DIGITAL TRANSFORMATION AND ADMINISTRATION INNOVATION

Citation: Shafizadeh Beromi, M., Hajalian, F., & Jahangirfard, M. (2025). Ambidextrous Human Resource Management in Project-Oriented Organizations with a Treasury Network Approach. *Digital Transformation and Administration Innovation*, 3(1), 1-12.

Received: 2024-12-21 Revised: 2025-03-03 Accepted: 2025-03-20 Published: 2025-03-27

Ambidextrous Human Resource Management in Project-Oriented Organizations with a Treasury Network Approach

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Abstract

The present study aims to investigate ambidextrous human resource management in project-oriented organizations. This research is applied and employs a mixed-method approach, combining qualitative and quantitative methods. The statistical population in the qualitative section consists of 14 experts and scholars in the field of ambidextrous human resource management in project-oriented organizations. They were selected using the snowball sampling method, and semi-structured interviews were conducted until theoretical saturation was achieved. Subsequently, qualitative thematic analysis and text coding were performed. The validity and reliability of this section were assessed based on credibility criteria, including member checking (interviewees' verification), data triangulation, negative case analysis, and transferability assessment. Next, using the treasury technique, five experts were asked to rank various aspects, including the characteristics of project-oriented organizations, organizational ambidexterity components, and the dimensions and functions of ambidextrous human resource management in project-oriented organizations, within the treasury network structure and based on a 7-point Likert scale. The treasury network evaluations were conducted for different projects, and the rankings were presented separately, showing the average scores of projects across various domains such as exploration, exploitation, and human resource management. The projects with the best performances were identified. The "Persian Gulf Star Refinery" project demonstrated the best performance in ambidextrous human resource management, whereas the "Chabahar-Iranshahr-Zahedan Railway Design and Construction" project ranked the lowest.

Keywords: Human Resource Management, Ambidexterity, Project-Oriented Organizations, Treasury Network

1. Introduction

Current research indicates that successful organizations tend to balance managing today's business demands while simultaneously adapting to future changes (Al-aloosy et al., 2024). This capability is defined as organizational ambidexterity, a concept first proposed by Duncan in 1976 (Indriyani et al., 2024) and later expanded by March in 1991, highlighting the extent to which companies focus on either exploitation or exploration capabilities (Faten Ahmed Mohammed Abd El & Ahmed, 2024; Zeebaree, 2024). Initially, ambidexterity was used to describe a human trait, referring to an individual's ability to use both hands with equal skill (Lubatkin et al., 2006). In an organizational context, ambidexterity refers to an organization's ability to efficiently exploit existing competencies while simultaneously exploring innovation in products and services (Patel et al., 2013).

In the field of human resource management (HRM), ambidexterity refers to a specific type of high-performance work system that simultaneously engages in exploration and exploitation, facilitating both efficiency and flexibility (Pertusa-Ortega et al., 2021). In this context, ambidextrous HRM refers to the HR manager's ability to discover and exploit human resources simultaneously. An ambidextrous organization cannot function without an ambidextrous HRM system (Park et al., 2020). Ambidextrous HRM is considered a particular type of high-performance work system that facilitates both exploration and exploitation to enhance efficiency and flexibility (Garaus et al., 2016).

In organizations where ambidexterity is emphasized, employees are regarded as the primary resource for discovering and exploiting opportunities (Sanaei et al., 2020; Sanaei et al., 2022). These organizations recognize that to remain competitive in business environments, they must continuously renew their human resources by exploiting existing resources while also identifying new ones (Shafique et al., 2021). Haider et al. (2023) found that dual leadership has a significant positive impact on knowledge sharing (Haider et al., 2023).

In recent years, there has been increasing interest in understanding ambidexterity in project settings and project-oriented organizations. A project-oriented organization can be considered an organizational innovation for executing specialized work processes, including integrating knowledge across various domains, solving complex problems, and effectively utilizing human resources (Asili et al., 2016). From an individual perspective, while project-oriented organizations impose environmental uncertainties and pressures on employees, they can also create unique opportunities if properly designed and supported (Turner et al., 2015; Turner et al., 2013).

In project management, researchers emphasize the simultaneous use of knowledge assets for exploration and exploitation. These studies highlight the importance of social capital perspectives, arguing that effective project management and handling conflicting situations depend on human, social, and organizational capital (Wang & Hsu, 2014). Scholars have examined relational learning as a key factor in managing paradoxes in high-tech firms. Erickson (2013) proposed various strategies for managing the exploration/exploitation paradox at different levels within a firm based on empirical evidence from the construction industry (Eriksson, 2013).

This body of research underscores the need to investigate how ambidexterity can be operationalized within projects to address the conflicting requirements of repetitive and non-routine work modules (Sohani & Singh, 2017). Despite the growing popularity of ambidexterity in recent years, there is still insufficient explanation of how HRM contributes to achieving organizational ambidexterity (Turner et al., 2015; Turner et al., 2013). Furthermore, a review of previous studies reveals limited research on the role of HRM in ambidextrous structures. These studies have not provided a coherent HR framework for implementing ambidexterity.

Considering the above, this study seeks to answer the following research question: How does ambidextrous human resource management function in project-oriented organizations using thematic analysis and a treasury network approach?

