




Individual public passenger transportation service for continuous improvement

Servicio de transporte público individual de pasajeros para una mejora continua

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Abstract

The world is changing rapidly due to factors such as globalization, the pandemic and high inflation, which affects both large companies and microentrepreneurs. In Tabasco, the taxi sector faces low productivity and greater demands due to the new mobility law and unfair competition. The objective of this research is to improve productivity in this sector. According to V.E.G.A. (2017), transportation is crucial for economic development, generating jobs and improving quality of life. The transportation union in Tabasco has 8 decades of experience and has competent human talent. Even so, it is necessary to measure and improve strategic management. Productivity is defined as the sum of efficiency (optimization of resources) and effectiveness (achievement of objectives and adaptation to the environment). The aim is to promote good labor practices and develop proposals that maximize economic benefits and improve the reputation of the sector.



Productivity, Mobility, Taxis

Resumen

El mundo está cambiando rápidamente debido a factores como la globalización, la pandemia y la alta inflación, lo que afecta tanto a grandes empresas como a microempresarios. En Tabasco, el sector de taxis enfrenta baja productividad y mayores exigencias debido a la nueva ley de movilidad y la competencia desleal. El objetivo de esta investigación es mejorar la productividad en este sector. Según V.E.G.A. (2017), el transporte es crucial para el desarrollo económico, generando empleos y mejorando la calidad de vida. El gremio del transporte en Tabasco, cuenta con 8 décadas de experiencia y dispone de talento humano competente. Aun así es necesario medir y mejorar la gestión estratégica. La productividad se define como la suma de eficiencia (optimización de recursos) y eficacia (logro de objetivos y adaptación al entorno). Se busca fomentar buenas prácticas laborales y desarrollar propuestas que maximicen beneficios económicos y mejoren la reputación del sector.



Productividad, Movilidad, Taxis

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Peer review under the responsibility of the Scientific Committee **MARVID**[®] - in the contribution to the scientific, technological and innovation **Peer Review Process** through the training of Human Resources for the continuity in the Critical Analysis of International Research.



Introduction

The world is changing at a rapid pace, affecting both large companies and micro-entrepreneurs. Factors such as globalization, pandemics and high global economic inflation have had a significant impact on various sectors, including public transport in the form of taxis. In Tabasco, this sector faces new demands due to the implementation of the new Mobility Law, which is framed by the right to mobility and the United Nations 2030 Agenda for Sustainable Development. In addition, unfair competition and constant changes in the environment have affected their productivity.

The objective of this research is to determine to what extent productivity can be improved in this sector. According to V.E.G.A. (2017), "Transport is fundamental to the economic development of cities. It creates employment opportunities, enables social interaction, lowers costs, raises productivity and increases people's quality of life. It contributes to an efficient and competitive transport system". Currently, public transport generates both direct and indirect employment, which contributes significantly to the development of the state of Tabasco.

The aim is to measure performance in the management of strategies and improve the productivity of public transport in the taxi mode, as well as to propose a comprehensive model for measuring productivity. According to Dr. Hortensia Eliseo Dantes (2023), productivity is the sum of efficiency plus effectiveness. Efficiency implies optimizing available resources, while effectiveness refers to the achievement of objectives and adaptation to changes in the environment. Encouraging good working practices fosters an integral corporate culture and develops proposals for improvement through a model that integrates social, environmental and cultural responsibility to maximise economic benefits and achieve a competitive reputation that is well perceived by users.

For this purpose, the structure of an individual public passenger transport cooperative will be analyzed. Based on the organization's own needs, a comprehensive productivity evaluation tool will be defined and a comprehensive measurement model will be proposed.

The results of the proposed model will be analyzed and the necessary measures to improve the cooperative's productivity and efficiency will be proposed.

