

Futures studies on the most influential and influenced factors affecting the promotion and enhancement of environmental protection culture in the governmental organizations of the Islamic Republic of Iran

Extended Abstract

Introduction: In the contemporary era, environmental protection has emerged as a fundamental concern due to rapid population growth, industrialization, and climate change. In Iran, promoting a culture of environmental protection within government organizations is critical for achieving sustainable development and institutionalizing eco-friendly behaviors. Environmental protection culture, defined by responsible attitudes and behaviors towards nature, can be a powerful driver for policy integration and institutional commitment to sustainability. Despite existing legal frameworks such as the Environmental Protection and Enhancement Act (1974), the Waste Management Act (2004), and the Clean Air Act (2017), the practical implementation of environmental culture remains limited. Therefore, identifying and prioritizing the most influential and influenced factors affecting the promotion and enhancement of this culture is crucial for strategic planning and improving institutional performance.

Materials and methods: This developmental-applied study adopted a strategic foresight approach using the Structural Interaction Matrix Analysis (MICA-MAC) method. The research population consisted of 23 experts, including university professors and high-ranking managers of Iranian governmental organizations, selected purposefully. Data were collected via structured interviews and expert scoring (from 0 to 3) to evaluate mutual influence among 10 key factors identified through literature review and document analysis. The influence (impact) and dependence (sensitivity) of each factor were calculated using MICMAC software, and their positions within the interaction matrix were analyzed to determine their strategic roles in system stability.

Results: The findings revealed that four factors were classified as the most influential (drivers) including the Inclusion of environmental standards in job descriptions (X10), Implementation of environmental guidelines in HR management (X8), Incentivization of pro-environmental behaviors (X6), and the use of clean and renewable technologies (X9). These drivers had the highest scores in terms of direct and indirect influence and were positioned in the upper left quadrant of the matrix. Conversely, factors such as performance evaluation indices (X1), dedicated environmental budgeting (X3), policy vision setting (X5), and infrastructure development (X4) were the most influenced (dependent variables), indicating their reliance on the proper establishment of the driving factors. Two factors — interdepartmental cooperation (X2) and transparency/accountability (X7) — were found to be independent (low influence and low dependence) and played a limited role in system dynamics.

Discussion and Conclusion: The study concludes that embedding environmental responsibilities in job roles and operational guidelines significantly influences institutional behavior. Reward mechanisms and the adoption of green technologies reinforce this culture and enhance organizational credibility. While dependent variables like budgeting and infrastructure benefit from strong policy support, their success depends on reinforcing the influential drivers. Surprisingly, transparency and interdepartmental projects, despite their importance, did not show a high level of influence or dependence, suggesting a need for strategic alignment. Policymakers are advised to institutionalize a digital environmental performance monitoring system, invest in green infrastructure, and align HR processes with sustainability goals. Future research may utilize qualitative methods (e.g., grounded theory, meta-synthesis) or structural equation modeling to further explore causal relationships.

Keywords: Environmental Protection Culture, Strategic Foresight, Governmental Organizations, MICMAC Analysis, Environmental Sustainability.