2. Methods and Materials

The present study aims to investigate ambidextrous human resource management in project-oriented organizations using a treasury network approach. The first part of this study employs thematic analysis. The data under analysis include all relevant interviews conducted with experts in the field of ambidextrous human resource management in project-oriented organizations. The sampling method was purposive, and the study continued until theoretical saturation was reached. This means that the document review was extended until no new data emerged, which in this study was achieved with 14 experts. The collected texts were then coded and subjected to qualitative thematic analysis. The validity and reliability of this section were assessed using credibility criteria, including member checking (interviewee validation), data triangulation, negative case analysis, and transferability assessment.

Subsequently, using the treasury technique, five experts were asked to rank responses for each of the following categories using a 7-point Likert scale: characteristics of project-oriented organizations, components of organizational ambidexterity, and dimensions and functions of ambidextrous human resource management in project-oriented organizations. The treasury

technique was selected due to its validity and usefulness in accessing personal theories of individuals, minimizing researcher bias, and providing a structured framework for participants to express their views using their own constructs.

3. Findings and Results

In this section, after conducting interviews with experts, open, axial, and selective coding was performed. It is important to note that theoretical saturation was achieved following the interviews.

Table 1. Open, Axial, and Selective Coding (Characteristics of a Project-Oriented, Ambidextrous Organization with a Contextual and Structural Approach)

Open Coding (Indicator)	Final Outcome	Selective Coding (Dimension)
Having innovation programs and idea generation	Both	Contextual
University collaboration with emerging issues in projects	Exploration	-
Utilizing acquired experiences from past and new projects	Exploitation	-
Expanding individual and organizational vision	Both	-
Problem-solving and troubleshooting skills of project managers	Both	-
Achieving superiority over competitors	Exploitation	-
Implementing and focusing on execution (exploitation) while also exploring (research, investigation, and change)	Exploitation	-
Technical office units assisting executive units within the project structure	Both	-
Having skills and participation in decision-making	Exploration	-
CEO oversight on overall project activities and resource allocation	Exploitation	-
The fundamental role of project managers and CEOs in the ambidexterity process	Exploration	-
High-quality and precise execution of projects	Exploitation	Balanced
Simultaneous implementation of exploration and exploitation aspects in matrix structures	Exploitation	Structural
Flexibility in crisis management within projects	Exploration	-
Applying value engineering through exploration	Exploitation	-
Project-oriented organization management by site supervisors and project managers (matrix structure)	Exploitation	-
Site supervisor focusing on execution and exploitation	Exploitation	-
Project managers focusing on coordination, design, research, budgeting, and other resources	Exploration	-
Focusing on research units for precise execution, cost reduction, and time efficiency	Exploitation	-
Research and development programs for implementing and manufacturing advanced equipment and facilities	Exploration	-
Research-oriented approach toward project risk reduction	Exploration	-
Strong matrix structure in functional and project performance	Exploitation	-
Necessity of flexibility in project-oriented organizations	Exploration	-
Need for advanced domestic or foreign production equipment and facilities	Exploitation	-

Table 2. Open, Axial, and Selective Coding (Components of Organizational Ambidexterity with a Contextual and Structural Approach)

Open Coding (Indicator)	Final Outcome	Selective Coding (Dimension)
Utilizing acquired experiences from past and new projects (learning)	Exploitation	Contextual
Reducing project risks through analytical, investigative, and research activities	Exploration	-
Pursuing strategic vision programs in projects and prioritizing based on available resources	Exploitation	-
Commercializing research and development outcomes with a problem-solving orientation	Exploitation	-
Ability to integrate internal and external knowledge bases to achieve synergistic benefits in quality, speed, accuracy, and cost	Exploitation	-
Considering organizational vision in a volatile and rapidly changing environment with significant economic shocks through research and development and exploration programs	Both	-
Focusing on both operational and exploratory processes, including research and development	Exploitation	-
Organizational factors (management), participation in decision-making, organizational identity, and learning factors through external knowledge absorption and internalization	Exploitation	-
Major role of executive managers in project leadership	Exploitation	-
The role of the human resources department in ambidexterity	Both	-
Perspective of leaders and managers	Exploitation	-
Selection of executive managers from top talents	Exploitation	Balanced
Using modern technology and advanced project control methods	Exploitation	Structural

Establishing research and development units outside regular operations to review and refine project execution plans without disrupting workflow	Exploitation	-
Creating a problem-solving-oriented research and development center within the project structure, considering the matrix structure	Exploration	-
Structural factors (type, form, age, and size of the organization)	Exploitation	-
Environmental factors (competition intensity, demand levels, etc.)	Exploitation	-

Table 3. Open, Axial, and Selective Coding (Dimensions and Functions of Ambidextrous Human Resource Management in a Project-Oriented Organization with a Contextual and Structural Approach)