Box 1

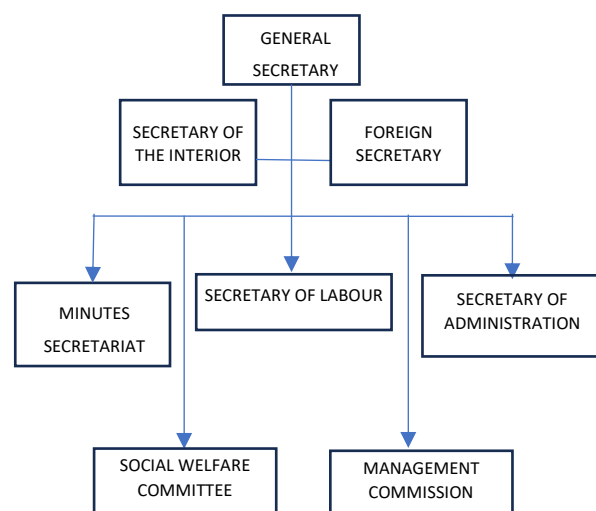


Figure 1

Functional organization chart of an individual public passenger transport cooperative

Source: Own elaboration

Mission: To provide an individual public transport service of quality and excellence, by drivers trained according to the needs of users and with social responsibility.

Vision: To be the leading cooperative of individual public passenger transport, contributing to the socio-economic development of Tabasco and the country.

Objective of the cooperative: To watch over and always procure the unity, democracy, dignity, welfare, social justice and progress of the authentic worker of the steering wheel and their families, without distinction of race, religious creed, political doctrines or social condition.

Values: Responsibility, Democracy, Equality, Equity and Solidarity.

Methodology

Currently, the groups dedicated to providing public transport services in taxi mode have low productivity. According to Islas Rivera et al. (2000), "the productivity of public transport service must be adapted to the reality of each city".

Performance productivity should be measured by identifying the economic, political, social, cultural, technological and environmental variables that influence the productivity of individual public passenger transport services.

The definition of a taxi-type transport system according to Betanzo-Quezada et al. (2015) is based on the interaction of a set of complementary actors, such as public transport, road infrastructure capacity, quality of service provision and user-provider interaction.

Public transport must provide safety and comfort, requirements that also apply to taxi services, where driver friendliness, responsiveness, safety, credibility and technology are required.

Instrumentation

To obtain information on the productivity of this sector, the "Integrated Productivity Measurement Technique" (TIEP) of Dr. Hortensia Eliseo Dantés (2023), based on 10 priority elements in any organization, will be used.

This tool is structured to relate these elements directly to the variables of the social, cultural, technological, environmental, economic and political context. This avoids biases in the collection of information, ensuring that every piece of data collected is relevant to the study.

Comprehensive Productivity Assessment Instrument: The objective of this instrument is to measure the knowledge that the leaders of each department have regarding each of the 10 elements, placing a weighting on each of the relationships to determine their relevance within the organization.

The sum of these weightings must always add up to unity.

Box 2

Element	TIEP (Technique for Integral Evaluation of Productivity)										P/S	P/C					
	Economic Variable		Technological Variable		Cultural Variable		Social Variable		Environmental Variable				Political Variable				
	P	E	P	E	P	E	P	E	P	E			P	E			
1. Conceptual approach to the company																	
2. Process knowledge																	
3. Social scope of the organization																	
4. Planning management																	
5. Management participation																	
6. Organizational creativity and innovation																	
7. Knowledge of the client(s)																	
8. Technological development																	
9. Macroeconomic knowledge																	
10. Integral human resource development																	
										P = Weighting		Σ P = 1					
										E = Quantitative Evaluation		Rango E = 1 - 10					

Table 1
Format of the Comprehensive Productivity Assessment Tool
Source: TIEP. Dr. Hortensia Eliseo Dantés (2023)

Procedure

In order to apply the measurement instruments, it is important to know the different areas into which the activities managed by the management are divided. This will make it possible to comprehensively study the variables that affect productivity in this sector. The integrated productivity measurement tool will be applied to obtain complete information on the management in each of these areas:

1. General Secretary
2. Secretary of Labour, Conciliation and Surveillance
3. Steering Committee
4. Home Secretary

Results

The graphs show the results of both the simple averages of each of the elements and the composite average of the elements.

