# ANALYZING PUBLIC POLICY RESPONSES TO THE COVID-19 PANDEMIC IN MEXICO: AN APPLICATION OF ANALYTIC HIERARCHY PROCESS (AHP) TECHNIQUES

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### **ABSTRACT**

This study utilizes the Analytic Hierarchy Process (AHP) to assess Mexico's public policy response to the COVID-19 pandemic, covering the period from February 2020, when the WHO officially declared a pandemic, to February 2021, marking the commencement of extensive vaccination campaigns. It examines the impacts of the pandemic, including health crises, economic fluctuations, societal transformations, and limitations on personal freedoms. By focusing on the medical, economic, political, and social dimensions of the adopted policies, the study identifies mixed success in economic policies and deficiencies in political and social responses. Despite challenges, Mexico's policy measures offer valuable insights and a framework for future stability and resilience against global health emergencies. The research emphasizes the importance of flexible governance and comprehensive strategies to support a resilient, inclusive, and sustainable recovery.

**Keywords:** COVID-19; public policy; AHP; evaluation; pandemic response; Mexico

# 1. Introduction

The COVID-19 pandemic presented unprecedented challenges, deeply impacting health systems, economies, and societies worldwide. Effective public policies are necessary to mitigate these effects, particularly in countries like Mexico, which implemented various policy responses to protect public health and maintain national viability. Given the complex nature of these measures, a comprehensive evaluation is essential to understand their effectiveness and the nuances of policy implementation during crises.

The pandemic underscored the necessity for policies capable of addressing unexpected global phenomena, including dealing with health emergencies, economic downturns, societal changes, and the restriction of personal liberties. This situation highlighted the need for developing flexible policies adept at managing rapid shifts in public health, economic stability, social dynamics and individual freedoms (Rittel & Webber, 1973).

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This study critically analyzes Mexico's public policy maneuvers in response to the pandemic by applying the Analytic Hierarchy Process (AHP). Moving beyond conventional analyses that predominantly focus on outcomes, our methodology examines the intricate process of policy implementation. Through this comprehensive assessment, we identify the strengths and weaknesses of Mexico's approach, providing valuable insights for formulating more effective and resilient policies in anticipation of future global health crises.

Our evaluation covers the period from February 2020, coinciding with the WHO's pandemic announcement, to February 2021, aligning with the initiation of widespread vaccination efforts. The findings emphasize the significance of governance adaptability, reflecting varying degrees of success across healthcare, economic, political, and social policies. The study not only elucidates Mexico's efforts in managing the pandemic but also points out areas that need bolstered strategies, such as improved testing, hospital readiness, and economic aid for critical sectors like SMEs and vulnerable social groups, supported by enhanced political and social involvement.

This article contributes to the scholarly dialogue on the complexities of pandemic response and policymaking during health crises, offering alternative perspectives in the field. Our conclusion underscores the roles of adaptability and effective governance in navigating the complexities of a pandemic response and developing policies equipped to handle global health emergencies.

# 2. Literature review

Public policy evaluation is an important aspect of understanding the effectiveness of policy implementation, especially in the context of the COVID-19 pandemic. This literature review aims to provide a comprehensive understanding of the current discourse on pandemic response strategies and their evaluation, with a particular focus on the application of the AHP as a valuable tool for policy analysis.

Elster (1992) emphasizes the intricate process of policy implementation, highlighting the interplay between political will, resource allocation, and the balance between collective and individual interests within democratic governance. The unique challenges posed by the COVID-19 pandemic denote the need for policies that are tailored to healthcare capacities and cultural contexts.

The discourse surrounding democratic values, human rights, freedom of speech, and equality enriches the framework for evaluating pandemic response strategies (Cairney, 2019; Bardach, 2019). This research aims to identify strategies that not only enhance policy effectiveness but also maximize societal benefits. Within this framework, the COVID-19 response is depicted as an ensemble of Medical, Economic, Political, and Social (MEPS) components, emphasizing the need for a thorough evaluation and understanding of these facets to craft successful policies.

The early stages of the pandemic brought to light the difficulties in disseminating reliable information amidst rapidly evolving circumstances and high expectations for vaccines and treatments. This situation accentuated the governance challenge of aligning new scientific discoveries with the need to navigate uncertainty and counter misinformation

effectively. The management of the health crisis extended beyond healthcare, affecting political, social, economic, and political domains, making it challenging to establish straightforward cause-effect relationships in such dynamic and interdependent contexts.

The declaration of the pandemic marked a period of swift transmission facilitated by international travel. The R0 (infection rate) for COVID-19 during critical periods is approximately 5.7, exceeding the R0 of other viruses like the 1918 Spanish flu (about 1.8) and the 2009 H1N1 (around 1.6) (Sanche et al., 2020). This backdrop of rapid evolution and severe transmission rates further stresses the importance of evaluating different pandemic management strategies and the contexts in which they were implemented. Three primary strategies typically used in pandemic management feature different approaches and criteria:

- Community (Herd) Immunity: This approach permits the pandemic to spread with minimal intervention, banking on the development of medications or vaccines, or natural immunity, to eventually lower the infection rate (R0). An illustrative case of this strategy is the management of polio before the widespread availability of vaccines in 1955 (WHO, 2020).
- <u>Confinement</u>: Characterized by stringent control measures, including the shutdown of non-essential activities and mandatory quarantines, this strategy aims to drastically reduce virus transmission. This approach was notably applied in China during the early stages of the COVID-19 outbreak and adopted intermittently by various countries, highlighting its role in controlling the pandemic's spread (Rodríguez, 2020).
- <u>Social Contact Control</u>: Focusing on voluntary isolation and physical distancing, this method leans towards a gradual achievement of herd immunity as vaccines become more accessible. It aims for controlled outbreaks and was observed in the management of the H1N1 pandemic in 2009 (Anderson, Heesterbeek, Klinkenberg, & Holingsworth, 2020).

Against this diverse backdrop of pandemic management strategies, the AHP stands out as a powerful tool for public policy evaluation. Saaty's work underscores the AHP's ability to deconstruct complex problems into manageable hierarchies, allowing for a comprehensive analysis that incorporates both qualitative and quantitative factors (Saaty, 2005; Saaty & Özdemir 2005). The AHP's effectiveness in evaluating policies is further evidenced by its application across various sectors, including health policy during the pandemic (Marcarelli, 2017; Gutiérrez Lagunes, 2022) and public policy for infrastructure development (Pacheco & Contreras, 2008), demonstrating its versatility in integrating economic, social, legal, and political dimensions into a coherent evaluation framework.

This literature review establishes the context for applying the AHP to evaluate Mexico's public policy response to the COVID-19 pandemic. The complexities of policy implementation, the challenges in governance and information dissemination, and the diverse pandemic management strategies necessitate a comprehensive evaluation framework. The AHP emerges as a valuable tool for policy makers, enabling them to assess direct policy outcomes while considering the broader economic, political, and social implications critical for comprehensive public strategy evaluation.

# 3. Methodology

This section outlines the methodology employed in evaluating the implementation of Mexico's COVID-19 public policy response using the AHP. The study considered Mexico's unique medical, economic, political, and social circumstances, and adopted a systematic and structured approach to ensure a comprehensive evaluation.