Open Coding (Indicator)	Final Outcome	Selective Coding (Dimension)
Establishing an organizational culture that fosters flexibility and innovation	Both	Contextual
Periodic and continuous training during execution	Exploitation	-
Enhancing employee motivation through competitive compensation and reward programs	Exploitation	-
Emphasizing dual-skilled job design and reviewing these roles	Exploitation	-
Defining and articulating organizational strategies and vision to shift mindsets	Exploration	-
Emphasizing real-time, problem-focused research to support ambidextrous training approaches	Exploitation	-
Maintaining respect and enhancing self-confidence among employees	Exploitation	-
Implementing engagement strategies to build employee commitment	Exploitation	-
Developing effective and non-authoritative communication skills	Both	-
The role of competitive and immediate rewards for creative ideas and short-term evaluations	Exploitation	-
The role of individual factors in hiring creative employees and managerial attention to exploratory aspects	Exploration	-
The role of organizational learning, psychological safety, employee training, and low-stress work environments for talent development	Exploitation	-
Hiring employees with both exploitation and exploration skills	Exploitation	Balanced
Retention of key employees	Exploitation	-
Employee involvement in organizational profits and benefits	Exploitation	-
Providing improvement opportunities for underperforming employees	Both	-
Aligning human resource management with short- and long-term strategic goals to enhance project performance	Exploitation	-
Employee participation in organizational decision-making	Exploitation	-
Establishing appropriate organizational structures	Exploitation	Structural
Testing creative ideas	Both	-
Forming effective work teams for project execution	Exploitation	-
Ensuring human resources possess strong execution skills	Exploitation	-
Focusing on performance evaluation and continuous improvement	Exploitation	-
Careful selection and hiring of employees	Exploitation	-
Emphasizing training for new employees	Exploitation	-
Job classification and design, job analysis, and proper ranking of roles	Exploitation	-
The role of proper human resource planning	Both	-
Aligning processes with creativity and innovation	Both	-

In this section, Khatam al-Anbiya Construction Headquarters was examined as a case study. Initially, each construct was ranked. The coding of elements is detailed in Table 4.

Table 4. Elements and Codes Related to Each Element

Element	No Attention to Exploration and Exploitation	Attention Only to Exploration	Attention Only to Exploitation	Low Exploration and Low Exploitation	High Exploration and Low Exploitation	Low Exploration and High Exploitation	Simultaneous and Equal Attention to Exploration and Exploitation
Code	G	F	E	D	C	B	A

Experts were asked to complete the Repertory Grid structure based on a 7-point Likert scale for the first research question, which concerns the characteristics of a project-oriented organization for transitioning into an ambidextrous organization.

Table 5. Repertory Grid Structure for Project-Oriented Organization Characteristics to Transform into an Ambidextrous Organization - Expert 1

Indicator Title	Score	Indicator Title
Lack of innovation programs and idea generation	1 2 2 4 3 3 6	Presence of innovation programs and idea generation
Poor-quality and imprecise project execution	2 3 6 2 3 5 5	High-quality and precise project execution
Lack of simultaneous exploration and exploitation in matrix structures	1 4 4 3 3 5 7	Simultaneous implementation of exploration and exploitation in matrix structures
Lack of university collaboration on emerging project issues	4 3 4 3 2 5 3	University collaboration on emerging project issues
Failure to utilize acquired experiences from past and new projects	2 3 5 3 3 4 6	Utilizing acquired experiences from past and new projects
Limited individual and organizational vision	3 3 4 3 3 4 6	Expanding individual and organizational vision
Lack of flexibility in crisis management within projects	2 2 5 3 2 5 5	Flexibility in crisis management within projects
Failure to apply value engineering through exploration	1 5 3 3 5 3 7	Application of value engineering through exploration
Project-oriented organization not managed by site supervisor and project manager (matrix structure)	1 3 4 1 3 3 7	Project-oriented organization managed by site supervisor and project manager (matrix structure)
Site supervisor not engaged in execution and exploitation	3 1 7 1 2 5 6	Site supervisor engaged in execution and exploitation
Project managers not involved in coordination, design, research, budgeting, and resource allocation	3 3 3 4 4 4 6	Project managers involved in coordination, design, research, budgeting, and resource allocation
Lack of focus on research units for precise execution, cost reduction, and time efficiency	2 6 3 3 5 3 6	Focus on research units for precise execution, cost reduction, and time efficiency
Project managers lacking problem-solving and troubleshooting skills	2 4 3 2 4 4 5	Project managers possessing problem-solving and troubleshooting skills
Absence of research and development programs for implementing and manufacturing advanced equipment	5 2 6 3 2 5 2	Research and development programs for implementing and manufacturing advanced equipment
Failure to achieve competitive superiority	3 3 5 3 3 4 5	Achieving competitive superiority
Lack of research-oriented approach to project risk reduction	3 3 5 1 3 4 5	Research-oriented approach to project risk reduction
Weak matrix structure in functional and project performance	1 2 5 1 2 5 7	Strong matrix structure in functional and project performance
Lack of attention to both execution (exploitation) and exploration (research, investigation, and change) by project executors	1 3 4 1 4 5 7	Attention to both execution (exploitation) and exploration (research, investigation, and change) by project executors
No technical office support alongside execution units in project structures	2 5 3 2 5 3 7	Technical office support alongside execution units in project structures
Lack of flexibility in project-oriented organizations	1 3 4 1 3 5 6	Necessity of flexibility in project-oriented organizations
Lack of skills and participation in decision-making	2 3 4 2 4 6 6	Possession of skills and participation in decision-making
Lack of CEO oversight on overall project actions and resource allocation	1 3 5 1 4 6 7	CEO oversight on overall project actions and resource allocation
Project managers and CEOs playing no major role in the ambidexterity process	2 4 6 2 4 5 6	Major role of project managers and CEOs in the ambidexterity process
No need for advanced domestic or foreign production equipment and facilities	2 4 6 1 4 6 7	Need for advanced domestic or foreign production equipment and facilities

The average expert ratings for the characteristics of a project-oriented organization transitioning into an ambidextrous organization were then calculated across various projects.