Box 3

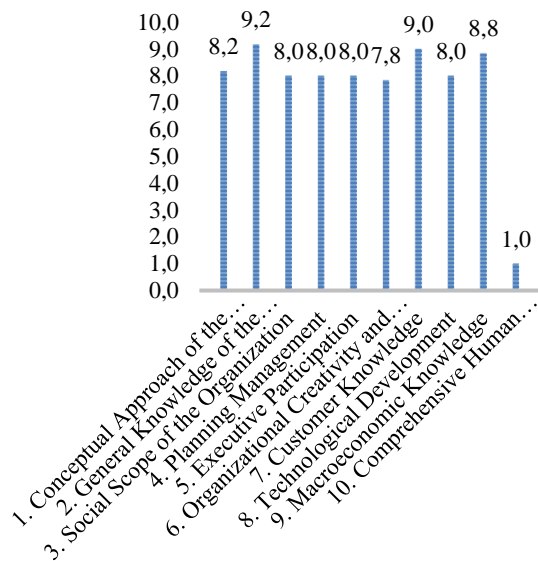


Figure 2

Simple Average: Management Commission Department

Source: Own elaboration

The simple average is the data obtained by calculating the quantitative evaluation of each of the elements of the tool with respect to the employee's knowledge of each element. In this case, the scores for process knowledge and macroeconomic knowledge are equal, with close scores for the other elements. However, element 6 (creativity and innovation) and element 10 (integrated resource development) have the lowest scores, representing an area of opportunity for continuous improvement.

Box 4

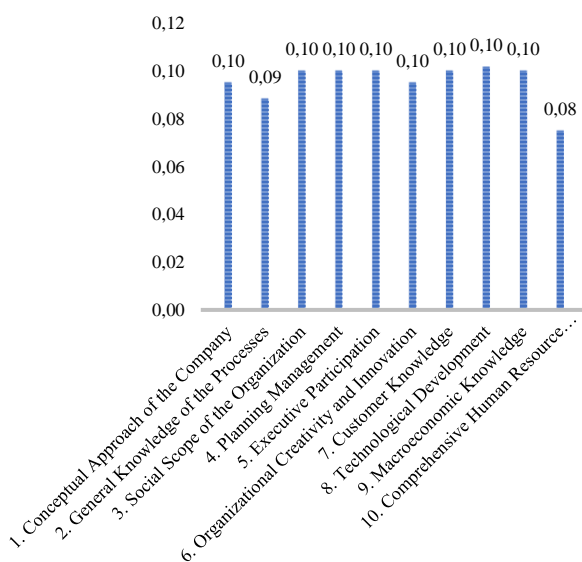


Figure 3

Composite Average. Management Commission Department

In this graph, the quantitative assessments are averaged together with the weights of each of the elements in relation to the context variables. Elements 1 (conceptual approach), 3 (social domain) and 9 (client knowledge) score well, but the integral human resource development (element 10) and the cultural and social variables need attention.

Box 5

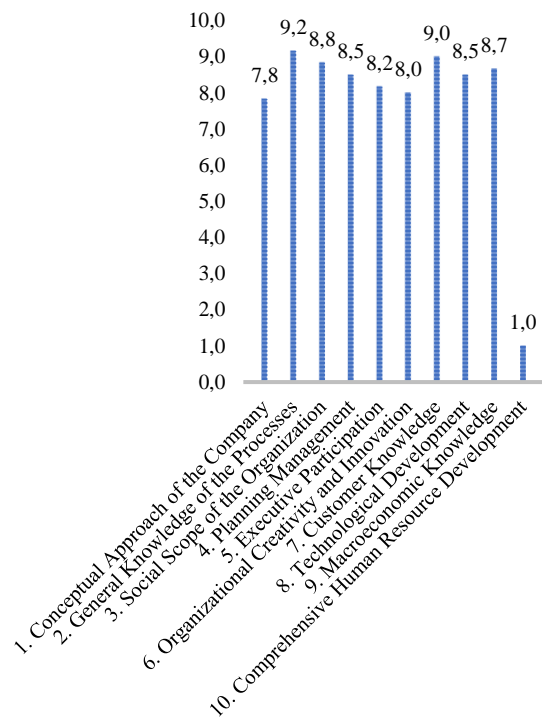


Figure 4

Simple averages: Department of Labour Secretariat

Regarding the knowledge of each element, favourable results are shown for variables 2 (process knowledge), 3 (social domain) and 7 (customer knowledge). However, the conceptual approach (element 1) and the integral development of human resources (element 10) have the lowest scores, representing areas of opportunity for continuous improvement.

