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Designing an Interpretive Structural Model of Heroic Behavior among Employees of the Iranian Organization for Registration of Deeds and Properties

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ABSTRACT

Organizations—particularly those operating in the public and governmental sectors—require employees who act with commitment and a strong sense of responsibility, going beyond their formal job descriptions to achieve organizational goals and enhance societal satisfaction. In this context, the concept of heroic behavior, defined as performing duties in a self-sacrificing manner that exceeds expectations, holds significant importance. Such behaviors not only contribute to improving organizational performance but also play a key role in fostering public trust and satisfaction. The present study aimed to design an interpretive structural model of heroic behavior among employees of the Iranian Organization for Registration of Deeds and Properties, using Interpretive Structural Modeling (ISM). This research is exploratory in purpose and qualitative in approach. Data were collected through interviews with 15 experts selected via snowball sampling. Thematic analysis was applied to categorize and analyze the information extracted from interview transcripts and related documents. In line with the study objectives, semi-structured interviews and document analysis based on a thematic analysis strategy were used for data gathering. The final analysis yielded 14 basic themes, 3 organizing themes, and 1 overarching theme. The organizing themes encompassed individual factors, organizational factors, and group factors, which ultimately informed the development of the final model using ISM. The results of this study can provide valuable guidance for managers and policymakers in creating a dynamic, efficient, and responsible organizational environment.

Keywords: Heroic behavior; managers; Organization for Registration of Deeds and Properties; thematic analysis; interpretive structure

Introduction

The study of employee behavior has become a central concern in contemporary organizational research due to its extensive influence on organizational performance, readiness for change, ethical functioning, and long-term sustainability. In dynamic and competitive environments, organizations increasingly rely on employees who demonstrate initiative, resilience, moral responsibility, and constructive engagement during periods of transformation. This scholarly shift reflects a broader awareness that organizational success is closely linked to how employees think, feel, and behave within their workplace roles, particularly when they adopt behaviors that exceed formal job expectations. In this context, recent studies have emphasized the importance of understanding factors

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that contribute to employees' heroic, championing, or high-commitment behaviors in the face of organizational challenges (1-3). These behaviors—often manifested as proactive support for organizational change, voluntary engagement in problem-solving, and willingness to make sacrifices—serve as critical mechanisms for organizational resilience and transformation.

Leadership remains one of the strongest predictors of such advanced behavioral patterns, particularly transformational, entrepreneurial, and inclusive leadership approaches. Transformational leadership has consistently been shown to foster trust, psychological safety, and motivation, thereby promoting employees' heroic or championing behaviors. Research illustrates that when leaders demonstrate vision, individualized support, and inspirational motivation, employees feel empowered to engage in extraordinary efforts that contribute to organizational success (1, 2, 4, 5). Similarly, leadership styles emphasizing trust and interpersonal rapport enhance employees' willingness to engage in protective or defensive heroic actions during change initiatives (6). Furthermore, entrepreneurial leadership has been found to activate innovative behavior by strengthening the innovation climate and enhancing employees' mental agility (7). Inclusive leadership, which encourages voice, participation, and psychological empowerment, can also reduce silent behavior while increasing constructive engagement (8). Collectively, this body of work highlights the necessity of leadership behaviors that cultivate psychological commitment and enable extraordinary employee actions.

Alongside leadership, organizational contexts such as perceived organizational support, justice, and culture strongly shape employees' behavioral tendencies. Research indicates that employees who feel supported by their organization—emotionally, structurally, and morally—are more likely to internalize organizational goals and respond with proactive or championing behaviors (4, 9). Perceived organizational support and meaningful work have also been shown to mitigate withdrawal behavior during remote work conditions, suggesting that supportive work environments generate resilience and continued engagement even under duress (9). Organizational justice likewise plays a prominent role: when employees perceive fairness in distribution, procedures, and interpersonal treatment, they are more inclined to engage in constructive contributions and less likely to exhibit counterproductive tendencies (10). Organizational culture also exerts considerable influence by shaping norms, expectations, and collective values that guide employee behavior. Cultures emphasizing learning, innovation, and ethical responsibility encourage employees to adopt behaviors aligned with organizational improvement (11, 12).