- **Formulation of the research question:** Central to our inquiry was whether the AHP could feasibly evaluate the implementation effectiveness of Mexico's COVID-19 policy amidst the complexities of a global pandemic.
- **Assembly of the working group:** We convened a multidisciplinary team, including experts in medicine, sociology, economics, and political science, to leverage a wide range of perspectives.
- Policy review and assessment techniques: The team conducted an in-depth review of the policy's objectives, content, components, and implementation methods. This laid the groundwork for establishing our evaluation hierarchy, the central point of the AHP methodology.
- Incorporation of contextual factors: Acknowledging the influence of Mexico's unique conditions on policy implementation and outcomes, the methodology embraced an evaluation of these contextual elements, ensuring a nuanced assessment.
- Analysis of objectives and actions: The objectives of the COVID-19 policy were analyzed and categorized into medical, economic, political, and social components. This classification formed the basis of the evaluation hierarchy, enabling a comprehensive assessment that reflected the complexity of pandemic management and the broad scope of the policy.
- Evaluation criteria and model design: The evaluation criteria were derived from the policy's objectives and the pandemic's repercussions. These criteria were structured within an AHP model, which involved pairwise comparisons to determine the relative significance of each criterion.

This section provides an in-depth examination of the research question, the composition and contributions of the working group, and the various inputs considered in the evaluation process. By analyzing the policy's objectives, components, and execution, as well as incorporating contextual factors, the study ensures a comprehensive evaluation of Mexico's COVID-19 policy response. The application of the AHP as a structured evaluation framework enhances the effectiveness of the assessment and provides valuable insights for future policy decisions.

### 3.1 Research question

The development of our research question, 'Is it feasible to evaluate the implementation of the Mexican government's COVID-19 policy using the Analytic Hierarchy Process (AHP)?' was motivated by the complex scenario presented by Mexico's pandemic situation. With its diverse geography, stark socio-economic differences, political variation across states, and significant public health challenges due to prevalent chronic conditions, it was necessary to employ a sophisticated method for evaluation. The AHP, renowned for its systematic policy assessment capabilities, emerged as a promising methodology. It provides a structured framework for dissecting the multifactorial issues facing Mexico's pandemic response, enabling a detailed analysis of policy implementation effectiveness in the face of pronounced complexity.

### 3.2 Composition and contributions of the working group

To ensure a comprehensive evaluation, we assembled a multidisciplinary working group comprised of experts in medicine, sociology, economics, and political science. This selection aimed to comprehensively cover the myriad of elements influencing the effectiveness of Mexico's COVID-19 policy response.

The medical experts provided valuable insights into the adaptability of the healthcare system to the pandemic, while economists assessed the policy's financial sustainability and impact. The sociologists and political scientists examined the social dynamics and governance aspects critical to policy implementation. Table 1 provides an overview of the participating individuals, their specializations, and professional roles.

Table 1 Guest participants of the group

No. of participants	Specialty	Job Position
2	Medical	University professors
1	Public policy	Retired professor
1	Sociology	Researcher
1	Economy	University professor

The members of the group participated on a voluntary basis, demonstrating their commitment to the project. They adopted a self-management approach, meeting bimonthly from May 2020 through March 2021. These meetings encouraged the exchange of ideas, knowledge dissemination, and joint decision-making. At the project's inception, the group agreed on participation guidelines to foster effective collaboration. These guidelines included active, structured engagement, focused discourse, iterative consensus-driven analysis, acknowledgement of personal or political biases, and adherence to punctuality and commitment. This structured approach cultivated a cooperative atmosphere, ensuring the group's efficiency and success in achieving the study's goals.

# 3.3 Analysis of the study subject

The evaluation of Mexico's COVID-19 policy implementation focuses on understanding the government's comprehensive strategy against the pandemic. The study employs a simplified framework that examines the policy's impact across public health, economy, society, and governance.

# 3.3.1 Objectives and components of the public policy to address COVID-19

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Like other significant governmental responses, the public policy addressing COVID-19 contained strategic components of the MEPS type (Medical, Economic, Political, and social) as discussed in the literature review. Given the medical strategy chosen to combat the pandemic, and considering economic, political, and social objectives, it was essential to assess outcomes in these domains. These factors, serving as the policy's "ontological categories," encompassed a series of actions aimed at achieving the desired solution. The working group compiled these components by studying various policy guidelines published in the media and official communications during the pandemic's initial three months. The components of the policy evaluation hierarchy are classified into four

categories: Medical (M), Economic (E), Political (P), and Social (S). Each category includes a series of actions devised to attain specific policy objectives. The categorization of these components allows for a comprehensive evaluation of the policy's objectives and actions, considering the diverse aspects of Mexico's COVID-19 response. The breakdown of these components is as follows:

# Medical (M) components:

- <u>Medical infrastructure:</u> Assessing the government's efforts to strengthen healthcare infrastructure to effectively accommodate COVID-19 patients, considering factors such as available care beds, medical staff, equipment, supplies, and budget adequacy.
- <u>Effectiveness of medical care:</u> Measuring the healthcare sector's ability to provide effective care for COVID-19 patients, considering factors like hospital care efficiency and equal access to health services.
- <u>Case detection capacity:</u> Evaluating the health sector's ability to conduct testing, identify cases, trace transmission networks, develop IT tools for data collection, and maintain accurate geographical databases.
- Health logistics: Assessing inter-institutional coordination efforts to provide logistical support to the health sector, ensuring timely procurement of medicines, supplies, and equipment under transparent and corruption-free conditions, and facilitating prompt distribution of medical resources.

# Economic (E) components:

- <u>Protection of stability and growth:</u> Encompassing government actions to maintain economic stability and minimize growth decline, including policy instruments to protect (Micro)SMEs, infrastructure projects to sustain employment and stimulate the economy, tax collection mechanisms, inflation control measures, and economic support measures for labor market integration.
- <u>Maintain economic viability:</u> Including public policies that promote the rapid restoration of economic activity and the pursuit of competitive advantages, such as strengthening financial system regulation and supervision, enhancing government capacity to combat corruption, controlling public debt levels, and fostering trade and political relations.
- <u>Protection programs for relevant sectors:</u> Referring to the implementation of protection programs for crucial economic sectors, including logistical and infrastructural support to the national economy, strengthening the customs system, and implementing actions to support and promote growth-driving sectors.

# Political (P) components:

- <u>Maintaining governability:</u> Involving actions to create conditions for effective governance, such as initiatives to promote, respect, protect, and guarantee human rights, programs to reduce inequality and poverty, and maintaining criminal justice services.
- <u>Legal certainty:</u> Focusing on upholding legal principles to provide governance certainty and credibility, including measures to ensure the independence and effectiveness of law enforcement institutions, maintain oversight processes, promote securities market transparency, and uphold accountability measures.
- <u>Consolidating public communication:</u> Referring to government actions to enhance the dissemination of information and messages, including guaranteeing freedom of

expression, promoting transparency in public institutions, and ensuring effective communication by public officials.

