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Designing a Model for the Development of the Human Resource Participation System in the Islamic Republic of Iran Customs

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ABSTRACT

In terms of purpose, this study is applied research and seeks to design a model for the development of the human resource participation system in the Islamic Republic of Iran Customs. Based on the data collection method, it is a descriptive study conducted with an exploratory approach grounded in the interpretivist paradigm. The study participants consisted of professors of public administration and senior managers of the Customs Organization. Sampling was carried out using purposive sampling, and theoretical saturation was achieved after 22 interviews. Data were collected through semi-structured interviews and a questionnaire. The qualitative analysis of expert interviews was conducted using thematic qualitative analysis with MAXQDA software, and the resulting themes were screened using the fuzzy Delphi method in MATLAB software. Subsequently, the relationships among constructs were identified using Interpretive Structural Modeling (ISM) in MICMAC software, and the model for the development of the human resource participation system in the Islamic Republic of Iran Customs was designed. The research findings indicate that participation strategy, participative management, and a culture of participation influence job enrichment and career development. Job enrichment and career development affect employee empowerment and lead to job motivation, employee commitment, and employee satisfaction. Through these components, the achievement of employee participation ultimately becomes possible.

Keywords: employee participation; participative management; Islamic Republic of Iran Customs

Introduction

Employee participation has long been positioned as a core mechanism through which organizations mobilize human resources, improve decision quality, and enhance both individual and collective performance outcomes. In contemporary management research, participation is no longer treated merely as an optional "involvement" practice; rather, it is conceptualized as a multi-level system that links organizational strategy, managerial processes, and employee psychological states to observable behaviors such as idea generation, shared problem-solving, and sustained engagement. Classic and contemporary strands of scholarship emphasize that participation operates within specific institutional and organizational contexts, and its meaning, scope, and effectiveness vary depending on governance arrangements, employment relations, and the design of involvement practices (1). This contextual

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sensitivity is especially salient in public-sector organizations, where formal rules, accountability requirements, and administrative traditions may simultaneously create opportunities for participation and impose constraints on discretion. In such settings, participative management is often advanced as a pathway to improve responsiveness and policy implementation capacity, provided that participation is not reduced to symbolic consultation but is embedded in organizational routines and decision structures (2, 3). Accordingly, designing a development model for a human resource participation system requires an integrative view that accounts for enabling organizational conditions, managerial practices, and the psychological and behavioral mechanisms through which participation translates into outcomes.

A growing body of evidence links employee participation to organizational performance, particularly in emerging economies and resource-constrained contexts where organizational learning, adaptability, and coordinated effort are crucial for effectiveness. Empirical findings suggest that participation can contribute to improved organizational performance by increasing employees' voice, strengthening commitment, and aligning day-to-day practices with organizational priorities (4). However, research also shows that participation is not automatically beneficial; its impacts depend on the extent to which participation is genuine, the scope of influence granted to employees, and the broader human resource management architecture within which participation is implemented. For instance, participation initiatives may encounter practical limits when organizations lack complementary HRM practices, when managerial attention is inconsistent, or when involvement is detached from operational decisions (5). This indicates that organizations need a structured participation system rather than fragmented programs. Such a system should clarify participation domains, decision rights, feedback loops, and incentives, while ensuring that employees perceive participation as meaningful and consequential. Within this line of reasoning, a development model should capture both the "hard" elements (structures, policies, procedures) and the "soft" elements (culture, leadership, trust, psychological ownership) that collectively shape participation.

Recent research further underscores the strategic value of participation in change, innovation, and sustainability agendas. As organizations face rapid technological shifts, digital transformation, and new demands for ESG-oriented performance, the capacity to mobilize employees' ideas and commitment becomes a source of sustained competitive advantage. Evidence from organizational contexts undergoing transformation suggests that leadership and learning-oriented cultures can drive sustainable advantage when they foster engagement and participation as part of the organizational operating system (6). This perspective aligns with findings that an enabling human relations climate and organizational support increase readiness to change, partly by strengthening employee participation and leadership excellence (7). In other words, participation can operate as a bridging mechanism between strategic change programs and employees' willingness to adopt new practices. Similarly, participation has been positioned as a necessary capability for implementing sustainability strategies, since sustainability requires cross-functional coordination, continuous improvement, and employee-driven problem-solving. Action research proposals emphasize that sustainability deployment is more robust when employee participation is intentionally designed, resourced, and evaluated, rather than treated as a peripheral engagement activity (8). Complementary analytical work also highlights that employee participation shapes sustainability outcomes through interacting factors—such as leadership commitment, communication, and organizational learning—that mutually reinforce one another (9).

At the level of employee attitudes and behaviors, participation is repeatedly associated with desirable outcomes such as job satisfaction, commitment, retention, and engagement. Research on performance measurement

systems shows that employee participation in designing and using measurement practices can improve job satisfaction, particularly when leadership supports participation and communicates performance expectations clearly (10). From a human resource management standpoint, employee engagement is also shaped by "caring" HRM practices that signal organizational support and concern for employee well-being; such practices can strengthen engagement and provide a foundation for deeper participation in organizational processes (11). In addition, participation may influence retention through mechanisms such as psychological ownership, which fosters a sense of responsibility and attachment to the organization; evidence suggests that psychological ownership can improve retention when mediated by commitment and participation (12). These strands collectively imply that participation systems should be designed with attention to both formal participation channels and the employee experience of voice, respect, and influence. Moreover, the relationship between participation and employee outcomes is not purely direct; participation often interacts with broader organizational conditions such as leadership style, fairness, transparency, and the availability of developmental opportunities.

Organizational transparency and governance conditions are particularly relevant in public organizations, where procedural clarity and accountability are central. Studies indicate that transparency in governmental duties and cooperative or collective arrangements can support the success of participative management by increasing trust, reducing ambiguity, and strengthening perceived legitimacy of participation processes (13). Likewise, corporate social responsibility (CSR)—even when conceptualized as an organizational posture rather than a private-sector-only practice—has been associated with stronger human resource participation by reinforcing prosocial norms and shared responsibility (14). Participation also intersects with learning and innovation agendas: participative management can contribute to knowledge sharing and, through this route, to fundamental innovation outcomes (15). Training and skill development represent another lever in participation systems; evidence shows that further training can strengthen affective commitment, especially when employees participate in training decisions or processes, indicating the importance of employee agency in capability development (16). These insights reinforce the notion that participation is sustained when employees perceive that the organization invests in them and that they have a meaningful role in shaping both work processes and their own development.