In addition to organizational and leadership determinants, personal characteristics and psychological factors significantly affect employee behavior. Research indicates that mental health is associated with innovation, job performance, and job engagement (13). Employees with higher psychological well-being tend to show increased creativity, resilience, and readiness for change. Emotional intelligence and psychological ownership have been identified as important predictors of ethical behavior and reduced counterproductive conduct (10). Resilience is another influential factor, acting as a buffer against stressors and contributing to sustained performance and innovative responses during adversities (14). In the context of digital transformation, technostress has been shown to exert both hindering and challenge effects on employee voice behavior, demonstrating the complexity of psychosocial responses to technological work environments (15). Further, digital transformation more broadly has been found to influence knowledge-sharing behavior and dynamic capabilities, highlighting the need for adaptive personal competencies in modern organizations (16).

Changes in workplace environments, particularly technological and structural changes, create conditions in which heroic or championing behaviors become vital. Organizational change literature shows that during periods of

transformation, employees who exhibit championing behavior act as catalysts in facilitating smooth transitions, resolving emerging conflicts, and supporting new initiatives (2, 11). Such behaviors are often driven by internalized commitment, trust in leadership, and perceived alignment between personal and organizational values (3). Similarly, employees' willingness to defend or support organizational initiatives, even under challenging circumstances, has been linked to high levels of perceived trust and positive working relationships (1). This capacity to engage in discretionary effort becomes increasingly essential as organizations require adaptive responses to complex challenges such as digitalization, competitive environments, and shifting stakeholder expectations.

Beyond leadership and organizational climate, emerging research highlights the importance of HRM systems in shaping behaviors that support innovation and organizational change. High-commitment HRM practices have been shown to foster employee acceptance of change and increase innovative behavior, particularly when employees perceive the HRM system as strong and credible (17). Socially responsible HRM practices also influence green behavior at work, underscoring the connection between ethical organizational practices and employee responses (12). These findings illustrate that employees are responsive not only to direct leadership behaviors but also to the broader systems and structures that shape their work environment.

Contemporary research also emphasizes the growing relevance of innovation-related behaviors, particularly deviant innovation, green creativity, and adaptive problem-solving. Shared leadership has been shown to influence deviant innovation behavior by distributing influence and fostering collaborative ideation (18). Workplace cyberbullying studies reveal that resilience and supportive bystander behavior can mitigate negative consequences on innovative performance (14). Additionally, studies in environmentally oriented leadership have found that green servant leadership fosters voluntary pro-environmental behavior, green psychological climate, and green creativity among employees (19). These findings point toward a broader understanding of employee behavior that encompasses both organizational and societal responsibilities.

In the context of public sector organizations, employee motivation, training, and behavior remain critical to enhancing performance and service delivery. Research in public administration highlights that leadership styles play a crucial role in shaping employee motivation and performance, especially within governmental institutions characterized by rigid structures and accountability frameworks (20). Similarly, job stress and cyberloafing have been found to influence performance in public organizations, with organizational commitment acting as an important mediating variable (21). Understanding these relationships is essential for developing models that explain how employees adopt behaviors that support organizational mission and public trust.

Moreover, global workplace trends—such as digitalization, AI integration, and the rise of remote work—further underscore the need to understand the motivational and structural factors influencing employee behaviors. AI-related identity has been shown to affect proactive workplace behaviors by shaping how employees interpret their roles in technologically mediated settings (22). Studies also demonstrate that inclusive professional environments encourage creativity and innovation by enabling employees to express and actualize their intrinsic motivations (23). Furthermore, employees' readiness to adopt healthy lifestyle behaviors is influenced by organizational, environmental, and psychological factors, reflecting the expanding scope of organizational behavior research into employee well-being (24).

Taken together, these diverse strands of research converge on the importance of a comprehensive, multidimensional understanding of employee behavior—encompassing personal, organizational, cultural, and leadership-based determinants. While substantial work has explored individual predictors of heroic or championing

behavior, there remains a need for integrated models that systematically map the complex interrelationships among these determinants, particularly within public sector organizations where structural constraints, hierarchical systems, and societal responsibilities intensify behavioral expectations (25-28). Such integrative modeling provides a theoretical and practical foundation for understanding how organizations can cultivate environments that encourage employees to engage in extraordinary, prosocial, and organizationally beneficial actions.

Therefore, the aim of this study is to design a comprehensive interpretive structural model that identifies, categorizes, and explains the hierarchical relationships among the factors influencing employees' heroic behavior.