# Social (S) components:

- <u>Protection of the population:</u> Focusing on government interventions to mitigate the economic and security risks posed by the pandemic to the population, including economic support for vulnerable groups, protection against critical threats, maintenance of civil justice services, and provision of essential services.
- <u>Social stability:</u> Relating to policies to maintain a climate of security and harmony, fostering mutual trust and social solidarity, detecting, and controlling destabilizing actions, preserving the functionality of the education system, and maintaining the overall mental health of the population.
- <u>Social communication:</u> Emphasizing the state's effectiveness in providing accurate, relevant, timely, and clear information to the population, including information dissemination on pandemic care, agreements with communication operators to expand internet coverage, and the protection and social recognition of healthcare workers.

# 3.3.2 Contextual conditions of the study

The study considers the contextual conditions that influenced Mexico's COVID-19 policies. These conditions include socio-economic disparities in healthcare access, national stability issues related to the "war on drugs" and the impact of the political environment on policy consistency across states. These factors were carefully weighed and incorporated into the AHP model to accurately assess their influence on policy effectiveness. Here is a summary of the key contextual factors:

#### **Medical context**

- Mexico's vast geographic size and socio-economic disparities present challenges in devising universally applicable healthcare solutions and ensuring accessibility (Banco Mundial, 2020; Secretaría de Salud, 2021b).
- Changes in food culture have led to an increase in chronic conditions, such as obesity, diabetes, and hypertension, which contribute to the at-risk population (Gómez Delgado & Velázquez Rodriguez, 2019; OCDE, 2017; Statista, 2022; Piña Pozas, Araujo Pulido & Castillo Castillo, 2020).
- Private companies now play a significant role in managing healthcare services, which has shifted the dynamic between doctors and patients (Dávila Rodríguez, 2018).
- Healthcare sector funding often falls below the recommended 5% of GDP (Méndez Méndez, 2019).
- The pandemic exposed the fragility of the health system, necessitating reinforcement and transformation efforts. This has included hospital refurbishments, health center equipment upgrades, job security for healthcare workers, and free care and medications for those lacking social security (*Revista El Hospital*, 2019; *Expansión Política*, 2020).
- Regulatory challenges and limited transparency in the drug and supply market have led to distortions and monopolies (Molina Salazar, González Marín & Carvajal de Nova, 2008).
- Changes in drug procurement and economic crises have impacted the capacity of the pharmaceutical industry (Secretaría de Gobernación, 2010).

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• Limited physician and medical residency positions and inadequate compensation packages have been longstanding issues (Instituto Mexicano del Seguro Social, 2020).

### **Economic context**

- Tax collection remains a concern in Mexico due to issues like tax credits, exemptions, and fraudulent activities (Gobierno de México, 2020).
- Despite substantial oil revenue surplus from 2003 to 2008, public debt increased disproportionately from 19.9% to 46.5% of GDP between 2000 and 2017, without substantial infrastructure enhancements or quality of life improvements (Colmenares, 2019; Mejía Reyes & Ochoa Díaz, 2018).
- The "war on drugs" initiated in 2007 has negatively impacted economic growth and national competitiveness due to increased violence (Consejo Nacional de Ciencia y Tecnología, 2018).
- Wage policies aimed at inflation containment have led to a significant decrease in the purchasing power of the minimum wage, affecting quality of life and domestic consumption (Secretaría de Economía, 2020).

### **Political context**

- The current administration came into power with a high degree of legitimacy but faces challenges discarding old practices and adapting to modern social paradigms.
- Deep-rooted practices of power concentration, nepotism, clientelism, and influence peddling have hindered the rise of progressive political leaders, creating a political system more focused on maintaining power than fostering inclusive democratic development (*Revista Forbes*, 2018).
- Political differences among federal states, each with autonomy over their health systems, have affected the formulation of a unified national policy to combat the pandemic (Fukuyama, 2015).
- Large corporations and influential interest groups have responded to government policies affecting their interests with lobbying, public demonstrations, media manipulation, and legal challenges (Rocha Quintero, 2020).
- Government changes in drug procurement processes, including consolidated purchasing with United Nations Office for Project Services (UNOPS) support, have caused uncertainty among monopolistic power groups and businesses seeking to maintain market dominance.

#### Social context

- The new administration emphasizes direct delivery of social program benefits to recipients to reduce potential economic and electoral corruption, thus improving social policy effectiveness.
- Technology has widened public access to information but has also enabled the spread of biased or incorrect analyses.
- The pursuit of power has amplified societal divisions and eroded social cohesion, leading to calls for social solidarity and an inclusive state.
- Involuntary mobility restrictions have led to undesirable outcomes, including job loss, increased family violence, psychological distress, impoverishment, and heightened social inequality (INEGI, 2021; Observatorio Nacional Ciudadano, 2020).
- The pandemic-induced closure of educational institutions has intensified inequality. Vulnerable populations have lost access to essential services and necessary

technological tools, impeding the effectiveness of distance education (Boltvinik & Damián, 2020).

### 3.3.3 Mexico's pandemic response policy

In response to these contextual conditions, the Mexican government formulated a pandemic response policy guided by the insights of epidemiological experts. This policy, known as the "Agreement establishing measures for epidemiological surveillance, prevention, and control of health risks associated with the SARS-CoV-2 virus disease," aimed to strategically combat the pandemic (Secretaría de Gobernación, 2020). The primary focus was on reducing social contact by implementing non-essential activity restrictions and promoting social distancing.

Rather than redirecting medical infrastructure towards managing contagion networks, the government chose to strengthen the healthcare system while awaiting research and development solutions. This approach aimed to prevent strain on healthcare resources and mitigate inequality (Secretaría de Gobernación, 2020).

To monitor the pandemic, the government adopted the Modelo Centinela, a sample-based surveillance model informed by data from the National Epidemiological Surveillance System (SINAVE) (Gobierno de México, 2020b). However, it is worth noting that the data primarily came from individuals seeking care at select hospitals, which limited its representation of the broader population and excluded data from private sector laboratories and other external sources (Revuelta Herrera & Barrera Badillo, 2014; Ornelas Aguirre & Vidal Gómez Alcalá, 2020).

Despite these limitations, the successful implementation of the Modelo Centinela facilitated timely monitoring, fostered social solidarity, and prevented the collapse of the healthcare system, resulting in a lower mortality rate. Consequently, the public policy response to the pandemic centered around several Policy Guidelines (PG), some of which were already part of the government's existing program:

- PG1: Swiftly strengthen hospital infrastructure and expand medical staffing to avoid overwhelming the healthcare system.
- PG2: Centralize the procurement of medications and supplies through international bodies (UN) to address unethical practices by pharmaceutical companies.
- PG3: Intensify austerity measures in government spending, coupled with anticorruption efforts and improved tax collection, to recover resources, maintain economic viability, and prevent excessive public debt. This is vital to setting up favorable economic conditions for a swift post-pandemic recovery.
- PG4: Enhance international agreements and ensure their effective implementation, promoting multilateralism with private sector involvement.
- PG5: Preserve and expand social programs targeting marginalized and high-risk groups.
- PG6: Amplify programs tailored for micro, small and medium-sized enterprises (MSMEs) to mitigate unemployment in the sector, which employs a significant portion of the population.
- PG7: Encourage social mobility among youth through scholarships and incentives to facilitate their integration into the labor market.

- PG8: Sustain macro-infrastructure projects as mechanisms to minimize job losses and expedite economic recovery.
- PG9: Establish ongoing communication channels with society to deliver accurate information about the pandemic's development, preventing the distortion and misinterpretation of information.

