

Proposal of a sustainability model for comprehensive medical centers in the south of the state of Tamaulipas

Propuesta de un modelo de sustentabilidad para los centros médicos integrales del sur del estado de Tamaulipas

Pérez-Pérez, Iris Cristel^a, Aguirre-Arias, Miriam^b and González-Gamez, Liliana^c

^a ROR Tecnológico Nacional de México campus Ciudad Madero • G-1891-2018 • 0000-0003-3120-5597 • 843577

^b ROR TecNM Instituto Tecnológico Superior de Pátzcuaro • 0000-0003-4128-7282 • 1036225

^c ROR Tecnológico Nacional de México campus Ciudad Madero

CONAHCYT classification:

Area: Biology, Chemistry and Life Sciences

Field: Life sciences

Discipline: Ecology

Subdiscipline: Other

<https://doi.org/10.35429/JM.2024.8.14.1.7>

Article History:

Received: January 30, 2024

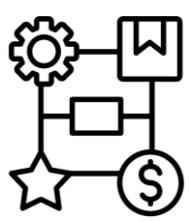


Accepted: December 31, 2024

* [icristelp@hotmail.com]



Abstract




The Spanish language dictionary defines sustainability as “what can be sustained or defended with reasons.” Sustainable development is making correct use of current resources without compromising those of future generations. A tool was designed to measure comprehensive medical centers which addresses the three key pillars, environmental, social (sociocultural) and economic, the data obtained was analyzed to generate a sustainability model that allows the aforementioned to move towards sustainable development giving solution to the current problems that affect them, considering all the actions, it is important to mention that the commitment of the parties is required to achieve the objectives.

Objetives	Methodology	Contribution
<p>Generate a proposal for a sustainability model for the comprehensive medical centers in the south of the state of Tamaulipas.</p> 	<p>A tool was designed to measure the environmental, socio-cultural and economic pillars, with a rating from zero to ten and an average of 20 items for each pillar.</p> 	<p>The application of the model will help medical centers improve their operational efficiency and consolidate their commitment to social and environmental responsibility, leading them to be more competitive.</p> 

Sustainability, Model, Tools

Resumen

El diccionario de la lengua española define sustentabilidad como lo “que se puede sustentar o defender con razones”. El desarrollo sustentable es hacer un uso correcto de los recursos actuales sin comprometer los de las generaciones futuras. Se diseñó una herramienta para medir a los centros médicos integrales la cual aborda los tres pilares claves, ambiental, social (sociocultural) y económico, los datos obtenidos se analizaron para generar un modelo de sustentabilidad que permita a los mencionados transitar hacia un desarrollo sustentable dando solución a las problemáticas actuales que les afectan, considerando todas las acciones, es importante mencionar que se precisa del compromiso de las partes para el logro de los objetivos.

Objetives	Methodology	Contribution
<p>Generar propuesta de un modelo de sustentabilidad para los centros médicos integrales del sur del estado Tamaulipas</p> 	<p>Se diseñó una herramienta, para medir los pilares ambiental, socio-cultural y económico, con una calificación de cero a diez y un promedio de 20 items por cada pilar.</p> 	<p>La aplicación del modelo, ayudará a los centros médicos a mejorar su eficiencia operativa y consolidar su compromiso con la responsabilidad social y ambiental, llevándolos a ser más competitivos.</p> 

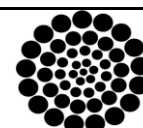
Sustentabilidad, Modelo, Herramienta

Citation: Pérez-Pérez, Iris Cristel, Aguirre-Arias, Miriam and González-Gamez, Liliana. [2024]. Proposal of a sustainability model for comprehensive medical centers in the south of the state of Tamaulipas. Journal-Microeconomics. 8[14]1-7: e30814107.