Methods and Materials

The present study is exploratory in nature, aiming to construct concepts, patterns, and frameworks. In terms of orientation, it is fundamental, and in terms of research philosophy, it adopts an interpretive stance. Its primary strategy is methodological pluralism, employing two approaches simultaneously, and it is conducted using a qualitative approach through a combination of thematic analysis and Interpretive Structural Modeling (ISM). In the first phase, thematic analysis is used to extract the main themes related to the concept of heroic behavior among employees of the Organization for Registration of Deeds and Properties. In the next step, the extracted themes are arranged into levels and the relational model among the main themes is derived based on the procedures recommended in the ISM method.

The required data for a research design can be collected through both library-based methods such as document review and field methods such as questionnaires and interviews. For data collection in the thematic analysis phase of the present study, expert interviews were used, and in the ISM modeling phase, a researcher-made questionnaire was administered. Considering the purpose of the research, the questionnaire was provided to experts and specialists in a manner consistent with the research topic; therefore, the statistical population of the present study consists of experts and scholars in the field of public management. In the thematic analysis phase, interviews were conducted with experts based on the principle of theoretical saturation and using snowball sampling, resulting in a total of 17 participants. Theoretical saturation occurs when no new information is obtained from interviewees and the data become repetitive. Additionally, for implementing the ISM methodology, questionnaires were distributed among experts, and ultimately 15 completed questionnaires were collected and used as the basis for the ISM analysis.

Qualitative researchers must employ at least two strategies to enhance research credibility). In the present study, the following steps were taken to achieve this goal:

Member checking: Feedback on the research process and data was obtained from two faculty members and two doctoral students in public administration, and several theme titles were revised based on their suggestions.

Prolonged engagement with the research topic: Due to the significance of the subject and the researcher's thorough investigation of the concepts under study, the process of reviewing the literature required a considerable amount of time.

Triangulation: To ensure diversity within the reviewed materials, efforts were made to analyze all types of textual data, including books, articles, projects, and analyses published across various academic databases.

Furthermore, in line with Creswell (2003), two techniques were used to ensure research reliability:

a) extensive and precise note-taking, and

b) anonymous coding by an external coder not involved in the research team.

Data analysis in thematic analysis relies on the coding process. A theme represents a conceptual pattern within the data and is linked to the research questions. This method provides a systematic approach for analyzing textual data (such as interview transcripts), transforming scattered and diverse information into rich and detailed data. The thematic network is constructed through a structured process consisting of four stages: reading the text, extracting and understanding seemingly unrelated information, analyzing qualitative data, and systematically identifying themes related to persons, interactions, groups, organizational settings, or cultural contexts. This process yields the following:

- basic themes (codes and key points extracted from interviews)
- organizing themes (categories derived from combining and summarizing basic themes)
- global themes (higher-order themes representing overarching principles that unify the text as a whole)

These themes are then mapped into web-like networks in which significant themes at all three levels are displayed along with their interrelationships. A thematic network is not merely a tool for preparing or presenting analytical results; rather, it is a method for breaking down the text and identifying meaningful and prominent insights within it.

Interpretive Structural Modeling is an interactive learning process in which a set of different but interrelated elements is structured into a comprehensive systematic model. This method draws on mathematical sciences, graph theory, social sciences, group decision-making, and computer science. ISM helps organize complex relationships among system elements, identify internal relationships among variables, and serves as an appropriate technique for analyzing the influence of one variable on others. As an interpretive method, ISM seeks to represent group judgments regarding the interrelationships among variables. ISM is interpretive because it is the group's judgment that determines which elements are related and how they are related. It is also structural because it derives an overall structure of a complex set of elements based on these relationships. Finally, the relationships among the elements and the resulting overall structure are represented and presented in a graphical model.

Findings and Results

In the first step, to become familiar with the data, all interview data regarding employees' perceptions of job security in relation to blockchain were reread. After repeated readings, in the second step, 102 initial open codes were extracted. In the next step, the basic themes emerged from the analysis and integration of annotated sentences. Subsequently, in step four, given the formation of 35 basic codes, 14 basic themes were identified, categorized into 3 organizing themes and 1 overarching theme. In step five, based on the organizing themes and the researcher's conceptualization developed throughout the study, a total of seven overarching themes were identified. Themes and patterns within the data may be identified through either an inductive (bottom-up) or theoretical–deductive (top-down) approach. In the inductive approach, identified themes emerge directly from the collected data, whereas in the theoretical–deductive approach, data interpretation is informed by the researcher's prior theoretical interest derived from existing literature and professional background. Typically, when limited theoretical frameworks exist on a subject, an inductive approach is preferred. Therefore, in this study, an inductive method was used to extract basic, organizing, and overarching themes, which are presented in the following table.