### 4. Construction of the assessment model

In our approach to assessing Mexican public policies, we used the Analytic Hierarchy Process (AHP) to create the evaluation model (Saaty, 2001). This tool, developed by Saaty, initially aims to assist decision-making but can extend to diverse evaluations like pre-post evaluation and compliance evaluation. The AHP uses a top-down analysis to address problem complexity and avoids the limitations of reductionist methods.

The AHP methodology provides a comprehensive and systematic policy review. We built the evaluation model using the following steps:

- 1. Identify the evaluation criteria.
- 2. Develop a hierarchy that reflects the problem's complexity and the policy elements.
- 3. Establish the weights of the various criteria and sub-criteria by confirming the consistency of judgments.
- 4. Evaluate the policy results and feed the hierarchy's terminal elements to determine its effectiveness and make conclusions.

### 4.1 Evaluation criteria and hierarchy

The comprehensive analysis conducted in section 3.3 of this study provided valuable insights into the policy elements under review. These insights enabled the working group to identify the necessary evaluation criteria and sub-criteria for the research question outlined in section 3.3.1.

With a clear understanding of the evaluation object and goal, the working group engaged in a brainstorming session to address questions such as 'What are the key evaluation criteria for assessing public policies in response to the pandemic?' and 'What are the economic implications of the COVID-19 response policy?' As expected, the answers varied significantly, resulting in an initial list of evaluation criteria. To avoid semantic confusion, we provided a brief description for each criterion. The criteria were initially listed randomly, without considering their possible hierarchy. However, through group discussion, we discovered that the evaluation criteria related to the COVID-19 public policy could be categorized into four dimensions: Medical, Economic, Political, and Social. This finding guided the analysis of the study object in section 3.3, focusing on these four dimensions.

We proceeded by formulating questions and solutions to break the criteria down into sub-criteria. It was essential to ensure that each sub-criterion aligned with the meaning of its parent criterion and the evaluation objectives. This recursive approach allowed us to continually break down complex criteria into simpler parts, generating new sub-criteria at various levels of aggregation until we reached terminal elements. To adhere to George A. Miller's (1956) cognitive limit of 'magic number' seven plus/minus two, we aimed to have a maximum of 9 or 10 sub-criteria per criterion.

To provide further clarity, here are examples of representative questions and their corresponding answers:

Q: If criteria A and B are not directly measurable, how can A be decomposed?

A: Criterion A can be subdivided into A1, A2, and A3.

Q: Similarly, how can B be disassembled?

A: Criterion B is composed of B1, B2, B3, and B4.

Q: If A1 is difficult to measure, what are its primary components?

A: A1 can be further decomposed into A1a and A1b.

These questions ensured the consistency of the resulting sub-criteria, aligning them with the original criterion's meaning and the overall evaluation goal. This cyclical process of construction continuously broke down different criteria into simpler ones, generating new sub-criteria at various levels of aggregation until we reached terminal elements. These terminal elements represent directly observable and quantifiable variables. For these elements, measurements should either already exist or be readily evaluated by a subject matter expert using an ordinal scale.

The evaluation model consists of four levels: overarching categories (Medical, Economic, Political, and Social), specific sub-criteria, additional divisions of sub-criteria into components, and measurable indicators for assessing performance.

### M Medical criteria

<u>M1 Improvement of health services:</u> Strengthening the government's capacity of the health sector infrastructure to be able to care for the sick.

M1.1 Sufficiency of health care beds: Government actions to increase hospital infrastructure to avoid saturation due to high demand.

M1.2 Sufficiency of medical personnel: Government actions to increase the number of medical personnel available to attend to the pandemic.

M1.3 Guarantee budgetary sufficiency to attend to the pandemic: Actions to provide budgetary sufficiency in the acquisition of medical supplies.

<u>M2. Effectiveness of health services:</u> Capacity of the health sector to attend to COVID cases efficiently and effectively.

M2.1 Efficiency of hospital care: Capacity of the health sector to help sick people recover.

<u>M2.2 Equal access to health services:</u> Ability of the health sector to provide equal care to patients at any time and in any locality.

M3. Case detection capacity: Capacity of the health sector to detect and track cases and transmission networks.

<u>M3.1 Contagion testing:</u> Sufficiency in the application of tests by the health sector for the detection of cases and networks of contagion.

<u>M3.2 Monitoring of cases and infection networks:</u> Agreements with economic actors to generate IT mechanisms that enrich the collection of information on infection networks.

M3.3 Quality data recording: Operation of systems for reconciliation and consolidation of the registry in geographical databases, with relevant, reliable, and timely information in due time and form.

- <u>M4. Health logistics:</u> Coordination of inter-institutional actions for logistical support to the health sector.
- M4.1 Procurement of medicines, supplies, and equipment: Government actions for the rapid and expeditious purchase of medical supplies, under fair and corruption-free conditions.
- M4.2 Distribution of medicines, supplies, and equipment: Inter-agency actions for the timely delivery of medical supplies.

### E Economic criteria

- <u>E1. Protect stability and growth:</u> Government actions aimed at maintaining economic stability and mitigating growth decline.
- <u>E1.1 Policy instruments for MSMEs:</u> Protection mechanisms for MSMEs.
- <u>E1.2 Maintain public investment in infrastructure:</u> Strengthen infrastructure projects to maintain jobs, boost the domestic economy and generate the conditions for economic recovery.
- <u>E1.3 Consolidate tax collection:</u> Improve collection mechanisms and combat the various forms of tax evasion.
- <u>E1.4 Control inflation:</u> Keep inflation at controllable levels.
- <u>E1.5 Labor projects to incorporate informal workers, youth, and communities:</u> Government actions with direct economic support to promote the insertion of people into the labor market.
- <u>E2. Maintain economic viability:</u> Promotion of public policies aimed at the early restoration of economic activity with a view to reintegration into the market and the search for competitive advantages.
- <u>E2.1 Promote the integrity of the financial system:</u> Actions aimed at strengthening the regulation and supervision of the financial system to protect the interests of most of the population.
- <u>E2.2 Combating corruption:</u> Government actions aimed at strengthening its capacity to combat corruption.
- E2.3 Control public debt: Government actions to control the level of public debt.
- <u>E2.4 Maintaining the validity and relevance of international treaties:</u> Government actions that maintain and continuously improve trade and political relations with all countries.
- <u>E3. Protection programs for relevant sectors:</u> Promotion of public policies that focus on providing logistical and infrastructure support to the national economy.
- <u>E3.1 Modernize customs logistics:</u> Government actions to strengthen the customs system to reduce smuggling and facilitate the importation of medical supplies.
- <u>E3.2 Promotion and encouragement of relevant sectors:</u> Government actions aimed at supporting sectors that drive economic growth.

# P Political criteria

- <u>P1. Maintaining governance:</u> The set of conditions that enable the function of governing to be exercised.
- <u>P1.1 Social credibility:</u> Society's position regarding the acceptance and credibility of government actions.
- <u>P1.2 Respect for human rights:</u> Government actions to promote, respect, protect and guarantee human rights.
- P1.3 Improve social justice: State actions aimed at reducing poverty and inequality.
- <u>P1.4 Maintain criminal justice services:</u> Mechanisms by which the State preserves the operation of the criminal justice system.