Another important layer concerns leadership and the behavioral infrastructure of participative management. Transformational leadership has been linked to participative management and learning organization characteristics, suggesting that leaders who articulate vision, empower employees, and encourage voice can foster the organizational routines required for participation to become institutionalized (17). At the same time, participation must be designed to withstand variation in individual differences and organizational politics. For example, participative management can moderate the relationship between maladaptive personality traits (e.g., elements of the dark triad) and organizational citizenship behavior, implying that participation-friendly structures and managerial practices may buffer negative interpersonal dynamics and channel behaviors toward constructive contributions (18). In highly regulated and process-intensive organizations, participative management systems must also align with process governance. Research on customs-related organizational processes indicates that integrating IT governance with process management can improve value delivery, which suggests that participation in such environments should be coordinated with governance mechanisms and process architectures rather than positioned as an informal add-on (19). This is particularly consequential for the Islamic Republic of Iran Customs, where operational effectiveness depends on compliance, process integrity, and coordinated decision-making across units.

Despite the recognized benefits, participation initiatives in the public and quasi-public sectors frequently face implementation gaps related to institutional inertia, limited decision latitude, and fragmented participation channels. Ethnographic work highlights that employee participation is socially constructed in practice, shaped by organizational culture, informal norms, and everyday interactions; thus, participation system development requires attention to lived organizational realities rather than relying solely on formal policies (20). In community and local development contexts, participation in human resource development similarly depends on local capacity, social relations, and the presence of enabling mechanisms that allow stakeholders to contribute effectively (21). These findings, although derived from different contexts, emphasize a shared implication: participation systems must be tailored to context and must build participation capabilities (skills, understanding, confidence) alongside participation structures. Furthermore, when participation is extended into sensitive managerial domains, such as strategic planning and budgeting, it may also create tensions or unintended consequences. Experimental evidence suggests that frontline employee participation in strategic planning can affect managerial budget slack creation and evaluation, illustrating that participation changes information flows and incentives in ways that require careful governance design (22). Thus, a development model must be sufficiently nuanced to anticipate behavioral responses and to specify safeguards, feedback mechanisms, and decision rules that preserve integrity while enabling meaningful involvement.

Innovation culture and engagement-oriented climates provide additional justification for system-level participation design. In the contemporary organization, employee engagement is increasingly viewed as an outcome of cultural and managerial practices that support creativity, autonomy, and voice. Evidence indicates that an innovation culture can strengthen employee engagement and retention, suggesting that participation mechanisms function most effectively when embedded within a broader cultural context that values experimentation and continuous improvement (23). Moreover, participative management in public organizations can be operationalized through structured mechanisms such as proposal systems, committees, and joint decision forums, which require clear procedures for idea submission, evaluation, and implementation. Iranian scholarship has emphasized participative management with an explicit focus on suggestion systems, highlighting their role in institutionalizing employee voice and converting participation into actionable improvements (24, 25). From a methodological standpoint, designing a participation development model also requires robust analytical tools that can prioritize indicators and map causal or hierarchical relationships among constructs. Multi-criteria decision-making approaches provide a decision-support foundation for structuring complex indicator systems and evaluating interdependencies, thereby strengthening the rigor of model development (26).

In sum, the literature indicates that employee participation is a multi-dimensional phenomenon with strategic, cultural, managerial, and psychological foundations, and it generates outcomes ranging from engagement and commitment to innovation and sustainability, provided that it is implemented as a coherent system rather than isolated practices (1, 9, 11). For process-intensive public organizations such as the Islamic Republic of Iran Customs, participation must be designed to align with governance and process management requirements while still enabling meaningful employee voice and shared problem-solving (3, 19). The empirical and conceptual insights reviewed above imply the need for an integrated development model that identifies key drivers (e.g., participation strategy, participative management, participation culture), mediating mechanisms (e.g., job enrichment, career development, empowerment), and final outcomes (e.g., motivation, satisfaction, commitment, and employee participation) in a structured hierarchy suitable for implementation and evaluation (7, 10, 12, 13, 15, 16). Therefore,

the aim of this study is to design a development model for the human resource participation system in the Islamic Republic of Iran Customs.

Methods and Materials

In terms of purpose, this study is applied research and seeks to design a model for the development of the human resource participation system in the Islamic Republic of Iran Customs. Based on the method of data collection, it is a descriptive study conducted with an exploratory approach grounded in the interpretivist paradigm.

The population of research participants consisted of theoretical experts (professors of public administration) and experiential experts (managers of the Islamic Republic of Iran Customs) who possessed sufficient experience in the field of participative management systems. Based on the perspective of Miller et al. (2010), five key criteria—key informant status, prominence, theoretical knowledge, diversity, and motivation to participate—were used for participant selection. Sampling was conducted using purposive sampling, and theoretical saturation was achieved after 19 interviews. To avoid false saturation, three additional interviews were conducted, and after 22 interviews it was confirmed that no new themes were emerging. For the model development phase, the perspectives of the same experts were also utilized to maintain coherence and consistency throughout the study.

The main instruments for data collection were semi-structured interviews and a questionnaire. The interview protocol consisted of six initial questions and was conducted in a semi-structured manner. In the subsequent stage, a fuzzy Delphi questionnaire and a decision-matrix-based questionnaire were employed.

The validity of the qualitative component was evaluated and confirmed by reviewers based on Lincoln and Guba's criteria of credibility, transferability, confirmability, and dependability. To assess the reliability of the qualitative component and the coding of interview data, the method proposed by Holsti was used. For this purpose, the interview texts were coded in two stages, after which the percentage of observed agreement (PAO) was calculated.

In the above formula, *M* represents the number of coding agreements between the two coders, while *N1* and *N2* denote the total number of coding units identified by the first and second coders, respectively. The PAO value ranges from zero (no agreement) to one (perfect agreement), and values greater than 0.60 are considered acceptable. In this study, the PAO value was calculated as 0.627, which exceeds 0.60; therefore, the reliability of the qualitative component is acceptable. To determine the reliability of interpretive structural modeling, the intraclass correlation coefficient (ICC) was also estimated at 0.81, which falls within the acceptable range of 0.75 to 0.90 and indicates satisfactory reliability.

The primary qualitative method used in this study was thematic analysis, through which the themes of the human resource participation system development model in the Islamic Republic of Iran Customs were identified. Thematic analysis was conducted using MAXQDA 20 software. In the second phase, to validate the identified themes, the fuzzy Delphi method was applied using MATLAB software. Finally, the model was developed using interpretive structural modeling (ISM) with MICMAC software.