Table 1. Results of Thematic Analysis with Code Frequencies

Organizing Themes	Basic Themes	Open Codes
Individual Factors	Personal Motivation	Internal motivations / External motivations / Job satisfaction
	Individual Capabilities	Job skills / Specialized knowledge / Work experience
	Personal Values and Beliefs	Beliefs / Ethical principles
	Resilience	Resistance to stress / Recovery after failure
	Mental Health	Psychological well-being / Presence of disorders
Organizational Factors	Organizational Justice	Distributive justice / Procedural justice / Interactional justice
	Organizational Culture	Organizational values / Beliefs / Norms
	Organizational Policies and Procedures	Rules / Guidelines
Group Factors	Social Support	Colleague support / Family support
	Social Responsibility	Ethical responsibilities / Participation in social activities
	Participation in Decision-Making	Involvement in major decisions / Sense of belonging
	Interpersonal Relationships	Relationship quality / Conflicts
	Team Cohesion and Coordination	Cohesion / Cooperation / Synergy / Joint planning / Task alignment
	Group Dynamics	Group interactions / Group behaviors

The Structural Self-Interaction Matrix (SSIM) is the first matrix produced in Interpretive Structural Modeling (ISM). This matrix is used to identify internal relationships among indicators based on expert judgment. The resulting matrix indicates which variables influence others and which variables are influenced. Conventionally, symbols such as those shown in Table 2 are used to specify the pattern of relationships among elements.

Table 2. States and Symbols Used to Express Relationships Between Variables

Symbol	V	A	X	O
Relationship	Variable *i* influences *j*	Variable *j* influences *i*	Mutual relationship	No relationship

The Structural Self-Interaction Matrix is formed from the dimensions and indicators of the study and is evaluated using the four types of conceptual relationships. The information obtained is summarized based on the ISM methodology and the final SSIM is produced). Considering the notation used in Table 3, the Structural Self-Interaction Matrix appears as shown in Table 3.

Table 3. Structural Self-Interaction Matrix (SSIM)

SSIM	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13	C14
C01		V	V	V	X	O	V	V	V	X	V	V	X	O
C02			A	A	O	A	A	A	O	A	A	O	A	O
C03				A	O	X	V	O	V	A	O	O	A	A
C04					O	V	V	A	V	A	O	V	V	V
C05						A	O	O	V	A	A	O	A	O
C06							X	A	V	A	V	O	O	V
C07								A	V	A	O	O	A	O
C08									O	A	O	O	A	O
C09										O	A	A	A	A
C10											V	V	O	O
C11												V	A	O
C12													A	O
C13														V
C14														

The reachability matrix is obtained by converting the Structural Self-Interaction Matrix into a binary (0–1) matrix. In the reachability matrix, the diagonal entries are set to one. Additionally, indirect (transitive) relationships must be checked. This means that if variable A leads to B and B leads to C, then A must also lead to C. If transitivity is not

automatically reflected in the matrix, corrections must be applied to ensure secondary relationships are properly represented. The resulting reachability matrix for the variables is presented in Table 4.

Table 4. Received Matrix of Variables

RM	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13	C14
C01	0	1	1	1	0	1	1	1	1	1	1	1	1	0
C02	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C03	0	1	0	0	0	1	1	0	1	0	0	0	0	0
C04	1	1	1	0	0	1	1	0	1	0	0	1	1	1
C05	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C06	0	1	1	0	1	0	1	0	1	0	1	0	1	1
C07	0	1	0	0	0	1	0	0	1	0	0	0	0	0
C08	0	1	1	1	1	1	1	0	0	0	0	0	0	0
C09	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C10	1	1	1	1	1	1	1	1	0	0	1	1	0	0
C11	0	0	0	0	0	0	0	0	1	0	0	1	0	0
C12	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C13	1	1	1	1	1	1	1	1	1	1	1	1	0	1
C14	0	0	1	0	0	0	0	0	1	0	0	0	0	1

After the initial reachability matrix is obtained, the final reachability matrix is derived by incorporating transitivity in the relationships among variables. This is a square matrix in which each entry is equal to one when an element can reach another element with any path length, and zero otherwise. The method for obtaining the reachability matrix is based on Euler's theory, in which the adjacency matrix is added to the identity matrix. Then, as long as the matrix entries change, this matrix is raised to the power *n*. The following relation shows the method of determining reachability using the adjacency matrix.