- <u>P2. Legal security:</u> Element related to the enforcement of the principle of legality to provide certainty and credibility.
- P2.1 Independence and effectiveness of the powers of law enforcement and the administration of justice: State actions that maintain full respect for the decisions taken by each power in the execution of its functions.
- <u>P2.2 Effectiveness of the audit system:</u> State actions to maintain audit processes in pandemic times.
- <u>P2.3 Transparency of the securities market:</u> Promoting the assurance required by users of the securities market about the relevant aspects of issuing companies and securities issued, in a timely and accurate manner.
- <u>P2.4 Accountability of government institutions:</u> Government actions through which accountability actions are maintained despite the effects of the pandemic.
- <u>P3. Public communication:</u> Government actions aimed at disseminating information and messages for different purposes and in different media and information channels, always guaranteeing freedom of expression.
- <u>P3.1 Freedom of the press and expression:</u> Government preservation of the fundamental right of individuals to freely speak, express and disseminate what they think without being harassed or repressed.
- <u>P3.2 Transparency of public institutions:</u> Refers to the manner and efficiency with which government reports and makes public information available to citizens.
- <u>P3.3 Attitudes of government communication:</u> Ways of communicating by public officials, which by their characteristics affect the interpretation, acceptance or rejection and attitudes of the receiving population.

### S Social criteria

- <u>S1. Protection of the population:</u> Set of government interventions aimed at reducing the economic and security risk arising from the circumstances imposed by the pandemic.
- <u>S1.1 Economic support to vulnerable groups:</u> To provide economic stimuli and support according to the needs of each sector to cope with the pandemic.
- <u>S1.2 Public security:</u> A set of state actions aimed at protecting the vital core of people from critical and widespread threats, as outlined by the Inter-American Institute of Human Rights (IIDH).
- <u>S1.3 Maintain civil justice services:</u> Government actions to maintain the operation of civil justice services.
- <u>S1.4 Maintain basic services:</u> Government actions to maintain basic services to the population, such as water and sewage, electricity supply, fuel supply and food supply.
- <u>S2. Social stability:</u> State policies aimed at maintaining a climate of security and harmony that allow the country to grow and develop in a balanced way.
- <u>S2.1 Strengthening the social fabric:</u> State actions aimed at promoting people's mutual trust and building forms of social solidarity.
- <u>S2.2 Control of destabilizing actions:</u> State actions aimed at detecting, controlling and deactivating destabilizing social actions promoted by self-interested groups.
- <u>S2.3 Promote the social and functional performance of the population:</u> Government actions aimed at preserving the performance of the educational system and the mental health of the population in general.
- <u>S3. Social communication:</u> Effectiveness of the state to communicate in a broad, truthful, relevant, and timely manner, the information required by the population for decision-making in times of pandemic.

- <u>S3.1 Social recognition of health personnel:</u> Government actions aimed at protecting the image of health workers and their social recognition.
- <u>S3.2</u> Provide communication on the development of the pandemic: Government actions that generate wide dissemination of accurate, relevant, timely and clear information on all matters related to pandemic care.
- <u>S3.3 Consolidate coverage and free access to the internet:</u> Agreements with communications operators and use of state infrastructure to extend internet coverage to the entire population.

During the construction of the hierarchy, it became evident that the arrangement of the various elements was based on the rationalization of the participants. This rationalization process resulted in a consensual structure, independent of the ideological positions of each participant.

The hierarchical structure, illustrated in Figure 1, provides a focused analysis while encompassing a broad perspective. It incorporates quantifiable metrics and expert evaluations to effectively assess the effectiveness of the public policy.

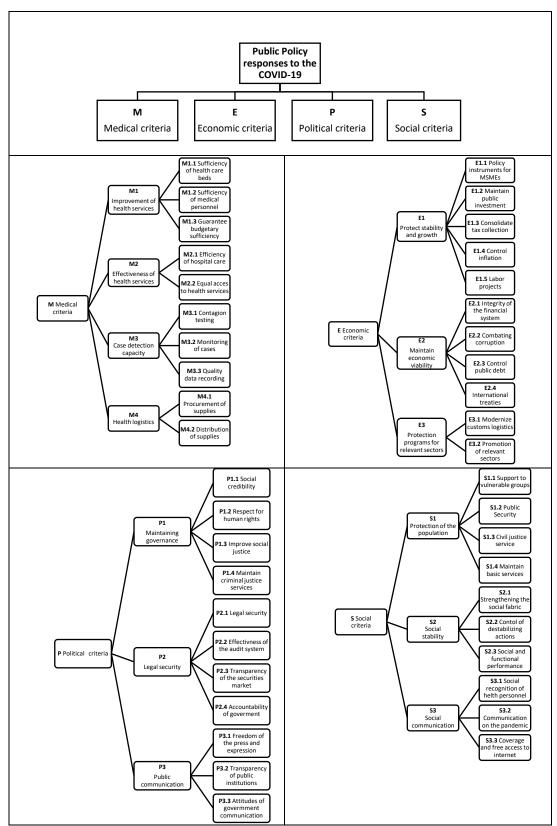


Figure 1 Public policy MEPS dimension hierarchies

While constructing the evaluation model, the hierarchical structure was instrumental in mitigating ideological biases among group members. By organizing the criteria and subcriteria in a structured manner, individual biases were counterbalanced and contextualized within a broader framework. This approach gave objectivity to the analysis, incorporating interactions and observed outcomes to arrive at more balanced and well-informed evaluations.

# 4.2 Weighting of criteria

Weighting of criteria and sub-criteria followed Saaty's preference scale, which necessitates multiple rounds of analysis to reach a consensus.

Table 2 Saaty's preference scale

Saaty Scale		Saaty Reciproca	Saaty Reciprocal Scale		
Likewise	1	Likewise	1		
Slightly more	3	Slightly less	1/3		
More	5	Less	1/5		
Much more	7	Much less	1/7		
Definitely more	9	Definitely less	1/9		

The working group engaged in an extensive process to frame the comparison questions and establish preferences among the criteria. These judgments were informed by specialist literature, media sources, and occasional consultations with other experts. The group made consensus-building a priority during the weighting exercises, conducting multiple rounds of analysis to encourage discussions and debates among participants. The comparisons for the first criterion were particularly contentious, as they served as a reference for subsequent comparisons, ensuring consistency in the process.

For example, Table 3 showcases an example of applying pairwise comparisons for the element "S1. Protection of the population." It displays pairwise comparisons between different sub-criteria (like S1.1, S1.2, S1.3 and S1.4) using a scale of relative importance. The final column, marked as "W," denotes the calculated weights for each sub-criterion based on the comparisons. Due to space limitations, only the example for the "S1. Protection of the population" element is provided, but a similar process was used for the other elements in the hierarchy.

Table 3 Pairwise comparisons for "S1. Protection of the population"

Criterion	S1.1	S1.2	S1.3	S1.4	W
S1.1	1	5	7	3	0.5579
S1.2	1/5	1	3	1/3	0.1219
S1.3	1/7	1/3	1	1/5	0.0569
S1.4	1/3	3	5	1	0.2633

As we built the weighting matrix, we also validated its consistency using Saaty's proposed method. Given the comparison scale, and therefore direct knowledge of the relative preferences associated with a particular element (and its reciprocal matrix), it's possible to identify the eigenvalue ( $\lambda$ max). This allows the calculation of the Consistency Index (CI), a measure of the matrix consistency's deviation:

$$CR = \frac{\lambda max - n}{n - 1}$$

Where "n" denotes the number of criteria in the matrix. With this, we can determine the Consistency Ratio (CR) using the Random Index (RI) table. The RI measures the consistency of a random matrix with forced reciprocals on the same scale from 1 to 9, following Saaty's calculation for this index.