Findings and Results

The participants in the qualitative phase included 15 managers from the Customs Organization and 7 university faculty members. In terms of gender, 16 participants were male and 6 were female. Regarding age, 2 participants were under 40 years old, 7 were between 40 and 50 years old, and 13 were over 50 years old. In terms of educational level, 5 participants held a master's degree and 17 held a doctoral degree. Finally, with respect to work

experience, 9 participants had between 15 and 20 years of experience, and 13 had more than 20 years of work experience.

Table 1. Demographic Characteristics of the Experts

Demographic Characteristics	Category	Frequency	Percentage
Expertise	Theoretical experts (university faculty)	7	32%
	Experiential experts (Customs managers)	15	68%
Gender	Male	16	73%
	Female	6	27%
Age	Under 40 years	2	9%
	40–50 years	7	32%
	50 years and above	13	59%
Education	Master's degree	5	23%
	Doctoral degree	17	77%
Work experience	15–20 years	9	41%
	Above 20 years	13	59%
Total		22	100%

In the following stage, qualitative thematic analysis was conducted based on the six-step method proposed by Attride-Stirling (2001). For this purpose, the interviews were audio-recorded, and after each interview was completed, the data were transcribed along with descriptive details (including the interviewee's emotional expressions in response to the questions, environmental conditions, and related contextual features). Subsequently, the researcher repeatedly reviewed the transcripts and documented initial ideas. This step constitutes the backbone of the subsequent stages, as it is at this point that valuable insights regarding coding and model development emerge. After completing this stage, the researcher was prepared to initiate the coding process. Coding was carried out and defined throughout the entire analysis process. With each additional interview, the coding and analytical flow was repeated in the same manner. Interviews continued until data saturation was achieved, with the criterion for saturation being repetition in the extracted codes. During the open coding stage, 298 codes were identified. Ultimately, through axial coding, 5 global themes, 10 organizing themes, and 55 basic themes were extracted. The themes explaining the expansion of the employee participation system are presented in Table 2.

Table 2. Themes Explaining the Expansion of the Employee Participation System

Global Theme	Organizing Theme	Basic Themes
Individual Factors	Employee Empowerment	Sense of job meaningfulness; sense of job competence; sense of autonomy; sense of effectiveness; sense of participation with others; increase in employees' specialized knowledge; increase in employees' specialized skills; enhancement of employees' managerial capabilities
	Job Motivation	Preference for the Customs Organization over other organizations; positive attitude toward the Customs Organization; positive word-of-mouth about the Customs Organization; emotional attachment to the Customs Organization; cognitive sense of belonging to the Customs Organization; maintenance of an active relationship with the Customs Organization
	Employee Satisfaction	Satisfaction with Customs management; attractiveness of Customs facilities and processes; sense of satisfaction with job descriptions; satisfaction with the quality of services provided; perceived enjoyment of job scope
	Employee Commitment	Interest in continuing activities within the organization; diligence and sustained effort by employees; emotional and affective commitment to the organization; sense of responsibility and effort in performing duties; alignment of individual and organizational goals; self-regulation in carrying out organizational tasks
Job-Related Factors	Job Enrichment	Increase in job responsibilities; greater autonomy in task performance; meaningfulness of assigned tasks; challenging and attractive tasks; delegation of authority commensurate with assigned responsibilities

	Career Development	Diversity of tasks and activities; enhancement of job-related skills; reduction of repetitive and monotonous work; development of employees' job descriptions; job rotation and horizontal promotion
Organizational Factors	Organizational Culture	Participation-supportive values; participation-oriented organizational beliefs; participation-encouraging climate and atmosphere; spirit of participation and teamwork within the organization; accepted norms of participation
	Participation Strategy	Clear vision for employee participation; defined missions aligned with employee participation; long-term goal setting for employee participation; explicit strategies aligned with long-term goals; short-term goal setting for employee participation; executive policies for short-term objectives; presentation of executive procedures and processes for employee participation; formulation and communication of executive regulations for employee participation
Participation Factors	Participative Management	Top management support for employee participation; supervisors' willingness to facilitate employee participation; encouragement of employees' involvement in decision-making; soliciting employees' opinions and perspectives through various methods; utilization of employees' constructive suggestions; employee participation in departmental and unit-level decision-making; employee participation in organizational decision-making
	Employee Participation	Active presence of employees in diverse activities; voluntary employee actions toward goal achievement; provision of constructive feedback by employees; initiatives for two-way communication and interaction with the Customs Organization; participation in organizational decision-making; submission of creative and innovative suggestions to the organization; intrinsic inclination toward teamwork in the Customs Organization; co-creation of value with the Customs Organization

To screen and identify the final indicators of the employee participatory system development model in governmental organizations of the Islamic Republic of Iran, the fuzzy Delphi method was employed. Experts' judgments regarding the importance of each indicator were collected using a seven-level fuzzy linguistic scale.

Table 3. Seven-Level Fuzzy Scale for Valuing Indicators

Linguistic Variable	Fuzzy Value	Fuzzy Number Scale
Completely unimportant	1	(0, 0, 0.1)
Very unimportant	2	(0, 0.1, 0.3)
Unimportant	3	(0.1, 0.3, 0.5)
Moderate	4	(0.3, 0.5, 0.75)
Important	5	(0.5, 0.75, 0.9)
Very important	6	(0.75, 0.9, 1)
Completely important	7	(0.9, 1, 1)

Initially, experts' opinions regarding the importance of each indicator were collected and fuzzified based on the scale presented in Table 3. In the next step, expert judgments were aggregated using the fuzzy averaging method. For defuzzification, the center-of-area method was applied based on the relationship proposed by Zhang and Tang (1993).

Equation 1: Estimation of the fuzzy mean of triangular fuzzy numbers

$$F_{AVE} = \left(\left\{ \frac{\sum l}{n} \right\}, \left\{ \frac{\sum m}{n} \right\}, \left\{ \frac{\sum u}{n} \right\} \right)$$

Equation 2: Defuzzification of triangular fuzzy numbers

$$DF_{ij} = \frac{\left[(u_{ij} - l_{ij}) + (m_{ij} - l_{ij}) \right]}{3} + l_{ij}$$

A defuzzified value greater than 0.70 is considered acceptable, and any indicator with a score lower than 0.70 is rejected. All indicators achieved scores above the threshold, and therefore no indicator was eliminated. Nevertheless, for greater assurance, one additional round was conducted. The fuzzy Delphi analysis for the remaining indicators continued in the second round. In the second round, no items were eliminated, which itself indicates the termination of the Delphi rounds. In general, one criterion for concluding the Delphi process is to

compare the mean scores of items between the first and second rounds; if the difference between the two stages is smaller than a minimal threshold (0.20), the survey process is terminated.