Table 6. Average Repertory Grid Scores for Project-Based Organization Characteristics for Becoming an Ambidextrous Organization - All Experts

Project Name	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Ranking
Lack of attention to exploration and exploitation	2.0833	2.2500	2.0833	1.8333	2.2083	2.0916	7
Attention only to exploration	3.2083	3.2917	3.1667	3.3333	3.0833	3.2167	5
Attention only to exploitation	4.4167	4.3750	4.2917	4.4167	4.3333	4.3667	3
Low exploration and low exploitation	2.2083	2.1250	2.2500	2.1667	2.2083	2.1917	6
High exploration and low exploitation	3.3333	3.4583	3.3750	3.2917	3.2500	3.3417	4
Low exploration and high exploitation	4.4583	4.3333	4.5000	4.2917	4.5417	4.4250	2
Simultaneous and equal attention to exploration and exploitation	5.8333	5.7500	5.7917	5.8333	6.0417	5.8500	1

Table 6 presents the average scores assigned by a group of experts for different characteristics of project-based organizations transitioning into ambidextrous organizations. Each characteristic is ranked based on the average score from five experts. The highest average score (5.8500) corresponds to "Simultaneous and equal attention to exploration and exploitation," while the lowest score (2.0916) is associated with "Lack of attention to exploration and exploitation," ranking seventh. This ranking highlights the priority and significance of each characteristic from the experts' perspectives in the organizational transformation process toward ambidexterity and serves as a basis for strategic decision-making.

Following this, experts were asked to complete the Repertory Grid structure using a 7-point Likert scale for the second research question regarding organizational ambidexterity components.

Table 7. Average Repertory Grid Scores for Organizational Ambidexterity Components – All Experts

Project Name	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Ranking
Lack of attention to exploration and exploitation	1.6471	1.9412	1.7647	1.6471	1.7647	1.7530	7
Attention only to exploration	4.1765	4.0000	4.2941	4.1176	4.3529	4.1882	4
Attention only to exploitation	4.1176	4.0588	3.9412	4.0588	4.0000	4.0353	5
Low exploration and low exploitation	2.1765	2.0588	2.1176	2.2353	2.2941	2.1765	6
High exploration and low exploitation	4.2353	4.1765	4.2941	4.1765	4.3529	4.2471	3
Low exploration and high exploitation	4.2941	4.4706	4.4118	4.4118	4.2941	4.3765	2
Simultaneous and equal attention to exploration and exploitation	5.7647	6.0000	5.5294	5.8235	5.7059	5.7647	1

The results in Table 7 indicate that the component “Simultaneous and equal attention to exploration and exploitation” received the highest average score (5.7647), ranking first, while “Lack of attention to exploration and exploitation” had the lowest average score (1.7530), ranking seventh.

Finally, experts were asked to complete the Repertory Grid structure using a 7-point Likert scale for the third research question regarding the dimensions and functions of ambidextrous human resource management in project-based organizations.

Table 8. Average Repertory Grid Scores for Dimensions and Functions of Ambidextrous Human Resource Management in Project-Based Organizations - All Experts

Project Name	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Ranking
Lack of attention to exploration and exploitation	1.4286	1.5357	1.3929	1.4286	1.5357	1.4643	7
Attention only to exploration	4.0714	4.0357	4.2143	4.0714	4.0714	4.0928	4
Attention only to exploitation	3.9286	3.7143	4.0714	4.0357	3.8214	3.9143	5
Low exploration and low exploitation	1.7143	1.7500	1.7500	1.7500	1.9286	1.7786	6
High exploration and low exploitation	4.4286	4.5714	4.3571	4.3929	4.4643	4.4429	2
Low exploration and high exploitation	4.3571	4.2143	4.5357	4.2500	4.4643	4.3643	3
Simultaneous and equal attention to exploration and exploitation	5.7857	5.6071	5.6429	5.7143	5.7143	5.6929	1

As shown in Table 8, "Simultaneous and equal attention to exploration and exploitation" had the highest average score (5.6929), ranking first, while "Lack of attention to exploration and exploitation" had the lowest score (1.4643), ranking seventh.

In this section, the executed projects of Khatam al-Anbiya Construction Headquarters were compared based on title, orientation, ambidexterity score, and contract amount. These projects were used as elements in the repertory grid network. For this purpose, projects classified under large contract amounts were selected for analysis.

Table 9. Comparison of Existing Projects in Terms of Title, Orientation, Ambidexterity Score, and Contract Amount Classification

Title	Orientation	Ambidexterity Score	Contract Amount Classification
Design and implementation of the national fiber optic infrastructure network (8,500 km)	Civil Engineering	2	Large-C (200 to 500)
Construction of Zayandeh-Rud water transfer tunnel to Kashan (Golab Tunnels 1 & 2)	Civil Engineering	5	Medium and Small-E (less than 100)
Development of Shahid Rajaee Port Complex - Phase II	Civil Engineering	7	Large-C (200 to 500)
Design and execution of the Dasht Zahab water transfer tunnel (Nosoud Section 2)	Civil Engineering	4	Medium and Small-E (less than 100)
Development of Shahid Beheshti Port - Phase I	Civil Engineering	8	Large-C (200 to 500)
Sungun Copper Complex Refinery	Civil Engineering	3	Large-D (100 to 200)
Development of optical transmission network equipment for national infrastructure communications (Fifth Five-Year Plan - Tadbir 1, Section B)	Civil Engineering	4	Large-C (200 to 500)
Mashhad Metro Line 2	Civil Engineering	6	Very Large-B (500 to 1000)
Design, supply, installation, commissioning, testing, and training for the National Gas Dispatching System (Sadid)	Civil Engineering	5	Medium and Small-E (less than 100)
Design and construction of the surplus water transfer tunnel from the Galas (Zab) River to the Lake Urmia watershed (Kani Sib)	Civil Engineering	7	Large-C (200 to 500)
Tehran Metro Line 7	Civil Engineering	8	Mega-A (1000 and above)
Design and construction of Chabahar-Iranshahr-Zahedan Railway	Civil Engineering	8	Mega-A (1000 and above)
Design and construction of Tehran Southern Bypass Freeway	Civil Engineering	6	Mega-A (1000 and above)
Border Water Management Project	Civil Engineering	7	Mega-A (1000 and above)
Design and execution of a section of Shiraz Urban Railway Line 2	Civil Engineering	8	Large-C (200 to 500)
Alumina production from Nepheline Syenite in Sarab	Civil Engineering	4	Large-C (200 to 500)
Exploration areas 1 and 2 for chromite in Kerman province	Civil Engineering	3	Large-C (200 to 500)
Phases 15 and 16 - Arya Naft Shahaab	Oil	5	Mega-A (1000 and above)
Persian Gulf Star Refinery	Oil	5	Mega-A (1000 and above)
Phases 22-23-24 - Petro Sina Arya	Oil	5	Mega-A (1000 and above)