Table 4 Random Index

Size	of	the	2	3	4	5	6	7	8	9	10
matrix											
Rando	m ind	ex	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

$$CR = \frac{CI}{RI}$$

To determine the consistency of this matrix, after constructing a preparation matrix that multiplies the weight of each criterion by the preponderance of each comparison, the results of which were summed in a final column, it was possible to determine  $\lambda_{max}$ . To this end, the approximate method proposed by Saaty was applied (Saaty, 2014), and after multiplying each of the weights by each of the cells and summing them by line, dividing these sums by the eigen vector W, the result is obtained:

$$\begin{pmatrix} 2.3555 \\ 0.4919 \\ 0.2299 \\ 1.0994 \end{pmatrix} \div \begin{pmatrix} 0.5579 \\ 0.1219 \\ 0.0569 \\ 0.2633 \end{pmatrix} = \begin{pmatrix} 4.2222 \\ 4.0362 \\ 4.0408 \\ 4.1747 \end{pmatrix}$$

Where  $\lambda_{max}$  is the average of the resultant vector, whereby:  $\lambda_{max} = 4.1185$ ; CI = 0.0395 and RC = 0.0444. For each matrix, the consistency ratio was determined, and the analysis was deepened until the values recommended by Saaty (less than: 0.05 for 3 x 3 matrices; 0.09 for 4 x 4 matrices; and 0.10 for larger matrices) were achieved as far as possible.

# 4.3 Assessments

The assessment of public policies entails a complex and multidimensional approach. While some aspects of our analysis can be measured using conventional normalization processes and quantifiable metrics, others require a more nuanced methodology to accurately capture their intricacies. Our assessment framework is tailored to address these complexities, providing a customized strategy that is fine-tuned to meet the challenges presented by each element.

For example, let's consider the element E1.3 (Consolidate tax collection). Despite the challenging economic environment, which led to a significant reduction in GDP, our analysis revealed an unexpected increase in tax collection at a real rate of 0.80% compared to 2019 figures (Secretaría de Hacienda y Crédito Público, 2020). Such anomalies highlight the need for a measurement framework capable of discerning the subtleties inherent in real-world data. In this case, we adopted a fuzzy measurement scale based on the five-year average total tax collection.

On the other hand, evaluating components like E2.2 (Combat corruption) required a synthesis of diverse metrics. Beyond relying solely on perception-based indices, our analysis encompassed factors such as demonstrated political commitment, proactive anti-corruption initiatives, and tangible economic impacts. To accommodate the broad range of data types and sources, including official statistics, UN-WHO reports, academic research, and NGO findings, we employed a grading scale that was flexible enough to capture the complexities of the evaluation.

In determining the terminal criteria, our methodology incorporated diverse data forms, including expert subjective evaluations, index-based metrics, non-normalized measures (such as the inflation) and statistical analyses. To ensure accessibility and comprehension for a broad audience, we selected a 0 to 10 scale for reporting these findings. This scale, reminiscent of traditional grading systems, facilitates immediate understanding and encourages deeper engagement with the presented results.

Furthermore, our methodology for data standardization considers the specific nature of each element under review.

- For the case of indicators determined by hard data, which have periodic measurements and open scales, such as inflation and the level of debt relative to GDP, the averages observed over the last 5 years were determined, and this average was established as the total veto threshold. Thus, a value of 10 was assigned to scores that reached or exceeded this value, and 0 otherwise.
- For index-type measurements that are determined by combining various factors including perceptual variables, such as the Peace Index and the Press Freedom Index, the average observed over the last 5 years was established as the minimum norm threshold. To reduce the effects of perceptual biases, a fuzzy threshold of ±10% was established.
- Elements without measurement indices or indicators, such as "maintaining the validity of international treaties," were evaluated perceptually by the working group, employing the geometric mean in cases of disagreement.
- For complex elements, a hierarchical structure was established to discern component weights through pairwise comparisons.

Take terminal element M1.1 as an example. We analyzed the health sector's performance in providing COVID-19 care beds. Our examination included a statistical review of bed saturation, an evaluation of expanded hospital space, and an analysis of the increase in intensive care beds for COVID-19 care. To assess this element, we established a two-tier hierarchy focusing on M1.1 and its corresponding criteria.

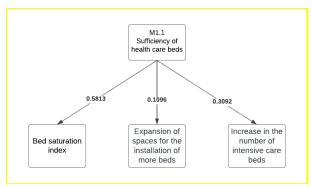


Figure 2 Element M1.1

- Bed Saturation Index: Weight = 0.5813; for the measurement scale, a minimum saturation threshold of 70% was assigned, which is the recommendation in the Guidelines for risk estimation of the COVID-19 traffic light by regions (Secretaría de Salud, 2021) to alert about the risk of health system overflow. It should be noted that some medical units reached up to 100% occupancy while others, on the same days, showed very low levels, which reflects a lack of equal access for the population and represents a social problem, which is considered in another criterion of the hierarchy. Therefore, the assessment was determined by considering the ratio of the number of days when national occupancy was greater than 70% (rating 0) and the number of days when occupancy was 70% or less (rating 10), the saturation values were taken from Secretaría de Salud (2020). Contribution = 0.5813 X 10 = 5.8130.
- Expansion of spaces for the installation of more beds: This criterion carried a weight of 0.1096. We evaluated the progress of the Guidelines for hospital reconversion plan (2020c), which included the designation of "COVID Hospitals," identification of other potential COVID hospitals, and preparation of additional areas for COVID care. The evaluation of the plan's progress yielded a rating of 6.5474 (after applying the geometric mean to expert opinions) Contribution = 0.1096 X 6.5474 = 0.7176.
- Increase in the number of intensive care beds: With a weight of 0.3092, for the evaluation of this indicator, the average number of intensive care beds recommended by the WHO for countries of the "upper-middle income" category was taken as a reference, which indicates 1.13 beds per 10,000 inhabitants. The adopted measurement scale represents the percentage of beds achieved with respect to the recommended on a scale of 0 to 10, with the obtained rating being 7.25. Contribution = 0.3092 X 7.25 = 2.2417.

Once the preferences were determined using the method of binary comparisons and the values of each sub-criterion were established, it was found that the rating for this variable is 5.8130 + 0.7176 + 2.2417 = 8.7723.

# 5. Analysis of results

The comprehensive implementation of the policy achieved a total score of 7.4970. We have documented all the intricate details regarding weights, ratings, and scores in the "Summary Table" found in the Appendix. Table 5 in our initial analysis breaks down the four MEPS dimensions. In this table, Wi stands for the internal weight of each cluster within the scope of public policy focus. Wg represents each criterion's total contribution

to the hierarchy. Ci and Cg signify the score each criterion achieved on a 0 to 10 scale, and the contribution of each criterion to the overall rating of the COVID care policy, respectively.