Table 4. Difference Between the Defuzzified Values of Round 1 and Round 2

Indicators	Fuzzy Mean & Defuzzified Value (Round 1)	Fuzzy Mean & Defuzzified Value (Round 2)	Difference	Result
Participation-encouraging values	(0.652, 0.834, 0.936); 0.808	(0.707, 0.866, 0.955); 0.842	0.034	Agreement
Participation-oriented organizational beliefs	(0.691, 0.861, 0.957); 0.836	(0.698, 0.861, 0.955); 0.838	0.002	Agreement
Participation-encouraging climate and atmosphere	(0.689, 0.857, 0.945); 0.830	(0.605, 0.795, 0.909); 0.770	0.060	Agreement
Spirit of participation and teamwork in the organization	(0.725, 0.880, 0.955); 0.853	(0.700, 0.864, 0.950); 0.838	0.015	Agreement
Accepted norms of participation in the organization	(0.645, 0.834, 0.939); 0.806	(0.655, 0.839, 0.948); 0.814	0.008	Agreement
Clear vision for employee participation	(0.720, 0.877, 0.950); 0.849	(0.684, 0.845, 0.927); 0.819	0.030	Agreement
Defined missions aligned with employee participation	(0.752, 0.905, 0.982); 0.880	(0.720, 0.886, 0.964); 0.857	0.023	Agreement
Long-term goal setting for employee participation	(0.670, 0.855, 0.955); 0.827	(0.705, 0.866, 0.955); 0.842	0.015	Agreement
Explicit strategy aligned with long-term goals	(0.682, 0.861, 0.959); 0.834	(0.668, 0.839, 0.934); 0.814	0.020	Agreement
Short-term goal setting for employee participation	(0.652, 0.830, 0.925); 0.802	(0.686, 0.864, 0.964); 0.838	0.036	Agreement
Executive policies for short-term objectives	(0.675, 0.852, 0.948); 0.825	(0.709, 0.873, 0.961); 0.848	0.023	Agreement
Provision of executive processes and procedures for employee participation	(0.673, 0.841, 0.939); 0.817	(0.730, 0.886, 0.961); 0.859	0.042	Agreement
Formulation and communication of executive rules and regulations for employee participation	(0.666, 0.845, 0.952); 0.821	(0.655, 0.830, 0.934); 0.806	0.015	Agreement
Increased job responsibilities	(0.711, 0.875, 0.957); 0.848	(0.664, 0.832, 0.927); 0.808	0.040	Agreement
Greater autonomy in task performance	(0.698, 0.864, 0.941); 0.834	(0.702, 0.859, 0.948); 0.836	0.002	Agreement
Meaningfulness of assigned tasks	(0.659, 0.848, 0.950); 0.819	(0.670, 0.855, 0.955); 0.827	0.008	Agreement
Challenging and attractive tasks	(0.682, 0.843, 0.932); 0.819	(0.680, 0.855, 0.952); 0.829	0.010	Agreement
Delegation of authority commensurate with assigned responsibilities	(0.664, 0.832, 0.927); 0.808	(0.709, 0.873, 0.961); 0.848	0.040	Agreement
Diversity of tasks and activities	(0.743, 0.891, 0.959); 0.864	(0.680, 0.855, 0.952); 0.829	0.035	Agreement
Enhancement of job-required skills	(0.709, 0.870, 0.945); 0.842	(0.673, 0.850, 0.952); 0.825	0.017	Agreement
Reduction of repetitive and monotonous work	(0.757, 0.909, 0.973); 0.880	(0.711, 0.880, 0.968); 0.853	0.027	Agreement
Development of employees' job descriptions	(0.720, 0.886, 0.964); 0.857	(0.668, 0.848, 0.948); 0.821	0.036	Agreement
Job rotation and horizontal promotion	(0.668, 0.839, 0.934); 0.814	(0.650, 0.823, 0.927); 0.800	0.014	Agreement
Sense of job meaningfulness	(0.743, 0.900, 0.973); 0.872	(0.675, 0.845, 0.950); 0.823	0.049	Agreement
Sense of job competence	(0.670, 0.843, 0.945); 0.820	(0.684, 0.852, 0.945); 0.827	0.007	Agreement
Sense of choice/autonomy	(0.684, 0.864, 0.955); 0.834	(0.677, 0.850, 0.941); 0.823	0.011	Agreement
Sense of effectiveness/impact	(0.675, 0.857, 0.959); 0.830	(0.718, 0.875, 0.955); 0.849	0.019	Agreement
Sense of participation with others	(0.680, 0.855, 0.952); 0.829	(0.618, 0.807, 0.925); 0.783	0.046	Agreement
Increase in employees' specialized knowledge	(0.748, 0.902, 0.977); 0.876	(0.761, 0.911, 0.977); 0.883	0.007	Agreement
Increase in employees' specialized skills	(0.695, 0.864, 0.961); 0.840	(0.641, 0.825, 0.936); 0.801	0.039	Agreement