ISSN 2531-2987/© 2009 The Author[s]. Published by RINOE-Mexico, S.C. for its Holding Spain on behalf of Journal-Microeconomics. This is an open access article under the CC BY-NC-ND license [<http://creativecommons.org/licenses/by-nc-nd/4.0/>]

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



RENIECYT

Registro Nacional de Instituciones y Empresas Científicas y Tecnológicas

1702902 **CONAHCYT**

Introduction

The implementation of sustainable practices is not only important from an environmental perspective, but can also generate economic benefits and enhance the reputation of a company or organisation. In this context, diagnostic tools play a crucial role in helping companies to assess their performance and identify areas for improvement. These tools provide a comprehensive view of current practices and offer specific recommendations to move towards a more productive path. This paper proposes a model that enables the development of comprehensive medical centres in southern Tamaulipas based on organisational sustainability: environmental, social and economic.

Development

In the current context, where concern for the environment and social responsibility are increasingly important, health sector clinics face the challenge of operating in a sustainable manner, minimising their environmental impact, promoting social wellbeing and guaranteeing their long-term economic viability.

To achieve this goal, it is essential to assess the clinic's current performance in terms of sustainability. In this sense, the application of this sustainability assessment tool becomes an indispensable instrument to identify areas for improvement and establish strategies to move towards a more sustainable operating model.

Instrument to be used

The tool used evaluates the environmental, social and economic pillars, only the first items of each pillar are presented.

Sustainability diagnostic tool

Aim of application: To diagnose sustainability in environmental, socio-cultural and economic factors.

INSTRUCTIONS: Ask an employee of the company the following items, elaborated in the form of a question and based on the answer obtained, determine the most appropriate qualification.

Box 1

Table 1
Diagnostic tool

EVALUACIÓN DE FACTOR AMBIENTAL																					
No.	ITEMS	CALIFICACIÓN																			
		0	1	2	3	4	5	6	7	8	9	10									
1	¿Cumple todas las leyes ambientales nacionales e internacionales que aplican al sector?																				
2	¿Aplica alguna norma o certificación ambiental (ISO 9001:2015, ISO 13485:2016, Industria Limpia u otra)?																				
3	¿Posee una política ambiental formal que es del conocimiento de todos los empleados y consta en el código de conducta y en las declaraciones de valores de la empresa?																				
4	¿Su empresa dispone de una política medioambiental formal que incluya un compromiso con el cumplimiento legal, mediciones continuas y mejoras constantes del desempeño en materia medioambiental?																				
5	¿Han recibido auditorías por parte de alguna dependencia (SEMARNAT, PROFECA etc.) para verificar el cumplimiento de la legislación ambiental? En caso de que la respuesta sea "sí" ¿Como han sido los resultados de dichas auditorías?																				

EVALUACIÓN DE FACTOR SOCIO.CULTURAL																					
Nº	ITEMS	CALIFICACIÓN																			
		0	1	2	3	4	5	6	7	8	9	10									
1	¿Considera que es suficiente la atención que se da a clientes?																				
2	¿Suben contenido frecuentemente a sus redes sociales?																				
3	¿Garantiza el acceso equitativo a servicios de salud de calidad para todos los miembros de la comunidad, independientemente de su origen socioeconómico?																				
4	¿La empresa ofrece programas de ayuda social?																				
5	¿Se organizan eventos o campañas de concientización en la comunidad sobre temas de salud relevantes?																				

EVALUACIÓN DE FACTOR ECONÓMICO																					
Nº	ITEMS	CALIFICACIÓN																			
		0	1	2	3	4	5	6	7	8	9	10									
1	Cumple a tiempo con sus obligaciones fiscales y atiende a las solicitudes de apoyo por parte del gobierno																				
2	¿Se cumplen todas las normativas y regulaciones financieras aplicables?																				
3	¿La empresa promueve prácticas financieras éticas y responsables en todas sus operaciones?																				
4	¿Divulgan información financiera de manera transparente y accesible para sus stakeholders?																				
5	¿Se promueve la formación y capacitación continua del personal para fomentar el crecimiento económico y profesional dentro de la empresa?																				

Source: Authors' perception.

The tool was designed taking into consideration the three pillars, environmental, social and economic. A medical centre that aspires to be sustainable must take a holistic view that encompasses the environmental, social and economic aspects of its operation.