Box 6

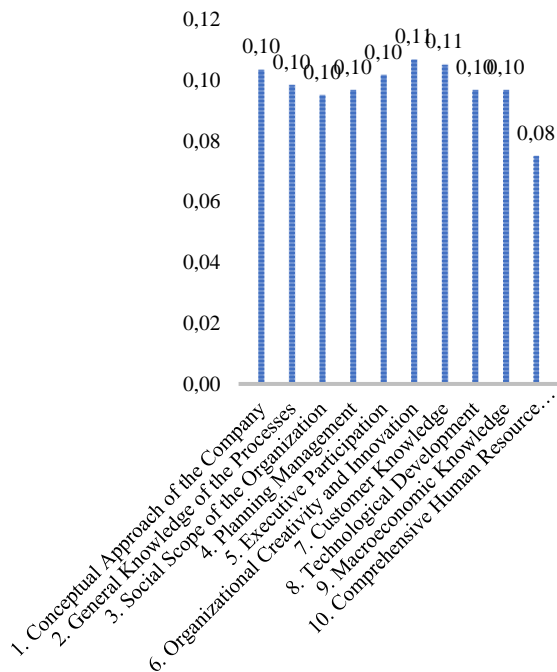


Figure 5
Composite averages: Ministry of Labour

Attention needs to be paid to the integral development of human resources without neglecting the other elements, trying to achieve a comprehensive analysis in order to identify areas for improvement.

Box 7

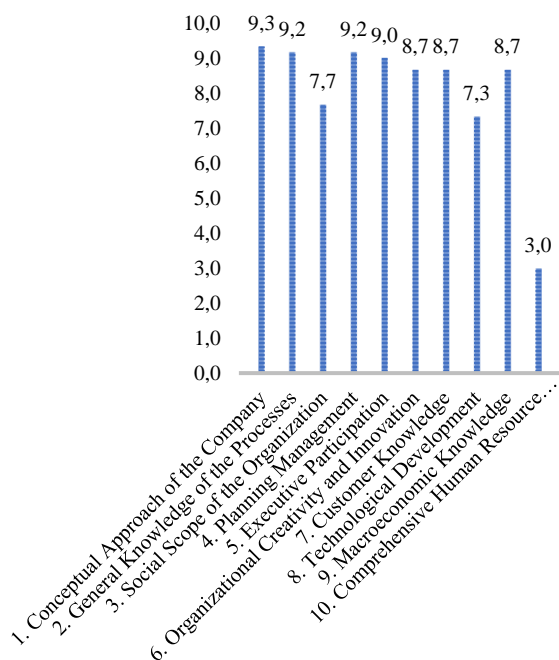


Figure 6
Simple Average: Transport service cooperative leader

The result in this department shows little variability in the ratings, with conceptual approach to business and macroeconomic knowledge standing out above the others. However, the social domain of the organization (element 3) and integral human resource development (element 10) have the lowest scores.