Enhancement of employees' managerial capabilities	(0.691, 0.852, 0.943); 0.829	(0.652, 0.843, 0.950); 0.815	0.014	Agreement
Preference for the Customs Organization over others	(0.689, 0.857, 0.945); 0.830	(0.641, 0.827, 0.932); 0.800	0.030	Agreement
Positive attitude toward the Customs Organization	(0.766, 0.907, 0.984); 0.886	(0.711, 0.880, 0.968); 0.853	0.033	Agreement
Positive word-of-mouth about the Customs Organization	(0.650, 0.823, 0.927); 0.800	(0.748, 0.895, 0.980); 0.874	0.074	Agreement
Emotional attachment to the Customs Organization	(0.718, 0.877, 0.970); 0.855	(0.709, 0.880, 0.959); 0.849	0.006	Agreement
Cognitive sense of belonging to the Customs Organization	(0.673, 0.841, 0.939); 0.817	(0.732, 0.893, 0.968); 0.864	0.047	Agreement
Maintaining an active relationship with the Customs Organization	(0.675, 0.857, 0.959); 0.830	(0.659, 0.841, 0.952); 0.817	0.013	Agreement
Satisfaction with Customs management	(0.684, 0.852, 0.945); 0.827	(0.659, 0.834, 0.925); 0.806	0.021	Agreement
Attractiveness of Customs facilities and processes	(0.648, 0.825, 0.934); 0.802	(0.664, 0.841, 0.941); 0.815	0.013	Agreement
Satisfaction with the job description	(0.684, 0.848, 0.943); 0.825	(0.668, 0.845, 0.932); 0.815	0.010	Agreement
Satisfaction with service quality	(0.677, 0.852, 0.957); 0.829	(0.630, 0.820, 0.927); 0.792	0.037	Agreement
Perceived enjoyment of job scope	(0.664, 0.841, 0.941); 0.815	(0.677, 0.843, 0.943); 0.821	0.006	Agreement
Interest in continuing work in the organization	(0.693, 0.859, 0.950); 0.834	(0.670, 0.845, 0.941); 0.819	0.015	Agreement
Diligence and sustained effort by employees	(0.659, 0.848, 0.950); 0.819	(0.698, 0.866, 0.957); 0.840	0.021	Agreement
Emotional and affective commitment to the organization	(0.673, 0.848, 0.936); 0.819	(0.727, 0.891, 0.964); 0.861	0.042	Agreement
Sense of responsibility and effort in performing duties	(0.725, 0.889, 0.968); 0.861	(0.668, 0.848, 0.948); 0.821	0.040	Agreement
Alignment of individual and organizational goals	(0.702, 0.875, 0.959); 0.845	(0.645, 0.825, 0.925); 0.798	0.047	Agreement
Self-regulation in carrying out organizational tasks	(0.707, 0.877, 0.964); 0.849	(0.684, 0.852, 0.945); 0.827	0.022	Agreement
Top management support for employee participation	(0.718, 0.880, 0.957); 0.852	(0.657, 0.832, 0.930); 0.806	0.046	Agreement
Supervisors' willingness to facilitate employee participation	(0.677, 0.843, 0.943); 0.821	(0.752, 0.891, 0.957); 0.867	0.046	Agreement
Encouraging employees to participate in decision-making	(0.707, 0.870, 0.966); 0.848	(0.736, 0.895, 0.973); 0.868	0.020	Agreement
Soliciting employees' opinions through various methods	(0.695, 0.861, 0.945); 0.834	(0.702, 0.859, 0.948); 0.836	0.002	Agreement
Using employees' constructive suggestions	(0.630, 0.811, 0.914); 0.785	(0.684, 0.848, 0.943); 0.825	0.040	Agreement
Employee participation in unit-level decision-making	(0.709, 0.864, 0.948); 0.840	(0.668, 0.841, 0.950); 0.820	0.020	Agreement
Employee participation in organizational decision-making	(0.659, 0.843, 0.939); 0.814	(0.705, 0.870, 0.957); 0.844	0.030	Agreement
Active presence of employees in diverse activities	(0.689, 0.848, 0.932); 0.823	(0.652, 0.825, 0.923); 0.800	0.023	Agreement
Voluntary employee actions toward goal achievement	(0.705, 0.870, 0.957); 0.844	(0.723, 0.886, 0.973); 0.861	0.017	Agreement
Provision of constructive feedback by employees	(0.664, 0.850, 0.955); 0.823	(0.655, 0.839, 0.948); 0.814	0.009	Agreement
Two-way communication and interaction with Customs	(0.648, 0.823, 0.918); 0.796	(0.652, 0.825, 0.923); 0.800	0.004	Agreement
Participation in organizational decision-making (Customs)	(0.684, 0.864, 0.955); 0.834	(0.741, 0.893, 0.966); 0.867	0.033	Agreement
Submitting creative and innovative suggestions	(0.652, 0.830, 0.925); 0.802	(0.718, 0.884, 0.968); 0.857	0.055	Agreement
Intrinsic inclination toward teamwork in Customs	(0.705, 0.870, 0.957); 0.844	(0.670, 0.855, 0.955); 0.827	0.017	Agreement
Co-creation of value with Customs	(0.673, 0.841, 0.939); 0.817	(0.705, 0.866, 0.955); 0.842	0.025	Agreement

Based on the results reported in Table 4, it was determined that, in all cases, the difference was smaller than 0.20; therefore, the Delphi rounds could be concluded. The next step was to identify the internal relationships among the identified indicators and to present the development model of the human resource participation system in the Islamic Republic of Iran Customs. For this purpose, Interpretive Structural Modeling (ISM) was used. The relationships among the global constructs are specified using four symbols: V (variable *i* influences *j*), A (variable *j* influences *i*), X (bidirectional relationship), and O (no relationship). After identifying the relationships among the indicators, the Structural Self-Interaction Matrix (SSIM) was constructed. The SSIM is presented in Table 5.

Table 5. Structural Self-Interaction Matrix (SSIM) for the Human Resource Participation System Development Model in the Islamic Republic of Iran Customs

SSIM	D01	D02	D03	D04	D05	D06	D07	D08	D09	D10
Career Development (D01)	—	V	V	X	A	O	A	A	V	V
Employee Commitment (D02)	—	—	X	A	A	A	O	A	X	O
Employee Satisfaction (D03)	—	—	—	A	A	A	A	A	X	V
Job Enrichment (D04)	—	—	—	—	A	V	A	A	V	V
Participation Strategy (D05)	—	—	—	—	—	V	X	X	O	V
Employee Empowerment (D06)	—	—	—	—	—	—	A	A	V	V
Participative Management (D07)	—	—	—	—	—	—	—	X	V	V
Participation Culture (D08)	—	—	—	—	—	—	—	—	V	V
Job Motivation (D09)	—	—	—	—	—	—	—	—	—	V
Employee Participation (D10)	—	—	—	—	—	—	—	—	—	—

By converting the Structural Self-Interaction Matrix (SSIM) into a binary (0–1) matrix, the Reachability Matrix (RM) is obtained. In the reachability matrix, the diagonal elements are set equal to one. In addition, secondary relationships must be verified to ensure transitivity. That is, if *A* leads to *B* and *B* leads to *C*, then *A* must also lead to *C*. Accordingly, if direct effects implied by secondary relationships are not reflected, the matrix must be corrected to incorporate these secondary relationships. The final reachability matrix is presented in Table 6.