Experts were then asked to complete the Repertory Grid structure using a 7-point Likert scale for the first research question, which examines the characteristics of project-based organizations transitioning into ambidextrous organizations.

Table 10. Average Repertory Grid Scores for Project-Based Organization Characteristics for Becoming an Ambidextrous Organization - All Experts

Project Name	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Ranking
Tehran Metro Line 7	4.6250	4.6250	4.4583	4.6667	4.7083	4.6167	6
Design and construction of Chabahar-Iranshahr-Zahedan Railway	3.8333	3.6250	3.7917	3.8333	4.0000	3.8167	7
Border Water Management Project	4.6667	4.7500	4.7500	4.5833	4.7917	4.7083	5
Design and construction of Tehran Southern Bypass Freeway	4.8750	4.9583	4.9167	5.1250	5.0000	4.9750	4
Phases 15 and 16 - Arya Naft Shahaab	5.8750	5.8750	5.9167	5.7083	5.7500	5.8250	2
Persian Gulf Star Refinery	6.3333	6.0417	6.1250	6.4167	6.1250	6.2083	1
Phases 22-23-24 - Petro Sina Arya	5.8333	5.7500	5.5833	5.7500	6.0000	5.7833	3

Table 10 presents the average scores assigned by a group of experts for various projects in their transition toward ambidextrous organizations. The highest score (6.2083) was assigned to the "Persian Gulf Star Refinery" project, ranking first, which highlights its significance and capability in achieving ambidexterity. In contrast, the "Design and construction of

Chabahar-Iranshahr-Zahedan Railway" project received the lowest average score (3.8167), placing it in seventh position. This ranking assists decision-makers in setting priorities and allocating resources to achieve organizational ambidexterity across different projects.

Following this, experts were asked to complete the Repertory Grid structure using a 7-point Likert scale for the second research question, which focuses on the components of organizational ambidexterity.

Table 11. Average Repertory Grid Scores for Organizational Ambidexterity Components - All Experts

Project Name	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Ranking
Tehran Metro Line 7	4.7647	5.0588	4.8824	4.6471	4.7059	4.8118	4
Design and construction of Chabahar-Iranshahr-Zahedan Railway	3.7647	3.8824	3.8235	3.8824	3.8235	3.8353	7
Border Water Management Project	4.5294	4.7059	4.5294	4.5882	4.4706	4.5647	6
Design and construction of Tehran Southern Bypass Freeway	4.5882	4.6471	4.8235	4.5294	4.5882	4.6353	5
Phases 15 and 16 - Arya Naft Shahaab	5.6471	5.4706	5.4118	5.5882	5.6471	5.5530	3
Persian Gulf Star Refinery	6.1765	6.0588	6.1765	6.1765	5.9412	6.1059	1
Phases 22-23-24 - Petro Sina Arya	5.8824	6.0000	5.8824	6.1176	6.0000	5.9765	2

As shown in Table 11, the "Persian Gulf Star Refinery" project received the highest average score (6.1059), ranking first, whereas the "Design and construction of Chabahar-Iranshahr-Zahedan Railway" project had the lowest average score (3.8353), ranking seventh.

Finally, experts were asked to complete the Repertory Grid structure using a 7-point Likert scale for the third research question, which focuses on the dimensions and functions of ambidextrous human resource management in project-based organizations.

Table 12. Average Repertory Grid Scores for Dimensions and Functions of Ambidextrous Human Resource Management in Project-Based Organizations - All Experts

Project Name	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Average	Ranking
Tehran Metro Line 7	4.3214	4.4286	4.4643	4.4286	4.3929	4.4072	6
Design and construction of Chabahar-Iranshahr-Zahedan Railway	3.9286	3.9643	3.9643	4.1071	3.9643	3.9857	7
Border Water Management Project	4.7500	4.8571	4.7500	4.8571	4.7500	4.7928	4
Design and construction of Tehran Southern Bypass Freeway	4.5000	4.5000	4.5714	4.5714	4.5000	4.5286	5
Phases 15 and 16 - Arya Naft Shahaab	5.6786	5.5714	5.7857	5.6429	5.6429	5.6643	3
Persian Gulf Star Refinery	6.0000	5.9286	5.8571	6.1071	6.0000	5.9786	1
Phases 22-23-24 - Petro Sina Arya	5.8214	5.7500	5.8929	5.8929	5.7500	5.8214	2

Table 12 presents the average repertory grid scores for the dimensions and functions of ambidextrous human resource management in project-based organizations, as evaluated by all experts. The "Persian Gulf Star Refinery" project had the highest average score (5.9786), ranking first, while the "Design and construction of Chabahar-Iranshahr-Zahedan Railway" project had the lowest score (3.9857), ranking seventh among all projects.

