processes of the Hospital.

DESCRIPTION OF THE SUBELEMENTS	PROGRESS IN PERCENTAGE									
	10	20	30	40	50	60	70	80	90	100
1 Does the Hospital reveal to which sector of the population it is directed?										
2 Does the client know the market to which his organization is directed?										
3 Who are your potential customers?										
4 Does the Hospital carry out activities to meet its patients?										
5 Do you know the needs of patients?										
6 Do they have any parameter that measures the satisfaction of their patients, after their occupation?										
7 Is the satisfaction of the service of quality to the degree that the user returns to use it?										
8 Do you have any method that evaluated the quality of the services offered to the patient?										
9 How do you identify opportunities for improvement?										
10 Are there indicators that show opportunities for improvement?										
11 Do you have a procedure manual that ensures the quality of patient service?										
12 Do they objectively assess the perception of their patients?										

**Table 1** Development of element 1

Source: Researchers contribution

In the same way the other nine elements are described, considering the relevant information for each one of them, only mentioned below:

Element 2: Measurements and / or performance of the process.

Element 3: Partnerships with suppliers.

Element 4: Structuring and management of documentation.

Element 5: Training for the development of skills and abilities.

Element 6: Benchmarking Process (Benchmarking)

Element 7: Process adaptability.

Element 8: Evolution of human resources.

Element 9: Evolution of the managerial level.

Element 10: Scheme of continuous improvement.

At the end of the application of the instrument to each manager results were obtained which give an overview of the scenario according to the current situation in which the hospital private sector is, making a measurement analysis within a range of 10 to 100 percent. This weighting will outline the percentage of progress of each element, which is the average of the sub-elements that make up.

With the results obtained from the application of the instrument, it will be possible to establish a measure of the general productivity of the sector, as well as the identification of the classification to which it belongs as an industry.

The levels, ranges and classifications that reach the systems that are subjected to the measurement of their productivity with the support of this instrument are mentioned below:

10%-30% Incipient

40% -50% Initial

60% -80% Development

90% - 100% Approach found with productivity

For better interpretation of the data are shown in the table and corresponding graphs, establishing the percentages of weighting evaluated.

Áreas	Hospital one	Hospital two	Hospital three
Nutrition	68	74	50
Imaging	65	88	56
Warehouse and Pharmacy	73	80	71
Billing	68	89	67
Admission	72	78	75
Systems	75	76	68
Laboratory	82	84	83
Human Resources	85	60	80
Quality	90	71	90
Purchases and Payments	85	66	83
Nursing	81	89	87
Maintenance and Service	83	66	82
Commercialization	79	86	78
Administrative Management	73	73	70
Medical Subdirection	81	62	82
Commercial address	92	58	93
<b>Average:</b>	<b>78.3</b>	<b>75</b>	<b>75.9</b>

**Table 2** General information by area  
Source: Three institutions evaluated

The average obtained by each hospital falls within the range of the status in development, so it is inferred that the status of the sample mean of the hospital private sector of the city of Villahermosa is classified as a developing industry in that context.

It is worth mentioning that, of the areas of the private hospital sector, the most strengthened with an average of 86% is the Nursing department, which indicates that it is a strong point of the industry studied.

However, the area of Nutrition with an average advance of 64%, is the department with the most deficiencies within the industry, for which it will have to focus with greater insistence the same in order to strengthen said department / aspect within the sector.

#### Measurement by elements

On the other hand, an analysis of the context studied from the elements approach was done in the same way, obtaining the results shown in table 3 below.

Elements	Hospital one	Hospital two	Hospital three
1 User	76	70	68
2 Measurements and / or process performance	69	70	67
3 Partnerships with suppliers	78	71	77
4 Structuring and management of documentation	78	73	75
5 Training for the development of skills and abilities	79	74	81
6 Benchmarking process	76	66	73
7 Process adaptability	86	67	92
8 Evolution of the Human Resource	71	72	66
9 Evolution of the managerial level	84	72	82
10 Scheme of continuous improvement	82	72	80
<b>Average:</b>	<b>78</b>	<b>71</b>	<b>76</b>

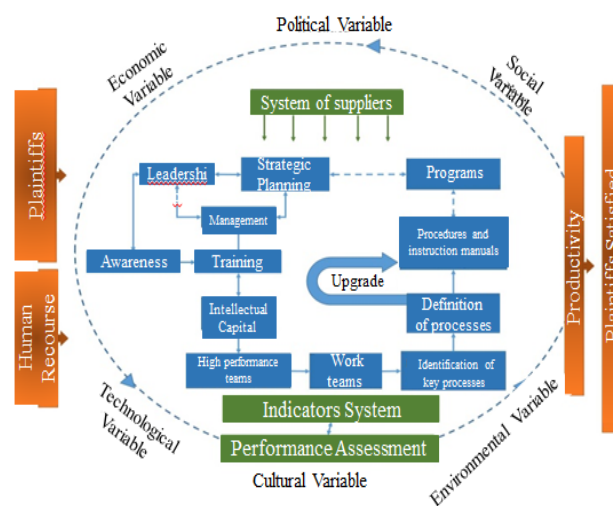
**Table 3** General information by element  
Source: Three institutions evaluated

Based on what is observed in Table 2, it is concluded that the sector from the perspective by elements reaches a sample average of 75% of progress in productivity, positioning itself at **Development** level, being the key element of the sector, according to the results obtained, item number 7 with an average of 82% advance.

On the other hand the most deficient element of the sector resulted in number 2, measurements and / or performance of processes with a mean sample of 69%, despite being within the development range, it is relevant to pay attention to this element to strengthen it and not become in the future in a weakness for the industry.

### Contribution

With a 75% result in the Integral measurement, high-specialty hospitals have a development, in matters of productivity although there are many details within each hospital, because they follow a pattern of carrying out the activities without knowing what is that they perform, it has worked for them, but they are completely unaware of the names of the processes, their variety is very changeable within the clinics, by maintaining a strict and rigid discipline, by managing monthly evaluation programs, by collaborator and maintaining a scheme of compliance with each of the aspects that hospitals demand.



**Figure 2** Model for the improvement of the integral productivity for the general hospitals of high specialty in the City of Villahermosa, Tabasco  
Source: Researchers contribution (2017)

### Conclusion

The proposed model clearly presents a strategy of continuous improvement, which starts from four basic concepts to provide quality in the service and therefore, achieve productivity. The first step is the **strategic planning** of all the processes, tasks, and activities of the Hospitals, then, you must "do" executing the planned actions, then **verify** checking the results and drawing conclusions, finally **acts** based on the results obtained, making the relevant changes to avoid incurring the same errors.

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Therefore, the following model is proposed for

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