Table 6. Final Reachability Matrix of the Human Resource Participation System Development Model in the Islamic Republic of Iran Customs

TM	D01	D02	D03	D04	D05	D06	D07	D08	D09	D10
Career Development (D01)	1	1	1	1	0	1*	0	0	1	1
Employee Commitment (D02)	0	1	1	0	0	0	0	0	1	1*
Employee Satisfaction (D03)	0	1	1	0	0	0	0	0	1	1
Job Enrichment (D04)	1	1	1	1	0	1	0	0	1	1
Participation Strategy (D05)	1	1	1	1	1	1	1	1	1*	1
Employee Empowerment (D06)	0	1	1	0	0	1	0	0	1	1
Participative Management (D07)	1	1*	1	1	1	1	1	1	1	1
Participation Culture (D08)	1	1	1	1	1	1	1	1	1	1
Job Motivation (D09)	0	1	1	0	0	0	0	0	1	1
Employee Participation (D10)	0	0	0	0	0	0	0	0	0	1

After constructing the reachability matrix, the reachability set and the antecedent set are identified to determine the relationships and level partitioning of the indicators. For a given variable, the reachability set (outputs or influences) includes the variables that can be reached through that variable, whereas the antecedent set (inputs or dependencies) includes the variables through which the given variable can be reached.

Table 7. Input and Output Sets for Level Determination

	Output: Influence	Input: Dependence	Intersection
D01	D01, D02, D03, D04, D06, D09, D10	D01, D04, D05, D07, D08	D01, D04
D02	D02, D03, D09, D10	D01, D02, D03, D04, D05, D06, D07, D08, D09	D02, D03, D09
D03	D02, D03, D09, D10	D01, D02, D03, D04, D05, D06, D07, D08, D09	D02, D03, D09
D04	D01, D02, D03, D04, D06, D09, D10	D01, D04, D05, D07, D08	D01, D04
D05	D01, D02, D03, D04, D05, D06, D07, D08, D09, D10	D05, D07, D08	D05, D07, D08
D06	D02, D03, D06, D09, D10	D01, D04, D05, D06, D07, D08	D06
D07	D01, D02, D03, D04, D05, D06, D07, D08, D09, D10	D05, D07, D08	D05, D07, D08
D08	D01, D02, D03, D04, D05, D06, D07, D08, D09, D10	D05, D07, D08	D05, D07, D08
D09	D02, D03, D09, D10	D01, D02, D03, D04, D05, D06, D07, D08, D09	D02, D03, D09
D10	D10	D01, D02, D03, D04, D05, D06, D07, D08, D09, D10	D10

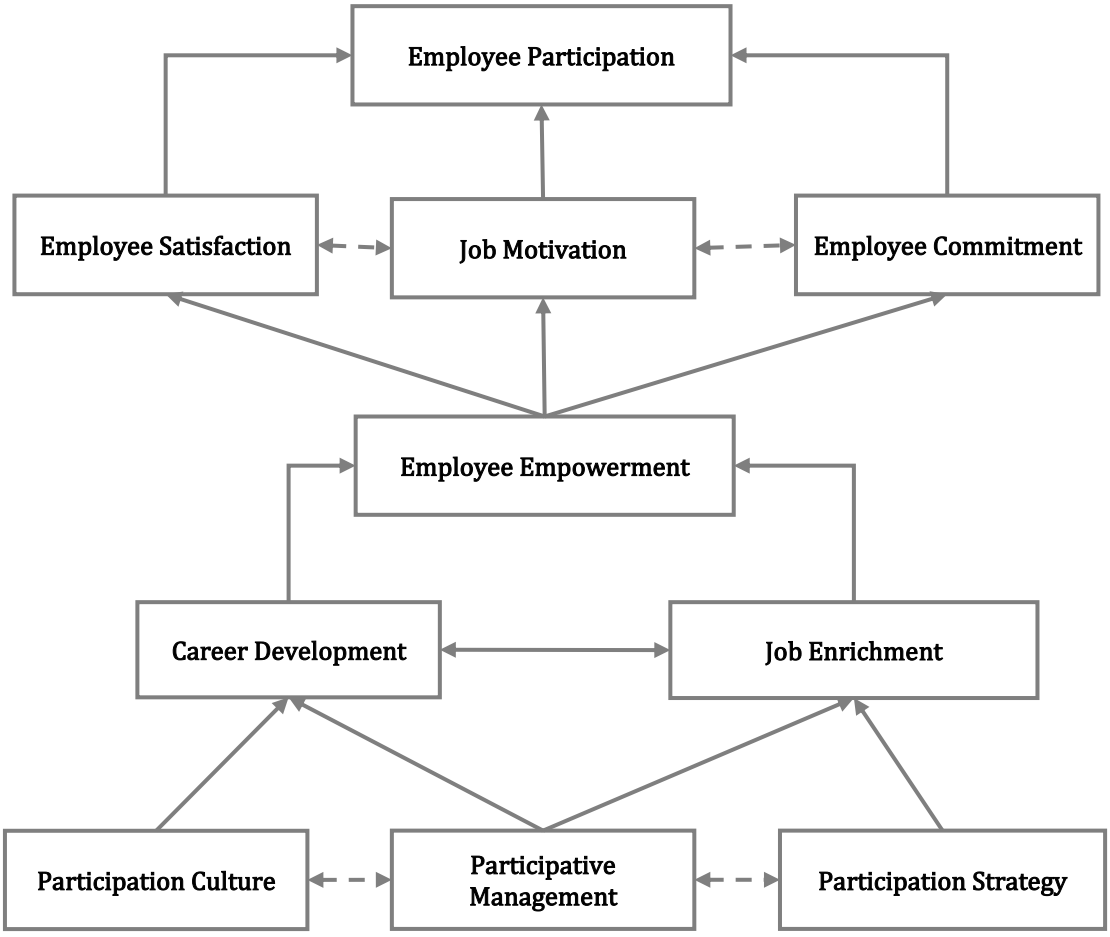

Figure 1. Human Resource Participation System Development Model in the Islamic Republic of Iran Customs

Accordingly, based on the results of Interpretive Structural Modeling (ISM), Employee Participation (D10) is positioned at Level 1. Job Motivation (D09), Employee Commitment (D02), and Employee Satisfaction (D03) are positioned at Level 2. Employee Empowerment (D06) is positioned at Level 3. Career Development (D01) and Job Enrichment (D04) are positioned at Level 5. Participation Strategy (D05), Participative Management (D07), and

Participation Culture (D08) are positioned at Level 6. The development model of the human resource participation system in the Islamic Republic of Iran Customs is illustrated in Figure 1.