4. Discussion and Conclusion

Ambidexterity refers to an organization's ability to achieve both incremental and radical innovation simultaneously, engage in exploration and exploitation, balance stability and transition in organizational adaptation, and maintain efficiency and flexibility in organizational design. Scholars in the field of ambidexterity argue that companies involved in both exploitation and exploration through integration or combination are more likely to achieve higher performance than those that focus on only one dimension.

The results for the first research question—What characteristics should a project-based organization have to become an ambidextrous organization?—revealed that ambidextrous organizations exhibit the following characteristics: innovation programs and idea generation, collaboration with universities on emerging project issues, leveraging experiences from past and new projects, expanding individual and organizational vision, problem-solving skills among project managers, achieving competitive superiority, integrating execution (exploitation) with research and development (exploration), technical office support alongside execution units, decision-making skills and participation, CEO oversight on project activities and resource allocation, key roles of project managers and executives in ambidexterity, high-quality and precise project execution, simultaneous exploration and exploitation in matrix structures, flexibility in crisis management, applying value engineering

through exploration, managing project organizations through site supervisors and project managers (matrix structure), site supervisors focusing on execution and exploitation, project managers overseeing coordination, design, research, budgeting, and resource management, establishing dedicated research units for precise execution and cost/time reduction, research and development programs for advanced equipment and technologies, a research-oriented approach to project risk reduction, strong functional and project-oriented matrix structures, the necessity of flexibility in project-based organizations, and the need for advanced domestic and foreign production equipment. These findings align with the prior studies (Choudhary et al., 2018; Majd et al., 2023; Sanaei et al., 2022).

The results indicate that some organizations, adopting a resource-based approach, recognize that optimal human resource management is one of the most critical factors for success. These organizations seek to understand how HRM can be used to balance stability and change. Ambidextrous organizations require a dual-compatible HR system that fosters specialized expertise, promotes knowledge transfer, and aligns exploration and exploitation units with an ambidextrous strategy while maintaining internal stability. In ambidextrous organizations, HRM seeks to balance HR approaches, and defining HR functions plays a crucial role in this process.

The results for the second research question—What are the components of organizational ambidexterity?—revealed that organizational ambidexterity components include: leveraging past and new project experiences (learning), utilizing modern technology and advanced project control methods, reducing project risks through analytical and research-driven initiatives, selecting executive managers from top talents, establishing independent research and development units for reviewing project execution plans without disrupting workflows, pursuing strategic vision programs and prioritizing them based on available resources, commercializing research and problem-oriented investigations, integrating internal and external knowledge bases to maximize synergistic benefits in quality, speed, accuracy, and cost, considering organizational vision and volatile economic fluctuations through research and exploration programs, focusing on both operational execution and exploratory research and development processes, establishing problem-oriented research and development centers within projects under matrix structures, organizational factors (management), participation in decision-making, organizational identity, learning factors through external knowledge absorption and internalization, structural factors (organization type, form, age, and size), environmental factors (intensity of competition, demand levels, etc.), the major role of executive managers in project leadership, the role of HR units in ambidexterity, and leadership perspectives. These results align with the prior findings (Ghobakhloo et al., 2022; Gholamalikhan Shahsavan et al., 2022; Haass & Azizi, 2019; Haghighi et al., 2018; Haider et al., 2023).

The results indicate that organizational ambidexterity is described as the capacity to achieve both exploitation (high performance in routine activities) and exploration (the ability to innovate and adapt to changing environmental demands) simultaneously. An organization must master both dimensions to ensure long-term success. Excessive focus on exploitation can cause an organization to lose sight of long-term goals, while an overemphasis on exploration at the expense of exploitation can jeopardize short-term business sustainability.

The results for the third research question—What are the dimensions and functions of ambidextrous HRM in project-based organizations?—showed that ambidextrous HRM in project-based organizations includes dimensions and functions such as: fostering an organizational culture that promotes flexibility and innovation, continuous and periodic training during execution, enhancing employee motivation through competitive compensation and reward programs, emphasizing dual-skilled job design and regular role reviews, defining and articulating organizational strategies and vision to drive mindset shifts, prioritizing real-time, problem-focused research to support ambidextrous learning approaches, maintaining respect and self-confidence among employees, developing effective employee engagement strategies, fostering non-authoritative and effective communication skills, implementing competitive and immediate rewards for creative ideas with short-term performance evaluations, recognizing the role of individual factors and creative personnel while ensuring managerial attention to exploration, supporting organizational learning, psychological safety, continuous employee training, and stress-free work environments, recruiting employees proficient in both exploitation and exploration, retaining key employees, involving employees in organizational profits and benefits, providing improvement opportunities for underperforming employees, aligning HRM with short- and long-term strategic goals to enhance project performance, encouraging employee participation in organizational decision-making, establishing appropriate organizational structures, testing creative ideas, forming effective work teams for project execution, ensuring human resource competency in execution-related skills, prioritizing performance evaluation and continuous

improvement, implementing meticulous employee selection and recruitment processes, emphasizing training for new hires, job classification and design, conducting job analysis and ranking, strategic HR planning, and aligning processes with creativity and innovation. These results align with the prior findings (Aghaz & Ghaffari, 2021; Al-khawaldah et al., 2022; Alidadi Talkhestani et al., 2018).