Box 8

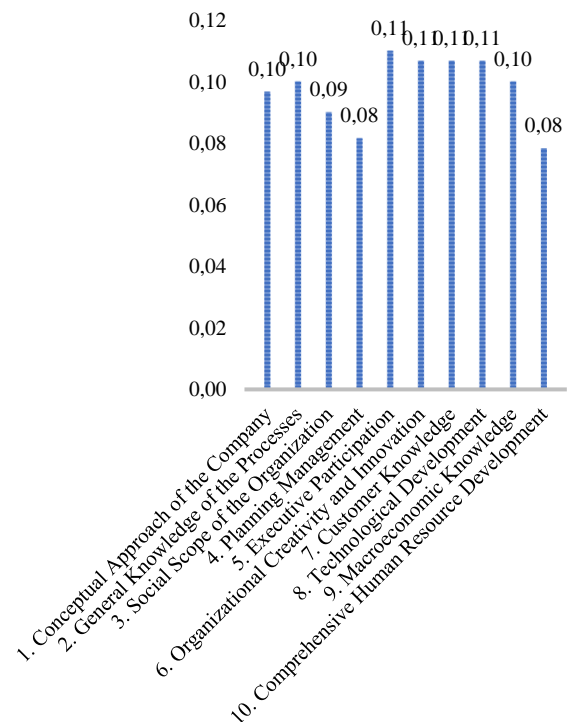


Figure 7
Composite Average: Transport service cooperative leader

This department requires attention to the integral development of human resources and the social sphere without neglecting the other elements. A comprehensive analysis should be carried out to identify areas for improvement. The results obtained from the comprehensive productivity assessment matrix show that the company has an average level of performance, with strengths in some elements, such as the conceptual approach to the company and macroeconomic knowledge. However, there are areas for improvement in the integral development of human resources and the social environment of the organization. In order to generate strategies for the implementation of continuous improvement, a model to follow is proposed. According to the author (Daza-Rodriguez, 2017, p. 24.) it emphasises differentiation, which will mark the path to success of the public transport union.

In order to establish a follow-up of a productivity improvement model, it should not be a specific job, but an integral one, giving follow-up and being committed in a general way in each of the steps of this model that is presented, contributing in the possible way the part of the work that each member of the work team corresponds to him/her. The results of the follow-up of a continuous improvement model are not always immediate, these can be given gradually while the adequate feedback is made, it is required to cover in a general and integral way the intangible areas that have this sector, therefore, the measurement tool must be structured in such a way that these elements can be directly related to each one of the variables of the context that are going to be analysed in this research study, in such a way that bias is avoided in the compilation of the information and of each collected data is of importance for this analysis

Box 10

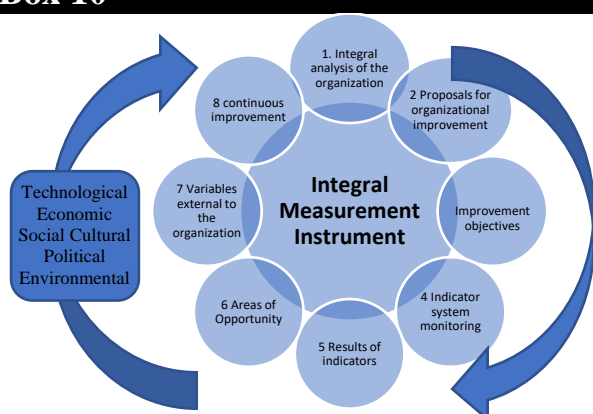


Figure 9

Proposal for a Comprehensive Productivity Measurement Model

This model covers the following aspects:

1. Sensitization of top management
2. Identification of a corporate culture
3. Organizational and customer moment of truth
4. Customer satisfaction assessment
5. Strategy definition
6. Planned training
7. Continuous improvement training
8. Monitoring of changes requested by customers
9. Productivity-focused leadership
10. Involvement and Motivation
11. Competence development of human talent
12. Communication and Engagement

13. Support in service transformation processes
14. Training of human talent.

Recommendations

1. **Continuous Training:** Implement training and refresher programmes for drivers, focused on improving customer service, technical knowledge and personal development.
2. **Innovation and Technology:** Incorporate emerging technologies to optimize routes, improve safety and efficiency in service delivery.
3. **Work Environment Improvement:** Foster a positive and collaborative work environment, promoting employee motivation and engagement.
4. **Social and Environmental Responsibility:** Adopting sustainable and responsible practices, aligned with sustainable development objectives.
5. **Continuous Evaluation:** Implement a system of continuous performance and productivity evaluation, using comprehensive tools such as the TIEP to identify areas for improvement and establish action plans.

Conclusions

Productivity in the public transport taxi sector in Tabasco can be improved through a comprehensive approach that considers training, technological innovation, integrated human resource development, and social and environmental responsibility.

The application of evaluation tools such as the TIEP provides a clear vision of the areas of opportunity and strengths, allowing the implementation of effective strategies to improve the performance and competitiveness of the sector. This document has been structured to provide a comprehensive overview of the current situation of the public transport taxi sector in Tabasco, and to propose concrete actions to improve its productivity, in line with the current demands and requirements of the environment.

Abbreviations

TIEP Integrated Productivity Evaluation Technique

Article

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