The input and output sets for each element are used to construct the driving power–dependence matrix (MICMAC analysis). The driving power–dependence matrix is presented in Table 8. In the ISM framework, the interrelationships and influences among criteria, as well as the linkages across different levels, are clearly depicted, thereby facilitating a better understanding of the decision-making context for managers. To identify the key criteria, driving power and dependence are computed based on the final reachability matrix.

Table 8. Driving Power and Dependence of the Human Resource Participation System Development Model in the Islamic Republic of Iran Customs

Research Variables	Dependence	Driving Power	Level
Career Development (D01)	5	7	5
Employee Commitment (D02)	8	4	3
Employee Satisfaction (D03)	8	4	3
Job Enrichment (D04)	5	7	5
Participation Strategy (D05)	3	10	6
Employee Empowerment (D06)	6	5	4
Participative Management (D07)	3	10	6
Participation Culture (D08)	3	10	6
Job Motivation (D09)	9	2	2
Employee Participation (D10)	10	1	1

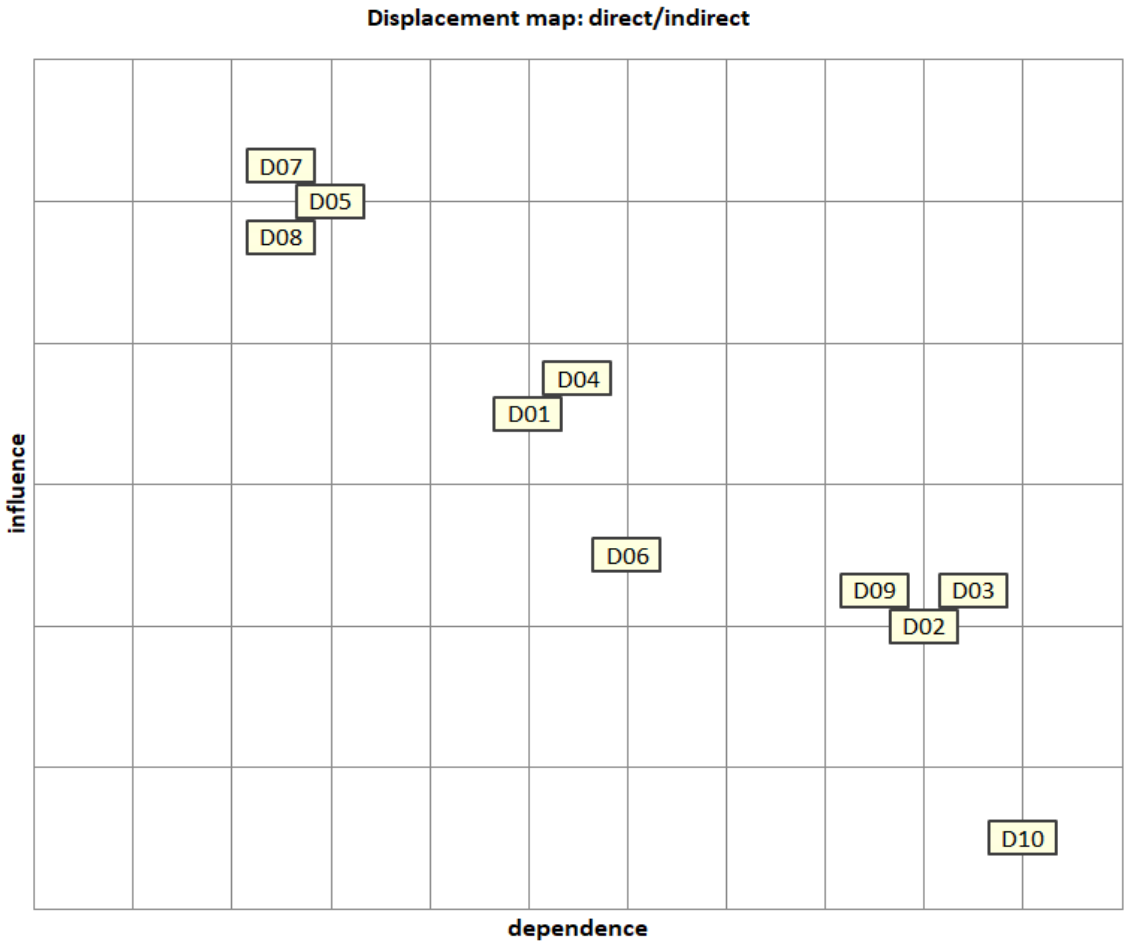

Figure 2. Driving Power–Dependence Diagram of the Human Resource Participation System Development Model in the Islamic Republic of Iran Customs

Based on the driving power–dependence diagram, Participation Strategy (D05), Participative Management (D07), and Participation Culture (D08) exhibit high driving power and low dependence and are therefore classified as independent constructs. Employee Participation (D10) demonstrates high dependence and low driving power and is thus classified as a dependent construct. Employee Commitment (D02), Employee Satisfaction (D03), Employee Empowerment (D06), Career Development (D01), Job Enrichment (D04), and Job Motivation (D09) display comparable levels of driving power and dependence and are therefore categorized as linkage constructs. No construct falls within the first quadrant (the autonomous region).

Discussion and Conclusion

The findings of the present study provide an integrated and hierarchical understanding of how a human resource participation system can be developed within the Islamic Republic of Iran Customs. Using a qualitative–structural modeling approach, the results demonstrate that employee participation is not an isolated outcome but the final manifestation of a multilayered system composed of strategic, cultural, managerial, job-related, and individual factors. In line with contemporary theorizing on employee involvement, the results confirm that participation is best understood as a system of interdependent constructs rather than a single managerial technique (1). The positioning of participation strategy, participative management, and participation culture at the highest driving levels of the model indicates that participation in Customs is fundamentally shaped by macro-level organizational choices and norms, which subsequently cascade through job design and psychological mechanisms to influence employees' attitudes and behaviors.

At the structural level, participation strategy emerged as one of the most influential constructs with high driving power and low dependence. This result suggests that a clear vision, mission, and goal-setting framework for participation provides the foundational logic through which other components of the system are activated. This finding aligns with studies emphasizing that participation initiatives require explicit strategic articulation to avoid fragmentation and symbolic implementation (3). Moreover, the importance of strategy resonates with research demonstrating that employee participation becomes effective when embedded in broader organizational strategies related to change, sustainability, and innovation rather than treated as an operational afterthought (8, 9). In the context of a public-sector organization such as Customs, where formal rules and hierarchical structures are prominent, a well-defined participation strategy appears essential for legitimizing employee involvement and aligning it with organizational mandates.