They are expected to implement practices and strategies that minimise their environmental impact (responsible environmental management), promote social well-being and ensure their long-term economic viability.

Box 2

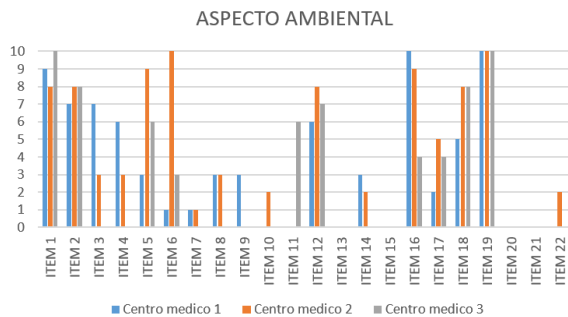


Figure 1

Results obtained from the environmental aspect

Source: authors' perception

Box 3

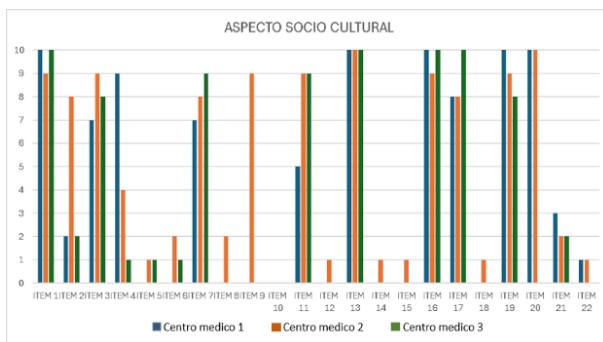


Figure 2

Results obtained from the cultural aspect

Source: Authors' perception

Box 4

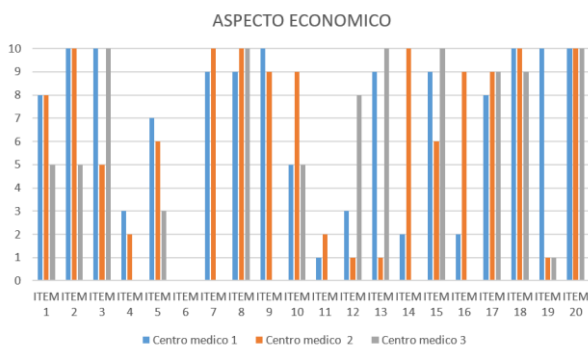


Figure 3

Results obtained from the economic aspect

Source: Authors' perceptions

Proposal for improvement

The proposed model is based on sustainable innovation followed by the three dimensions, environmental, socio-cultural and economic, each identified with a colour, to identify the proposed actions.

Box 5

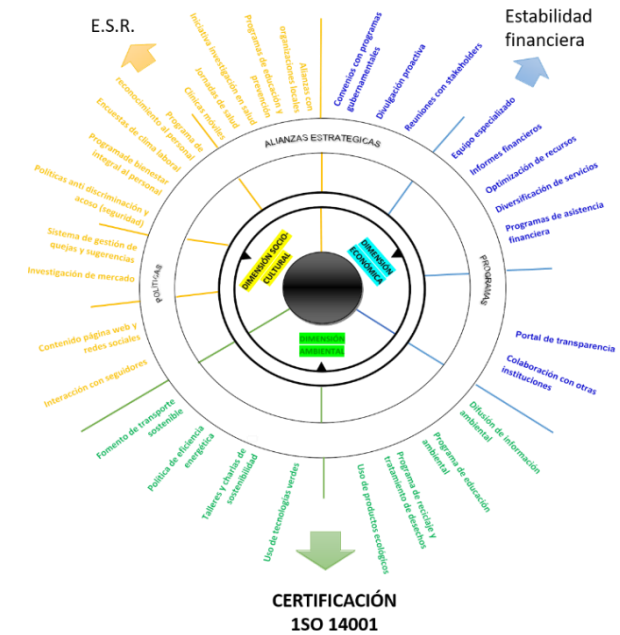


Figure 4

Model for the sustainability of integral medical centres in the south of the state of Tamaulipas

Source: authors' perception

Environmental proposal

1.- Establish an environmental management system In which:

- Optimises the use of resources such as energy, water and materials.
- Minimises the generation of waste and emissions.
- Promotes the reuse, recycling and recovery of waste.
- Implements sustainable purchasing practices.