Relation 1: Determining the final reachability matrix $A + I$

$$M = (A + I)^n$$

In this relation, matrix *A* is the initial reachability matrix, *I* is the identity matrix, and *R* is the final reachability matrix. The exponentiation of the matrix is carried out according to Boolean algebra rules.

Relation 2: Boolean rules 1×1 = 1; 1+1 = 1

Therefore, indirect (secondary) relationships must be checked. This means that if A leads to B and B leads to C, then A must also lead to C. If, based on secondary relationships, direct effects should exist but are not reflected in practice, the table must be corrected to include the secondary relationship. The final reachability matrix of the model variables is presented in Table 5.

Table 5. Final Reachability Matrix of the Variables

RM	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13	C14
C01	0	1	1	1	0	1	1	1	1	1	1	1	1	0
C02	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C03	0	1	0	0	0	1	1	0	1	0	0	0	0	0
C04	1	1	1	0	0	1	1	0	1	0	0	1	1	1
C05	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C06	0	1	1	0	1	0	1	0	1	0	1	0	1	1
C07	0	1	0	0	0	1	0	0	1	0	0	0	0	0
C08	0	1	1	1	1	1	1	0	0	0	0	0	0	0
C09	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C10	1	1	1	1	1	1	1	1	0	0	1	1	0	0
C11	0	0	0	0	0	0	0	0	1	0	0	1	0	0
C12	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C13	1	1	1	1	1	1	1	1	1	1	1	1	0	1
C14	0	0	1	0	0	0	0	0	1	0	0	0	0	1

To determine the relationships and levels of criteria, the output set and input set for each criterion must be extracted from the reachability matrix.

Access (reachability) set (row elements, outputs or influencers): variables that can be reached through this variable.

Prerequisite (antecedent) set (column elements, inputs or influenced-by): variables through which this variable can be reached.

Table 6. Input and Output Sets for Level Determination

Variables	Symbol	Output: influence (rows)	Input: being influenced (columns)	Intersection	Level
Interpersonal relationships	C01	C01, C02, C11, C12, C13	C01, C04	C01	1
Personal motivation	C02	C02, C05, C09	C01, C02, C03, C04, C13, C14	C02	1
Personal values and beliefs	C03	C02, C03, C06, C07	C06, C10, C11, C12	C06	1
Participation in decision-making	C04	C01, C02, C03, C04, C06, C07	C01, C04, C08, C10, C11	C01, C04	2
Group dynamics	C05	C03, C05, C09	C01, C02, C04, C05, C06, C07, C09, C10, C13	C05, C09	2
Team cohesion and coordination	C06	C01, C02, C03, C05, C06, C07	C04, C06, C07, C08, C10, C13	C06, C07	2
Social support	C07	C02, C04, C05, C06, C07, C09, C11	C01, C03, C04, C06, C07, C08, C10, C13	C04, C06, C07	3
Social responsibility	C08	C01, C03, C04, C05, C06, C07, C08, C11, C13	C01, C07, C08, C09, C10, C13	C01, C08, C13	3
Policies and procedures	C09	C02, C07, C08, C09, C11, C12	C01, C02, C03, C04, C05, C07, C08, C09	C02, C07, C08, C09	4
Organizational culture	C10	C01, C02, C03, C04, C05, C06, C07, C08, C10, C11, C12	C01, C03, C04, C07, C10, C13	C01, C03, C04, C07, C10	5
Resilience	C11	C01, C06, C07, C08, C09, C10, C12, C14	C01, C06, C07, C08, C10, C13	C01, C06, C07, C08, C10	5
Organizational justice	C12	C01, C02, C03, C04, C06, C09, C10, C11, C12	C01, C03, C04, C06, C07, C09, C11, C12, C13	C01, C03, C04, C06, C11, C12	6
Mental health	C13	C01, C02, C03, C04, C06, C08, C09, C10, C11, C12, C13, C14	C01, C03, C04, C06, C07, C08, C13	C01, C03, C04, C06, C08, C13	6
Individual capabilities	C14	C02, C04, C06, C08, C11, C12, C14	C04, C06, C07, C08, C11, C12, C13, C14	C04, C06, C08, C11, C12, C14	6

