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Research Paper

Human resource diversity management (HRDM) strategies in construction industry

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ABSTRACT

In today's complex and rapidly evolving world, organizations are increasingly confronted with a diverse workforce in terms of culture, language, generation, religion, gender, and ethnicity. While such diversity presents certain challenges, it also offers valuable opportunities to enhance organizational performance. The present study focuses on the construction industry in Iraq and aims to analyze the impact of HRDM on its consequences, with particular emphasis on the mediating role of HRDM strategies. This research adopts an applied and sequential exploratory mixed-methods approach (qualitative–quantitative). In the qualitative phase, key themes were identified through interviews and thematic analysis using MAXQDA software, leading to the development of an initial conceptual model. This model was then tested in the quantitative phase using a structured questionnaire and data analysis through SmartPLS, applying structural equation modeling (SEM). The findings revealed that HRDM strategies serve as significant mediators between HRMD practices and their consequences, and that transformational approaches can foster improved performance and team cohesion. The proposed conceptual model offers a strategic framework for policymaking and implementation of HRMD programs in the construction sector and similar industries across developing countries.

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1. Introduction

In today's complex and dynamic world, organizations are confronted with a more diverse workforce than ever before [1]. This diversity encompasses cultural, gender, ethnic, generational, religious, and linguistic differences. Collectively referred to as "human resource diversity," these differences present both opportunities and challenges for organizations. In response to this reality, the concept of HRDM has emerged. This approach focuses on the development and implementation of policies and programs aimed at effectively leveraging human differences to enhance organizational performance [2]. By fostering a transparent, fair, and inclusive environment, HRDM facilitates collaboration among employees from diverse backgrounds, ultimately boosting morale, fostering innovation, and improving productivity [3]. The construction industry, as one of the key pillars of the economy, plays a vital role in infrastructure development [4, 5]. Particularly in developing countries [6], this industry operates with a highly diverse workforce. The skill capabilities of the workforce are recognized as one of the key factors influencing the performance of the construction industry in Iraq, serving as a foundation for the industry's progress toward development and the expansion of skill diversity [7]. Construction projects often bring together engineers, contractors, and laborers from various nationalities and cultural backgrounds, complicating the human resource management (HRM) [8]. When properly managed, this diversity can lead to error reduction, increased productivity, and improved decision-making [2]. Conversely, if mismanaged, it may result in cultural conflicts, poor collaboration, discrimination, and even project failure [9]. This issue is especially critical in countries like Iraq, which is characterized by significant ethnic and religious diversity alongside ongoing political and security crises. The absence of clear, evidence-based frameworks for managing such differences

can erode employee trust and diminish performance [10, 11]. Therefore, it is essential to develop HRDM strategies that are aligned with Iraq's unique social, cultural, and economic conditions. Despite growing attention to this issue, a review of the literature reveals conflicting findings regarding the impact of diversity management (DM) on organizational performance. While some studies highlight the positive role of cultural diversity in enhancing creative decision-making and team performance [12], others emphasize challenges such as cultural misunderstandings, value conflicts, and inequality [13]. These discrepancies underscore the fact that success in HRDM depends not only on the extent of diversity but also on how it is managed. Another critical point is the limited applicability of managerial strategies developed in industrialized countries to contexts such as Iraq. Developed countries often benefit from mature organizational cultures, supportive legal frameworks, and a higher level of public awareness about equal rights. In contrast, developing countries face obstacles such as a lack of specialized training, weak legislation, and cultural barriers [9, 14]. Hence, there is a growing need for context-sensitive and locally grounded solutions tailored to the realities of such environments. Based on the main objective of this research, the study focuses on analyzing the impact of HRDM on its consequences in the construction industry of Iraq, with particular emphasis on the mediating role of HRDM strategies. The research considers the unique socio-cultural context of Iraq and draws on previous studies to compare and analyze these findings within the broader scope of global experiences in HRDM. Accordingly, the central research question is formulated as follows: (1) Which strategies can effectively HRDM in Iraq's construction industry, and (2) what factors influence the success or failure of these strategies? In summary, this study aims to identify, classify, and analyze effective strategies for HRDM in construction projects across Iraq as a case study.