The findings suggest that structural ambidexterity in organizations is pursued through simultaneous exploration and exploitation while utilizing separate subsystems. This form of ambidexterity not only requires distinct structural units for exploration and exploitation but also necessitates capabilities, systems, incentives, processes, and cultures that maintain internal coherence within each subsystem.

The results of the repertory grid analysis for Khatam al-Anbiya Construction Headquarters concerning the characteristics, components, and dimensions of ambidextrous HRM in project-based organizations indicate that the highest average score was attributed to "Simultaneous and equal attention to exploration and exploitation," whereas the lowest score was assigned to "Lack of attention to exploration and exploitation," ranking seventh. These results reflect the experts' perspectives on the relative importance of each component in achieving organizational ambidexterity and provide a strategic guideline for decision-making in project-based organizations.

Additionally, the repertory grid analysis results for different projects revealed distinct ranking patterns based on average scores across various domains, including exploration, exploitation, and human resource management. The "Persian Gulf Star Refinery" project demonstrated the best performance in ambidextrous HRM, while the "Design and construction of Chabahar-Iranshahr-Zahedan Railway" project ranked the lowest. This ranking aids analysts in identifying best-performing projects in ambidextrous HRM and leveraging these insights to refine strategies and optimize HR resources in future projects.

Based on the findings, several recommendations are proposed, including simultaneously addressing execution, operational work processes, and exploratory research and development activities, ensuring timely and prompt compensation, offering flexible work schedules, avoiding credentialism, tenure bias, legal rigidity, and uniform pay structures, providing non-financial and symbolic rewards such as media recognition, academic opportunities, scientific and spiritual travel, and family incentives, implementing competitive salaries to enhance employees' sense of value, establishing a comprehensive employee benefits system, structuring compensation into at least three tiers (regular salary, special salary, and performance-based incentives), ensuring transparency and fairness in reward distribution, fostering commitment-based HR systems, resolving issues through effective management and a positive work environment free of stress, ethical concerns, and discriminatory practices, and enhancing employee engagement through internal charitable initiatives, collaborative problem-solving sessions, and incentives for participation in project-related activities.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all participants who participate in this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

Aghaz, A., & Ghaffari, K. (2021). Pay for Performance in Project-oriented Organizations: A case of Niroo Research Institute. *Iranian journal of management sciences*, *16*(63), 103-133. https://journal.iams.ir/article_360.html?lang=en

Al-aloosy, K. F. Q., Mirvalad, S., & Shabakhty, N. (2024). Evaluating the impact of internet communication quality in human resource management on the productivity of construction projects. *Heliyon*, *10*(7). https://doi.org/10.1016/j.heliyon.2024.e28500

Al-khawaldah, R., Al-zoubi, W., Alshaer, S., Almarshad, M., Alshalabi, F., Altahrawi, M., & Al-Hawary, S. (2022). Green supply chain management and competitive advantage: The mediating role of organizational ambidexterity. *Uncertain Supply Chain Management*, *10*(3), 961-972. https://doi.org/10.5267/j.uscm.2022.2.017

Alidadi Talkhestani, Y., Mahmoodzadeh, E., Mousakhani, M., & Alvani, S. M. (2018). Investigation on Ambidextrous Human Resource Strategic Competencies in a Defensive-Industrial Organization. *Journal of Improvement Management*, *12*(1), 27-50. https://www.behboodmodiriat.ir/article_68049.html?lang=en

Asili, G., Afkhami Ardakani, M., Ebrahimi, M., & Varmazyar, M. (2016). Defining Structural Model of Human Resource Management in Project-Based Organizations: New Trend Based on HR Quadriad. *Strategic studies in the oil and energy industry*, *7*(28), 55-80. https://www.sid.ir/paper/519870/fa

Choudhary, P., Mital, M., Pani, A. K., Papa, A., & Vicentini, F. (2018). Impact of enterprise mobile system implementation on organizational ambidexterity mediated through BPM customizability. *Business Process Management Journal*, *24*(5), 1235-1254. https://doi.org/10.1108/BPMJ-07-2017-0209

Eriksson, P. E. (2013). Exploration and exploitation in project-based organizations: Development and diffusion of knowledge at different organizational levels in construction companies. *International Journal of Project Management*, *31*(3), 333-341. https://doi.org/10.1016/j.ijproman.2012.07.005

Faten Ahmed Mohammed Abd El, s., & Ahmed, M. (2024). Effect of Strategic Leadership on Organization Ambidexterity and Agility as Perceived by Staff Nurses. *Assiut Scientific Nursing Journal*, *0*(0), 0-0. https://doi.org/10.21608/asnj.2024.289173.1821

Garaus, C., Güttel, W. H., Konlechner, S., Koprax, I., Lackner, H., Link, K., & Müller, B. (2016). Bridging knowledge in ambidextrous HRM systems: empirical evidence from hidden champions. *The International Journal of Human Resource Management*, *27*(3), 355-381. https://doi.org/10.1080/09585192.2015.1045007

Ghobakhloo, H., Faridchehr, E., Gharibnavaz, N., & Ahmadisharif, M. (2022). Presenting the Structure of Effective Factors in the Disposing of Goods using the Repertory Grid (Validation of the Structure in the Mobile Phone Market in Tehran). *New Marketing Research Journal*, *12*(1), 129-150. https://nmrj.ui.ac.ir/article_26585.html?lang=en