The output set includes the criterion itself and the criteria that are influenced by it. The input set includes the criterion itself and the criteria that influence it. Then, the set of mutual relationships among criteria is determined. For a given variable, the reachability (output or influence) set consists of variables that can be reached through that variable. The prerequisite (input or influenced-by) set consists of variables through which that variable can be reached. After determining the reachability and prerequisite sets, the intersection of the two sets is computed. The first variable for which the intersection set is equal to the reachability (output) set is assigned to the first level. Therefore, level-one elements have the highest degree of influenceability in the model. After determining a level, the criterion associated with that level is removed from all sets, the input and output sets are recomputed, and the level of the next variable is determined. The final pattern of levels of the identified variables is shown in Figure 1. In this figure, only the meaningful relationships from each level to the level below, as well as significant internal relationships among elements within each level, have been considered.

After determining the levels of factors and in order to better understand the relationships among them, these relationships can be displayed in the form of a model and illustrated graphically (Figure 1).

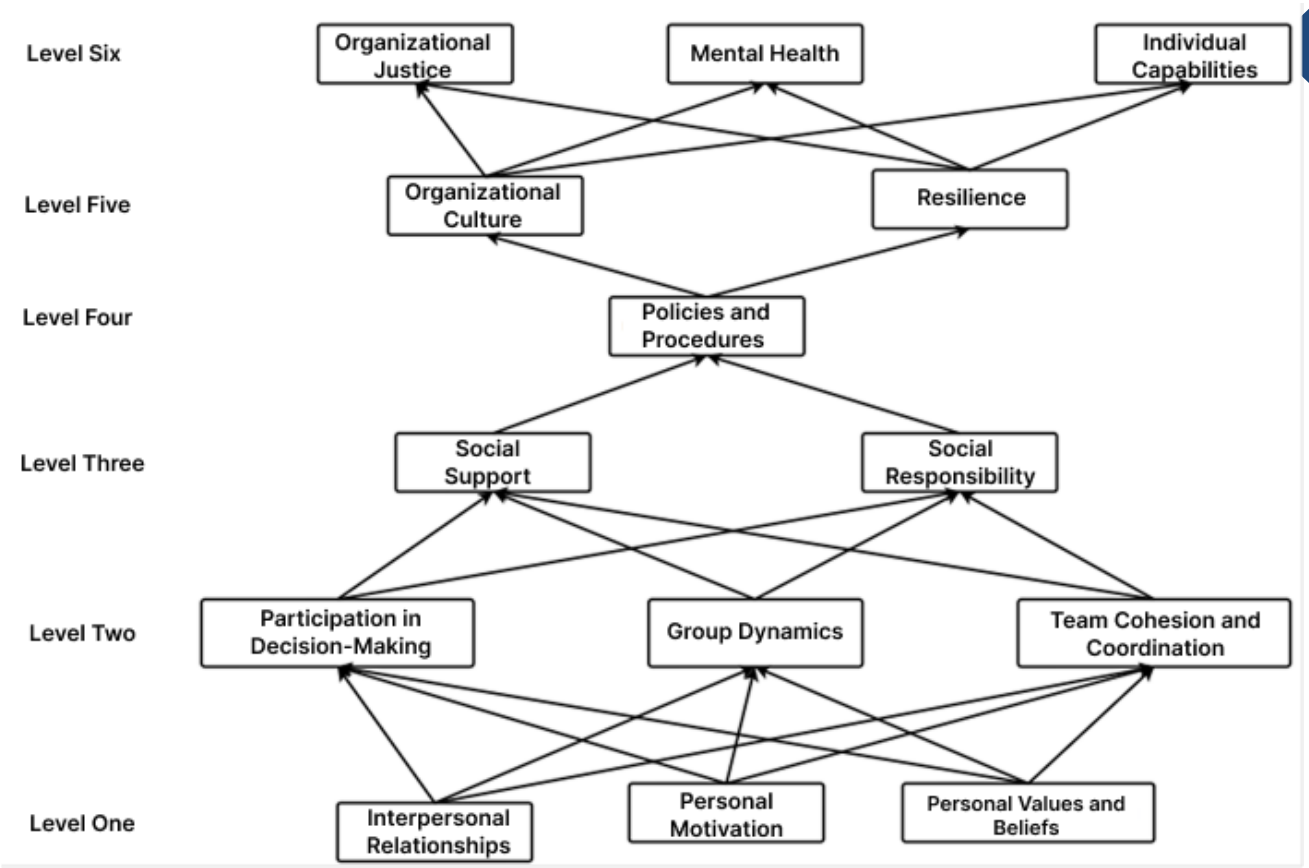

Figure 1. Model design based on dimensions and components

Level 1: Interpersonal relationships, personal motivation, personal values and beliefs

Level 2: Participation in decision-making, group dynamics, team cohesion and coordination

Level 3: Social support, social responsibility

Level 4: Policies and procedures

Level 5: Organizational culture, resilience

Level 6: Organizational justice, mental health, individual capabilities

Discussion and Conclusion

The findings of this study revealed a multilayered structure of factors influencing employees' heroic behavior, showing that interpersonal relationships, personal motivation, and personal values and beliefs form the foundational layer from which more complex behavioral patterns emerge. This foundational position aligns with prior research emphasizing that heroic or championing behavior often originates from intrinsic motivations, moral principles, and relational quality within the workplace. Studies have consistently shown that employees who possess strong internal motivation and moral grounding exhibit higher readiness to engage in exceptional and self-sacrificing behaviors during organizational challenges (1-3). Moreover, the identification of interpersonal relationships as a primary factor echoes research demonstrating that supportive, trusting, and communicative relationships in the workplace enhance employee willingness to defend organizational interests and contribute beyond formal requirements (4, 5). This study's results therefore reinforce the theoretical view that personal and relational factors form the core of heroic behavioral tendencies.