Closely related to strategy, participative management was also identified as a key driving construct. The results show that top management support, supervisors' willingness to involve employees, and the systematic use of employee ideas play a decisive role in shaping downstream outcomes. This finding is consistent with evidence that leadership behavior and managerial openness are critical enablers of participative systems (17). In particular, participative management functions as a transmission mechanism through which strategic intentions are translated into everyday practices, such as shared decision-making and feedback utilization. Prior research in both public and private organizations indicates that without sustained managerial commitment, participation initiatives lose credibility and fail to influence employee behavior meaningfully (5). The current results reinforce this view by showing that participative management exerts strong influence across multiple levels of the model.

Participation culture constituted the third high-driving construct, highlighting the role of shared values, norms, and an encouraging organizational climate in sustaining participation. The findings suggest that even with formal

strategies and managerial support, participation cannot be fully realized unless it is culturally normalized within the organization. This outcome is in line with ethnographic and qualitative studies showing that participation is socially constructed through daily interactions and informal norms (20). A participation-supportive culture reduces perceived risks associated with voice, enhances trust, and fosters teamwork, all of which are particularly relevant in complex and compliance-driven environments such as Customs. Moreover, cultural alignment has been shown to strengthen the relationship between participation and organizational performance, especially in emerging and public-sector contexts (4).

At the intermediate level of the model, job enrichment and career development were positioned as important linkage constructs connecting organizational drivers to individual psychological states. The results indicate that increased responsibility, autonomy, task meaningfulness, skill development, and job rotation mediate the effects of strategic and managerial factors on employee outcomes. This finding is consistent with job design theories and empirical studies demonstrating that enriched and developmental jobs enhance employees' sense of competence and motivation, thereby facilitating participation (10). Furthermore, career development opportunities signal organizational investment in employees, which has been shown to strengthen affective commitment and willingness to contribute beyond formal job requirements (16). In the Customs context, where work processes are often standardized, these results underscore the importance of creating developmental space within structural constraints.

Employee empowerment emerged as a central mediating construct linking job-related factors to attitudinal outcomes. The findings show that feelings of meaningfulness, competence, autonomy, and impact play a pivotal role in transforming enriched jobs into motivation, satisfaction, and commitment. This result aligns with research suggesting that participation is effective when employees perceive themselves as capable and influential actors rather than passive recipients of managerial decisions (7). Empowerment also appears to function as a psychological bridge between formal participation structures and actual participatory behavior. Prior studies have highlighted that empowerment enhances knowledge sharing and innovation when embedded in participative management systems (15), a pattern that is consistent with the present model.

At the outcome level, job motivation, employee satisfaction, and employee commitment were positioned as precursors to actual employee participation. This ordering suggests that participation is more likely to occur when employees are psychologically inclined toward the organization and their work. The results support earlier findings that motivation and satisfaction are critical antecedents of discretionary behaviors such as voice, collaboration, and voluntary involvement (11). In particular, satisfaction with management, processes, and job scope appears to reduce resistance and foster positive engagement. Similarly, affective commitment—reflected in emotional attachment and alignment of personal and organizational goals—has been shown to mediate the relationship between participation and outcomes such as retention and citizenship behavior (12, 18). The present study extends these insights by positioning motivation, satisfaction, and commitment within a structured participation system rather than treating them as isolated variables.

Employee participation itself was identified as the most dependent construct in the model, indicating that it is the cumulative result of upstream conditions rather than a direct managerial input. This finding reinforces the argument that participation cannot be mandated effectively; instead, it emerges when strategic intent, managerial practices, culture, job design, and psychological empowerment are aligned. Similar conclusions have been drawn in studies of participation in strategic planning and budgeting, where participation altered information flows and behaviors only

when supporting conditions were in place (22). In public organizations, where participation may influence sensitive decisions, the dependency of participation on systemic alignment is particularly salient.

The MICMAC analysis further clarified the roles of different constructs by distinguishing independent, linkage, and dependent variables. Participation strategy, participative management, and participation culture were identified as independent drivers, confirming their foundational role. In contrast, employee participation was categorized as a dependent variable with high dependence and low driving power, emphasizing its outcome status. Linkage variables—such as job enrichment, career development, empowerment, motivation, satisfaction, and commitment—were found to be both influential and influenced, highlighting their sensitivity to changes in the system. This pattern mirrors findings in sustainability and governance research, where employee participation interacts dynamically with leadership, culture, and organizational processes (9, 13). The absence of autonomous variables suggests that all constructs are meaningfully embedded within the system, reinforcing the coherence of the proposed model.

Overall, the discussion of results suggests that the development of a human resource participation system in the Islamic Republic of Iran Customs requires a systemic and staged approach. Strategic clarity, participative leadership, and cultural support form the structural backbone; job enrichment and career development provide the operational pathways; empowerment acts as the psychological catalyst; and motivation, satisfaction, and commitment prepare the ground for sustained employee participation. This integrated interpretation is consistent with broader international and Iranian literature on participative management, engagement, and organizational effectiveness (1, 2, 6, 23). By synthesizing these elements into a structured hierarchy, the study contributes to both theory and practice by offering a context-sensitive model tailored to a key public-sector organization.

Despite its contributions, this study has several limitations that should be acknowledged. First, the research relied primarily on expert perceptions and qualitative modeling techniques, which, while suitable for theory building, may limit the generalizability of the findings to other organizational contexts. Second, the focus on a single organization restricts the ability to capture inter-organizational variation in participation systems across different public-sector settings. Third, the cross-sectional nature of the data does not allow for examination of how participation systems evolve over time or how causal relationships may change during periods of reform or crisis.

Future research could extend the present study by empirically testing the proposed model using quantitative methods and larger samples to assess its predictive validity. Comparative studies across different public organizations or between public and private sectors could also provide insights into contextual contingencies shaping participation systems. Longitudinal designs would be particularly valuable for examining how participation strategies and cultures develop over time and how they interact with organizational change initiatives. Additionally, future studies might explore the role of digital tools and e-participation mechanisms in strengthening or reshaping participation systems in bureaucratic organizations.

From a practical perspective, managers and policymakers should view employee participation as a system-level capability rather than a collection of isolated practices. Clear participation strategies need to be articulated and communicated, supported by participative leadership behaviors and a culture that encourages voice and collaboration. Job design and career development policies should be aligned with participation objectives to foster empowerment and motivation. Finally, organizations should continuously monitor participation outcomes and feedback loops to ensure that employee involvement remains meaningful, credible, and aligned with organizational goals.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adheried in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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