Gholamalikhan Shahsavan, H., Sheikholeslami Kandelosi, N., & Salehi Sedqiani, J. (2022). Identifying and prioritizing factors affecting organizational ambidexterity in Moheb Kowsar Hospital, Tehran. *Quarterly Journal of Research and New Theories in Public Administration*, *1*(3), 15-33. https://www.sid.ir/paper/1045999/fa

Haass, O., & Azizi, N. (2019). Knowledge sharing practice in project-oriented organisations: A practical framework based on project life cycle and project management body of knowledge. *International Journal of Project Organisation and Management*, *11*(2), 171-197. https://doi.org/10.1504/IJPOM.2019.100575

Haghighi, M., Dehghani Soltani, M., & Farsizadeh, H. (2018). Explaining the Role of Organizational Ambidexterity in The Impact of Pro-innovation Culture and Organizational Memory on New Product Development Performance. *Public Management Researches*, *10*(38), 197-223. https://jmr.usb.ac.ir/article_3722.html

Haider, S. A., Zubair, M., Tehseen, S., Iqbal, S., & Sohail, M. (2023). How does ambidextrous leadership promote innovation in project-based construction companies? Through mediating role of knowledge-sharing and moderating role of innovativeness. *European Journal of Innovation Management*, *26*(1), 99-118. https://doi.org/10.1108/EJIM-02-2021-0083

Indriyani, D. S., Utami, H. N., & Afrianty, T. W. (2024). The Role of Leadership Agility and Entrepreneurial Orientation on Innovation Ambidexterity and Its Impact on Competitive Advantage. *Jurnal Aplikasi Manajemen*, *22*(3), 733-748. https://doi.org/10.21776/ub.jam.2024.022.03.09

Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small-to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, *32*(5), 646-672. https://doi.org/10.1177/0149206306290712

Majd, A. A., Armaki, A. A., Masoomi, M., Sari, H. D. G. P., & Moomivandpour, F. (2023). The Failure of Petrochemical Industries in the Oil Economy with a Special View on the Field of Human Resources Management. *International Journal of Multicultural and Multireligious Understanding*, *10*(4), 411-443. https://ijmmu.com/index.php/ijmmu/article/view/4656

Park, Y., Pavlou, P. A., & Saraf, N. (2020). Configurations for achieving organizational ambidexterity with digitization. *Information Systems Research*, *31*(4), 1376-1397. https://doi.org/10.1287/isre.2020.0950

Patel, P., Messersmith, J., & Lepak, D. (2013). Walking the tightrope: An assessment of the relationship between high-performance work systems and organizational ambidexterity. *Academy of Management journal*, *56*(5), 1420-1442. https://doi.org/10.5465/amj.2011.0255

Pertusa-Ortega, E. M., Molina-Azorín, J. F., Tarí, J. J., Pereira-Moliner, J., & López-Gamero, M. D. (2021). The microfoundations of organizational ambidexterity: A systematic review of individual ambidexterity through a multilevel framework. *BRQ Business Research Quarterly*, *24*(4), 355-371. https://doi.org/10.1177/2340944420929711

Sanaei, S., Pourkiani, M., Salajeghe, S., Sayadi, S., & Sheykhi, A. (2020). An Ambidexterity Human Resource Management Model in Iranian Police through Theme Analysis and Treasury Network. *Police Management Studies Quarterly*, *15*(1), 29-52. https://www.magiran.com/paper/2105839/an-ambidexterity-human-resource-management-model-in-iranian-police-through-theme-analysis-and-treasury-network?lang=en

Sanaei, S., Pourkiani, M., Salajegheh, S., & Sayyadi, S. (2022). Presenting an Organizational Ambidexterity Model Based on Islamic Human Resource Management Functions in NAJA (Iranian Police Force). *Quarterly Journal of Human Resource Training and Development*, *9*(9), 20-37. https://journals.iau.ir/article_703314.html?lang=en

Shafique, I., Kalyar, M. N., & Mehwish, N. (2021). Organizational ambidexterity, green entrepreneurial orientation, and environmental performance in SMEs context: Examining the moderating role of perceived CSR. *Corporate Social Responsibility and Environmental Management*, *28*(1), 446-456. https://doi.org/10.1002/csr.2060

Sohani, S. S., & Singh, M. (2017). Multilevel analysis of ambidexterity and tagging of specialised projects in project-based information technology firms. *International Journal of Operations & Production Management*, *37*(9), 1185-1206. https://doi.org/10.1108/IJOPM-04-2016-0212

Turner, N., Maylor, H., & Swart, J. (2015). Ambidexterity in projects: An intellectual capital perspective. *International Journal of Project Management*, *33*(1), 177-188. https://doi.org/10.1016/j.ijproman.2014.05.002

Turner, N., Swart, J., & Maylor, H. (2013). Mechanisms for managing ambidexterity: A review and research agenda. *International Journal of Management Reviews*, *15*(3), 317-332. https://doi.org/10.1111/j.1468-2370.2012.00343.x

Wang, C. H., & Hsu, L. C. (2014). Building exploration and exploitation in the high-tech industry: The role of relationship learning. *Technological Forecasting and Social Change*, *81*, 331-340. https://doi.org/10.1016/j.techfore.2013.04.008

Zeebaree, M. R. Y. (2024). The Effect of Organizational Flexibility on Organizational Ambidexterity in Higher Education Institutions in Iraq. *International Review of Management and Marketing*, *14*(2), 23-36. https://doi.org/10.32479/irmm.15705