The second layer of the model—comprising participation in decision-making, group dynamics, and team cohesion—reflects how collective environments shape heroic behavior once personal foundations are established. Participation in decision-making was shown to enable employees to feel a sense of ownership and agency, which aligns with earlier findings indicating that empowerment mechanisms significantly contribute to proactive and change-supportive behaviors. Studies on transformational and inclusive leadership demonstrate that employee involvement in decisions enhances trust, responsibility, and organizational citizenship, all of which fuel heroic actions during change (1, 2, 8). Additionally, the importance of group dynamics observed in this study resonates with research showing that social interaction patterns, collective identity, and mutual support within teams cultivate environments in which individuals feel psychologically safe to engage in extraordinary efforts (11). Similarly, cohesive teams have been shown to interpret organizational challenges as shared missions, driving members toward proactive, supportive, and resilient behaviors (23). The convergence of these findings underscores that heroic behaviors are not solely individual phenomena but emerge from shared psychological and social processes embedded within team structures.

The third level of the interpretive structural model—social support and social responsibility—highlights broader relational and social commitments that extend beyond the immediate workgroup. The study found that employees' perceptions of reciprocal support from colleagues, supervisors, and family systems enhance their willingness to adopt heroic behaviors. This result parallels reports showing that social support significantly increases resilience, reduces stress, and fosters constructive behavior even in adverse circumstances (13, 14). Furthermore, the presence of social responsibility as a key element supports the argument that employees are motivated to protect the organization and its stakeholders when they feel morally accountable to their societal and organizational roles. Research into green ethical behavior and employee accountability confirms that employees who perceive morally significant responsibilities are more likely to demonstrate voluntary, prosocial, and championing behaviors (12, 19, 26). The present study therefore expands existing scholarship by illustrating how supportive environments and moral commitments jointly create conditions for heroic behavior.

The fourth level, policies and procedures, reflects how organizational systems shape and regulate employee behavior by establishing expectations, norms, and behavioral boundaries. The results indicate that when policies are clear, fair, and transparently communicated, employees are more likely to contribute heroically to organizational success. This aligns with previous studies showing that structured HRM systems enhance employees' willingness to accept and support organizational change (17). Moreover, organizational policies that reinforce fairness, learning, and ethical responsibility have been shown to increase employees' job engagement, reduce silent behavior, and foster innovative and constructive actions (9, 12). Therefore, the study's findings contribute to the argument that structural clarity and fairness play essential roles in motivating employees to act beyond their formal duties.