Implementing

- Recycling and proper waste treatment programmes: to improve medical waste management.

- Establish an energy efficiency policy in which energy saving measures are implemented:

Establish concrete measures to reduce energy consumption, such as turning off lights and equipment when not in use, using LED bulbs, installing programmable thermostats and conducting regular energy audits.

- **Use of green technologies:** Prioritise the purchase of medical equipment and technologies that are energy efficient and environmentally friendly, thus contributing to the reduction of the environmental impact of the company's operations.
- **Environmental education programmes, awareness campaigns and sustainable workplace practices:** To develop environmental awareness: Promote environmental awareness among staff and the community.
- **Use environmentally friendly products:** Opt for environmentally friendly cleaning products, biodegradable medical supplies and recycled office materials.
- **Provide workshops and talks to staff on the importance of sustainability** to raise staff awareness of the importance of sustainability.
- **Participate in community environmental events and campaigns.**
- **Use internal social networks to disseminate environmental information:** Share news, articles and tips on sustainability on the clinic's internal social networks. As well as publishing its environmental policy on its website and social networks.

2.- Environmental certifications:

Environmental certification, such as ISO 14001 or other recognised certifications, to demonstrate commitment to environmental management and sustainability.

3.- Promotion of sustainable mobility:

Promote the use of sustainable transport among staff, such as carpooling, promoting public transport or encouraging the use of bicycles or walking for short journeys.

Socio-Cultural Proposal

1.- To recognise and reward employees

Through:

- **Staff incentives:** Implement recognition and reward programmes for staff that foster a positive work environment and promote commitment and job satisfaction.
- **Conduct work climate surveys to assess employee perceptions of the organisational environment** to identify areas for improvement and take corrective action, using 'key performance indicators (KPIs)' to measure progress in creating a favourable organisational environment.
- **Implement comprehensive wellness programmes for staff**, including preventive health care, emotional support and professional and personal development opportunities.

2.- preventive policies to prevent incidents

Through:

- Implementing clear policies prohibiting discrimination and harassment in all aspects of human capital management.
- Provide training on occupational health and safety.

Society at large/external

Education and prevention programmes:

Develop educational and disease prevention programmes aimed at the local community, with the objective of promoting healthy lifestyles and reducing the incidence of preventable diseases.

Establish partnerships with local organisations.

To ensure that all members of the community have access to quality health services, regardless of their economic situation.

5.- Volunteer programmes:

To make an active contribution to the well-being of society.

6.- To participate in health research initiatives:

To collaborate with universities and research institutions in carrying out studies on health issues relevant to the community.

7.- To organise health days in low-income communities.

8.- Establish mobile clinics to reach remote communities.

Patients/clients

Accessibility and patient-centred care.

Through:

- **System to receive and manage patient complaints and suggestions**, with the aim of maintaining good customer satisfaction.
- **Conduct market research** to understand patients' needs and expectations.

10.- Create dissemination/marketing

By:

- **Create engaging and high quality content for social media:** Consider platforms such as Facebook, Instagram, TikTok. Post content that is relevant to the target audience and interesting (make yourself more known), using a variety of formats, such as images, videos.
- **Promote interaction with followers** by asking questions and responding to comments on social media.

Proposed economic pillar

Internally:

1.- More effective budget monitoring and control systems:

To achieve financial efficiency by conducting a thorough review of the company's financial processes to identify areas for improvement in the management of costs and expenses.

2.- Profit improvements.