Table 5 Weight of the MEPS criteria

	Criterion	Wi	Wg	Ci	Cg
M	Medical	0.5172	0.5172	7.3305	3.7913
${f E}$	Economic	0.1335	0.1335	8.0328	1.0722
P	Political	0.0657	0.0657	6.3073	0.4144
$\mathbf{S}$	Total social	0.2836	0.2836	7.8252	2.2190
Hea	lthcare policy total	1.0000	1.0000		7.4970

This breakdown reveals the significance of health services with a weight of 0.5172 and social matters with a weight of 0.2836. It is evident that the government prioritized addressing the health and social implications of the pandemic, while assigning less importance to political aspects, which had a weight of 0.0657. Specifically, when disaggregating the M cluster, Table 6 showcases the results.

Table 6
Internal weightings, ratings, and contributions of the medical cluster to the assessment of the Care Policy

Criterion	Wi	Wg	Ci	Cg
M1 Improvement of health services	0.5579	0.2885	7.6482	2.2068
M2 Effectiveness of health care	0.1219	0.0630	7.7091	0.4860
M3 Case detection capacity	0.0569	0.0294	6.3015	0.1854
M4 Health logistics	0.2633	0.1362	6.6928	0.9114
<b>Total Medical Cluster</b>	1.0000	0.5172	7.3274	3.7897

Criterion M1, which focuses on improving health services, demonstrates the following results in Table 7.

Table 7 Weightings, ratings, and inputs for sub-criterion M1 Improving health services

Criterion	Wi	Wg	Ci	Cg
M1.1 Sufficiency of health care beds	0.2000	0.0577	8.7723	0.5062
M1.2 Sufficiency of medical personnel	0.6000	0.1731	7.5578	1.3085
M1.3 Guarantee budgetary sufficiency	0.2000	0.0577	6.7951	0.3921
Total M1	1.0000	0.2885	7.6482	2.2068

The ratings for M1.1 and M1.2, which assess efforts to prevent the collapse of the health system, provide valuable insights into the effectiveness of the implemented measures. Actions taken to increase medical staff, improve retention, and recruit doctors earned a rating of 7.5578. The highest rating of 8.7723 was assigned to the sufficiency of health care beds, highlighting the success of endeavors to prevent overwhelming the health system (Organización Panamericana de la Salud, 2019). A rating of 6.7951 was given to

budget sufficiency, indicating the need for a greater focus on immediate health concerns rather than long-term preventive strategies.

Several criteria received ratings above 8, including the sufficiency of care beds, efficiency of hospital care, financial support for vulnerable groups, control of destabilizing actions, communication about pandemic development, tax collection, control of inflation and public debt, and the legitimacy and transparency of international treaties. This pattern suggests a strategic policy management approach aimed at strengthening the health system, protecting vulnerable populations, maintaining governance, and mitigating medium to long-term economic risks.

On the other hand, some criteria underperformed with ratings below 6. These criteria included evidence of contagion, tracking of case/contagion networks, integrity of the financial system, promotion of key sectors, judiciary's independence and effectiveness, freedom of the press/expression, and maintenance of civil justice services. These ratings highlight the strengths and weaknesses of the measures enacted across a diverse set of criteria.

# 6. Discussion

In this discussion, we focus on the implementation nuances of Mexico's public policy response to the COVID-19 pandemic, using the AHP for evaluation. The governmental policy guidelines (section 3.3.3) provided the foundation for the identification, selection, and structuring of the hierarchy. The evaluation results, summarized in Table 8 showcase the effectiveness of each policy guideline based on the hierarchy criteria.

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Table 8 Results of the policy guidelines

	Policy Guidelines	Wi	Ci
PG1	Rapidly enhance hospital infrastructure and expand medical staff.	M1	7.6482
PG2	Centralize the procurement of medications and supplies.	M4.1	7.0534
PG3	Austerity in government spending, anti-corruption and improved tax collection, to recover resources.	E2.2, E1.3, E2.3	8.0775
PG4	Enhance international agreements.	E2.4	8.1400
PG5	Preserve and broaden social programs.	S1.1	8.2246
PG6	Amplify programs for MSMEs.	E1.1	4.6247
PG7	Promote social mobility among youth through scholarships and incentives that facilitate their integration into the labor market.	E1.5	6.4356
PG8	Sustain macro-infrastructure projects.	E1.2	7.1844
PG9	Continuous communication channels with society to deliver accurate information about the pandemic's development.	S3.2	8.1572

The application of the AHP revealed the complexity of evaluating Mexico's COVID-19 policy, given the dynamic nature of the pandemic. Our findings indicate that medical and healthcare initiatives, such as enhancing hospital infrastructure and centralizing medical supplies procurement, showed notable progress. However, there is room for improvement in preparedness and rapid action in public health crises.

On the economic front, certain initiatives aimed at supporting small and medium-sized enterprises fell short of expectations, highlighting the challenge of deploying uniform policies in a diverse economic landscape. Nevertheless, Mexico demonstrated foresight and resilience in managing economic risks, particularly in tax collection and inflation control. However, it's important to consider these efforts within the broader socioeconomic impact of the pandemic and recognize both the strengths and limitations of the response strategies employed.

Mexico's handling of the economic repercussions of the pandemic, particularly in terms of inflation control and public debt management, indicate a cautious approach amid global financial uncertainties. The central bank's interventions to adjust interest rates, detailed by INEGI (2021), and the government's restraint in increasing public debt, as contrasted with strategies in other nations (Martín, 2020; Breuer, Cohen, et al., 2020),

exemplify a measure of prudence. However, these measures, while indicative of fiscal and financial caution, also necessitate a balanced critique acknowledging the broader economic strains faced by the populace.

Morales (2021) provides an analysis of Mexico's economic strategy during the pandemic, suggesting that while there were areas of notable management, the overall approach should be assessed with an understanding of the nuanced challenges and the varying degrees of success across different policy areas.

Future public policies, drawing from the experiences of the pandemic, should strive for a balance between immediate crisis management and long-term fiscal sustainability. This balanced approach is essential for building resilience against future shocks and ensuring a pathway towards recovery that is inclusive and comprehensive.

### 7. Conclusions

The resilience and efficacy of public policy depend on its adaptability to evolving circumstances. This study's exploration of Mexico's response to the COVID-19 pandemic underscores the pivotal role of such adaptability in governance. Through a nuanced evaluation, we observed a varied performance across different policy areas: significant strides in healthcare and medical responses contrasted with mixed outcomes in economic interventions and notable challenges in political and social strategies.

This underlines the importance of adaptability within strong governance structures to create effective responses to emergent challenges. It also raises the need for improving the health sector infrastructure, including increased testing capacity and hospital readiness, along with more effective economic interventions and enhanced political and social interventions to bolster communication, transparency, and support for vulnerable populations.

Our study acknowledges the potential biases inherent in selecting a predominantly academic working group, which might lean towards theoretical rather than practical considerations. To counter this, we ensured representation from professionals actively involved in pandemic response efforts, aiming for a balanced perspective between theoretical frameworks and on-the-ground realities.