The fifth level—organizational culture and resilience—highlights factors that shape employees' long-term behavioral capacities. The prominence of organizational culture confirms extensive literature documenting how shared beliefs, norms, and values influence behavioral expectations and collective identity. Cultures that promote trust, innovation, and moral responsibility have been shown to foster heroic and change-championing behaviors (1, 11). Similarly, resilience emerged as a major determinant, reflecting findings that resilience enables individuals to confront stressors, navigate uncertainty, and maintain performance under pressure. Studies examining cyberbullying, digital stress, and performance demonstrate that resilience moderates the impact of negative organizational experiences and supports positive behavioral outcomes (14, 15). Consistent with our findings,

resilience thus plays both a protective and enabling role in shaping employees' capacity to engage in heroic behavior.

The highest level of the model—organizational justice, mental health, and individual capabilities—represents the most influential and overarching determinants of employee heroic behavior within the studied organization. Organizational justice, positioned at the top of the structure, is supported by strong evidence showing that fair treatment in distribution, procedures, and interpersonal interactions significantly enhances organizational citizenship behavior and reduces destructive actions (10, 27). Mental health, likewise, has been shown to strongly influence creativity, job engagement, resilience, and performance, with employees possessing better mental well-being more likely to participate in constructive and heroic actions (13). Finally, individual capabilities—including knowledge, expertise, and skill mastery—were found to exert a major influence on heroic behavior, a result consistent with research indicating that employee competence underpins innovative behavior, deviant innovation, proactive problem-solving, and organizational adaptability (7, 16, 18). Collectively, this final layer reinforces the argument that heroic behavior is not merely a product of individual disposition but an outcome of a dynamic interplay between justice perceptions, psychological health, and personal competence.

The hierarchical nature of these findings is consistent with previous research that conceptualizes employee behavior as a systemic phenomenon shaped by personal, relational, organizational, and contextual factors. The multilevel structure parallels studies demonstrating how individual motivation and values form the basis upon which organizational culture, HRM systems, and leadership influence employee behavior (20, 24, 28). Furthermore, the findings support theoretical models that emphasize the importance of integrated approaches to shaping organizational behavior, particularly in public sector settings where formal structure, accountability, and social responsibility intensify employee expectations (6, 25). By combining thematic analysis with interpretive structural modeling, the study offers a comprehensive and empirical model clarifying the complex relationships among factors influencing heroic behavior.

Several limitations must be acknowledged. First, the study was conducted within a specific public sector organization, which may limit the generalizability of the findings to private or hybrid sectors. Organizational culture, structural constraints, and bureaucratic norms within public entities may differ significantly from other sectors, potentially influencing the expression of heroic behavior. Second, although qualitative and interpretive structural methods provide depth and hierarchical clarity, they depend heavily on expert judgment. The subjective nature of expert evaluations may introduce bias despite efforts to ensure reliability. Third, the sample size, while adequate for qualitative modeling, does not allow for broad empirical validation of the model across diverse populations. The reliance on self-reported expert insights also raises the possibility of overestimating the importance of certain factors based on personal experiences rather than observable behavioral outcomes.

Future studies should test the proposed model quantitatively across different types of organizations to strengthen its external validity. Longitudinal research designs could examine how changes in leadership, policy, or organizational culture influence the evolution of heroic behavior over time. Researchers may also explore sector-specific variations by comparing public, private, and nonprofit environments. Moreover, future work could examine moderating variables such as generational differences, digital literacy, or cultural dimensions that affect how employees interpret and enact heroic behavior. Finally, expanding the model to incorporate external societal pressures—such as technological disruption or economic instability—may offer more holistic insights into the antecedents of heroic behavior.

Organizations should focus on strengthening interpersonal relationships and employee motivation through communication, recognition, and supportive leadership. Enhancing participation in decision-making and fostering strong team cohesion can create environments where employees naturally gravitate toward heroic behaviors. Investments in social support systems, clear policies, and ethical cultures can reinforce these efforts. Finally, organizations should prioritize mental health initiatives, professional development, and fairness-driven management practices to sustain a workforce capable of exceptional and committed actions.

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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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