By means of:

- **Specialised work team in the accounting-financial area**, visualising clear objectives.
- **Prepare complete and accurate financial reports:** Prepare annual and quarterly financial reports including income statement, balance sheet and cash flow statement.
- **Conduct presentations and meetings with stakeholders:** Organise presentations and meetings with stakeholders to discuss the clinic's financial results.
- **Resource optimisation:** Implement measures to optimise the use of financial, human and material resources, looking for ways to maximise efficiency and reduce waste in all areas of the company.

Financial transparency

Through:

- **Establish a financial disclosure policy:** Develop a clear and concise policy that defines what financial information will be disclosed, how often and how it will be communicated. The policy should be aligned with applicable rules and regulations.
- **Financial transparency portal:** Create an online portal dedicated exclusively to financial disclosure. This portal would be accessible to the general public and would contain annual financial reports, quarterly reports, earnings presentations, and any other relevant information on the company's financial situation.

- **Proactive disclosure:** Adopt a proactive disclosure policy, in which the company not only discloses financial information required by law, but also voluntarily shares other relevant financial data that may be of interest to stakeholders.

4.- strategic alliances:

Through

- **Establish strategic alliances with other medical institutions,** healthcare providers and related companies to share resources, knowledge and best practices that benefit both parties.

External/clients

Collaboration with other institutions:

The clinic can collaborate with other institutions in the community, such as schools, businesses and non-profit organisations, to develop programmes and projects that benefit the community. In this way, this collaboration can help to make better use of resources and achieve greater impact.

Develop financial assistance programmes:

Offer discounts on medical services for low-income or uninsured patients. And establish flexible payment plans that fit each patient's budget.

Diversification of services:

Explore the possibility of expanding the range of services offered to adapt to changing market needs and diversify revenue streams.

Financial assistance programmes:

Establish financial assistance programmes that provide support to financially vulnerable patients, such as discounts on medical services, flexible payment plans or fee waivers for those unable to pay.

9.- Agreements with government programmes:

Enter into agreements with government health programmes to ensure that financially vulnerable patients have access to basic medical services and medicines at affordable or free prices.

Conclusions

The implementation of the proposals for improvement of medical centres, structured in the environmental, socio-cultural and economic sectors, will not only strengthen their internal operation, but also enhance their positive impact on the community and the environment. In the environmental sector, adopting an Environmental Management System and obtaining certifications such as ISO 14001 as medical centres committed to sustainability, reducing operating costs and improving their reputation. Socio-cultural initiatives, including staff empowerment and community engagement, will promote a healthier and more motivated work environment, while contributing to the general welfare of society through educational programmes, partnerships and volunteering. Finally, in the economic sector, the implementation of transparent financial systems, optimisation of resources and diversification of services will ensure robust and sustainable financial management, benefiting both patients and stakeholders.

In conclusion, the tool helps us to develop the aspects of a growing company that need to be evaluated or to know the ways in which it can perform better.

By integrating these strategies, you will not only improve your operational efficiency and market competitiveness, but also strengthen your commitment to social and environmental responsibility, creating a lasting and positive impact on your community and the environment. This comprehensive transformation will position the medical centres in southern Tamaulipas as market leaders.

Author contribution

This project was carried out as a team, in this way the members of the team collaborated in each of the developed stages, from the methodology to the generation of the proposal. The application of the tool was carried out by the author and the second co-author.

Availability of data and materials

As they are private organisations, the information of the participating staff was harmonised, some data is not shared: initials and name, personal data.

Funding

No funding

References*Basics*

Cantú-Mata JL, Torres-Castillo F, Segoviano-Hernández J (2021) [PLS-SEM: Structural Model of Sustainable Development of Information and Communication Technologies](#).

Guimarães, R. P. (2002). [La ética de la sustentabilidad y la formulación de políticas de desarrollo](#). Buenos Aires: CLACSO, Latin American Council of Social Sciences.

Mancilla, María Enriqueta, María Elena Camarena and Gabriela María Farías (2019), [‘Towards a culture of sustainability in universities’](#).

United Nations (un) (2021a), [Sustainable development and climate action](#), New York, un.
Singh SK, Del Giudice M, Chierici R, Graziano D (2020) Green innovation and environmental performance: The role of green transformational leadership and green human resource management.