Importantly, our use of the Analytic Hierarchy Process (AHP) has underscored its considerable potential in evaluating these highly complex and impactful public policies. The AHP's flexibility, its adeptness at handling complex scenarios, and its ability to assimilate diverse data types have been particularly invaluable. This methodology facilitated the concise aggregation of pertinent, systematized information, which in turn can assist in systematizing the experience and generating best practices for the future, hereby supporting informed decision-making. The ease of addressing social problems using the AHP and the ability to effectively engage public information and experts were strong points in favor of using it in this study, as opposed to attempting the more generalized Analytic Network Process (ANP) approach.

It's important to recognize that our methodology, though robust, captures only one perspective of the problem. As highlighted by Saaty (2014,1997), our analytical

framework "...is not cast in bronze...in the future, it is possible to alter its parts to incorporate new criteria that were not considered in the initial design." This openness to iterative refinement is essential as we deepen our understanding of policy impacts and dynamics.

Similarly, using a networking model approach and performing an Analytic Network Process (ANP) analysis could help us obtain deeper understanding of the policy interactions. While not initially using the ANP could justly be considered a limitation of the present study, the fact that the influences of elements from one dimension to the other were rather few and unidirectional show that these differences would not be enough to change the major findings of the present study.

Looking forward, the potential for alternative analytical frameworks, such as BOCR analysis, to further elucidate the effectiveness of Mexico's policies compared to potential alternatives, presents an exciting avenue for research. This approach will not only augment our comprehension of policy efficacy but also contribute to the global body of knowledge essential for managing public health crises more effectively.

In sum, this study significantly enriches our understanding of Mexico's navigation through the COVID-19 pandemic and offers valuable insights for shaping more nuanced and effective responses to future global health challenges. It highlights the necessity of adaptable, robust public policy frameworks capable of addressing the complexities of such crises, drawing from a comprehensive and critically evaluated methodological toolkit.

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### **APPENDIX**

Summary Table. - This table compiles the study's results. It systematically records the weights and scores assigned to each criterion within the MEPS dimensions, providing a robust quantitative basis for our conclusions.

- W1 (Primary Level Weights): Represents the primary disaggregation weights within the policy focus, indicating the relative importance of each MEPS dimension in the overall policy evaluation framework.
- Wi (Internal Weights): Denotes the weightage of each criterion within its respective dimension, illustrating the hierarchical importance of specific policy aspects.
- Wij (Subsequent Level Weights): Calculated as W1Wi, this value reflects the internal weight of each criterion at a deeper level of disaggregation, further refining the evaluation structure.
- Wg (Global Weights): Indicates the global significance of each criterion within the entire evaluation hierarchy, integrating both its internal importance and its contribution to the overarching policy objectives.
- Ci (Criterion Scores): Represents the evaluated scores of each terminal criterion on a scale from 0 to 10, based on the analysis of policy implementation effectiveness.
- Cg (Global Ratings): Calculated as WgCi, this value quantifies each criterion's contribution to the final policy evaluation, offering a measure of its impact on the overall policy performance.

	W1	Wi	Wij	Wg	Ci	Cg
M1.1	0	0	0.2000	0.0577	8.7723	0.5062
M1.2	0	0	0.6000	0.1731	7.5578	1.3085
M1.3	0	0	0.2000	0.0577	6.7951	0.3921
M1	0	0.5579	0.2885	0.2885	7.6482	2.2068
M2.1	0	0	0.6210	0.0392	8.3749	0.3279
M2.2	0	0	0.3790	0.0239	6.3607	0.1520
M2	0	0.1219	0.0630	0.0630	7.6115	0.4799
M3.1	0	0	0.1062	0.0031	4.6545	0.0145
M3.2	0	0	0.2605	0.0077	4.2245	0.0324
M3.3	0	0	0.6333	0.0186	7.4321	0.1385
M3	0	0.0569	0.0294	0.0294	6.3015	0.1854
M4.1	0	0	0.5970	0.0813	7.0534	0.5734
M4.2	0	0	0.4030	0.0549	6.2998	0.3457
M4	0	0.2633	0.1362	0.1362	6.7497	0.9192
M	0.517	1.0000	0.5172	0.5172	7.3305	3.7913
E1.1	0	0	0.1952	0.0165	4.6247	0.0763
E1.2	0	0	0.1952	0.0165	7.1844	0.1186
E1.3	0	0	0.4624	0.0391	10.0000	0.3909
E1.4	0	0	0.0736	0.0062	10.0000	0.0622
E1.5	0	0	0.0736	0.0062	6.4356	0.0400
E1	0	0.6333	0.0845	0.0845	8.1388	0.6881
E2.1	0	0	0.0767	0.0027	4.3762	0.0117
E2.2	0	0	0.1915	0.0067	6.4950	0.0433
E2.3	0	0	0.5595	0.0195	10.0000	0.1946
E2.4	0	0	0.1723	0.0060	8.1400	0.0488

	W1	Wi	Wij	Wg	Ci	Cg
<b>E2</b>	0	0.2605	0.0348	0.0348	8.5770	0.2983
E3.1	0	0	0.4000	0.0057	6.7898	0.0385
E3.2	0	0	0.6000	0.0085	5.5678	0.0474
E3	0	0.1062	0.0142	0.0142	6.0566	0.0859
E	0.134	1.0000	0.1335	0.1335	8.0318	1.0722
P1.1	0	0	0.5549	0.0156	6.8000	0.1063
P1.2	0	0	0.2515	0.0071	6.3000	0.0446
P1.3	0	0	0.0968	0.0027	7.0600	0.0192
P1.4	0	0	0.0968	0.0027	6.3918	0.0174
P1	0	0.4286	0.0282	0.0282	6.6599	0.1875
P2.1	0	0	0.5646	0.0053	5.0000	0.0265
P2.2	0	0	0.2691	0.0025	6.3745	0.0161
P2.3	0	0	0.0752	0.0007	7.3648	0.0052
P2.4	0	0	0.0911	0.0009	5.3762	0.0046
P2	0	0.1428	0.0094	0.0094	5.5820	0.0524
P3.1	0	0	0.5484	0.0154	5.5000	0.0849
P3.2	0	0	0.2409	0.0068	7.7432	0.0525
P3.3	0	0	0.2107	0.0059	6.2405	0.0370
Р3	0	0.4286	0.0282	0.0282	6.1964	0.1745
P	0.0657	1.0000	0.0657	0.0657	6.3073	0.4144
S1.1	0	0	0.5579	0.0881	8.2246	0.7250
S1.2	0	0	0.1219	0.0193	7.0500	0.1358
S1.3	0	0	0.0569	0.0090	4.4800	0.0403
S1.4	0	0	0.2633	0.0416	7.8300	0.3257
S1	0	0.5571	0.1580	0.1580	7.7645	1.2267
S2.1	0	0	0.2605	0.0091	7.3078	0.0662
S2.2	0	0	0.6333	0.0220	8.0174	0.1765
S2.3	0	0	0.1062	0.0037	6.3918	0.0236
S2	0	0.1226	0.0348	0.0348	7.6599	0.2663
S3.1	0	0	0.1062	0.0096	7.5544	0.0729
S3.2	0	0	0.6333	0.0575	8.1572	0.4691
S3.3	0	0	0.2605	0.0237	7.7777	0.1840
S3	0	0.3202	0.0908	0.0908	7.9943	0.7260
S	0.2836	1.0000	0.2836	0.2836	7.8252	2.2190
Total	1.0000	0	0	0	0	7.4970