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Nomenclature

<i>AS</i>	Adaptive Strategies	<i>STDEV</i>	Standard Deviation
<i>AVE</i>	Average Variance Extracted	<i>TS</i>	Transformational Strategies
<i>CI</i>	Construction Industry	<i>PC</i>	Process consequences
<i>CHDM</i>	Consequences of Human Diversity Management	<i>PFC</i>	Performance consequences
<i>DM</i>	Diversity Management	<i>PLS</i>	Partial Least Squares
<i>HRM</i>	Human Resource Management	<i>Greek Symbols</i>	
<i>HRDM</i>	Human Resource Diversity Management	β	Path coefficients
<i>IS</i>	Integrative Strategies	ρ_A	Composite Reliability
<i>M</i>	Sample Mean	ρ_C	Composite Reliability
<i>SEM</i>	Structural equation modeling		

Furthermore, it evaluates the challenges and opportunities associated with the implementation of these strategies by incorporating both empirical evidence and contextual insights, ultimately providing practical recommendations tailored to the realities of Iraq's construction industry.

2. Literature review

In recent years, HRDM has emerged as a central theme in the fields of HRM and organizational behavior. As workforce diversity in terms of ethnicity, gender, language, religion, and nationality has increased, organizations—particularly in the construction industry—are facing challenges that threaten cohesion, efficiency, and effective interaction [15]. These challenges are more acute and complex in developing countries such as Iraq, where unique cultural, social, and political characteristics further complicate diversity dynamics. The academic literature identifies three overarching strategies for HRDM: (1) Accommodative Strategy [16] (2) Integrative strategies [17], and (3) Transformational strategies [18]. The accommodative strategy typically represents an organization's initial response to rising cultural diversity. Its primary goal is to raise employee awareness about cultural differences, reduce unconscious biases, and foster mutual understanding among diverse groups [16]. Tools such as training workshops, multicultural sessions, and intercultural mediation fall within this approach [19]. Although these efforts may enhance short-term interactions, they are generally insufficient to produce long-lasting structural changes on their own [20]. In contrast, integrative strategies aim to embed diversity within organizational structures and policies. This approach seeks to systematically leverage diversity across processes such as recruitment, promotion, performance appraisal, and reward systems [9]. Key components include the establishment of diversity committees, appointment of diversity officers, development of diversity-related performance indicators, and the implementation of anti-discrimination policies [21]. Due to its emphasis on institutionalizing diversity within organizational culture and formal systems, this strategy holds greater potential for sustained impact [17]. Transformational strategies operate at a more advanced level, targeting deep changes in organizational values, attitudes, and fundamental norms [22]. This approach demands a re-examination of management philosophy, redistribution of power, and reform of decision-making models. Core principles include social justice, structural equality, and participatory governance [23]. Practical measures involve empowering minority groups, amplifying marginalized voices, and involving employees in policymaking [24]. Despite the complexities of implementation and the need for strong leadership commitment, transformational strategies can generate the highest levels of cohesion and productivity in multicultural organizations [25]. Beyond this strategic classification, HRDM literature also differentiates between identity-blind and identity-conscious approaches. The identity-blind perspective posits that ignoring individual differences and focusing solely on merit will lead to equality [26]. Under this model, all employees are assessed equally, irrespective of their ethnic, gender, or religious backgrounds. However, critics argue that this approach may neglect the specific needs of minority groups, thereby perpetuating structural inequalities and obstructing the realization of true equity within organizations. The identity-conscious approach emphasizes the principle that identity differences are an integral part of individuals' work experiences and must be acknowledged to achieve an inclusive and equitable organization [27]. In contrast to difference-blind approaches, this perspective views diversity as a valuable resource for innovation, problem-solving, and enhanced team performance [12]. Examples of this approach include targeted recruitment of underrepresented groups, mentorship programs for minorities, and cultural sensitivity training. Additionally, key measures involve revisiting decision-making structures and actively involving diverse groups in organizational processes and leadership levels [28]. The choice of an appropriate approach depends on various factors, including organizational conditions, national culture, the history of intergroup relations, and the extent of structural inequality. In societies with a legacy of ethnic conflicts or social divisions, a difference-blind approach may result in silencing minority voices and diminishing trust. Conversely, in

organizations with limited capacity to manage diversity, overemphasizing identity may exacerbate intergroup tensions. Therefore, it is essential to develop a hybrid strategy that takes cultural context into account. Research findings indicate that when identity-conscious approaches are carefully designed and implemented, they can significantly improve organizational cohesion and job satisfaction [22]. Studies in the construction industries of developed countries have shown that combining identity-conscious and identity-blind approaches leads to increased productivity, reduced interpersonal conflict, and higher job satisfaction [28]. For instance, Zaman et al. (2021) implemented initiatives such as intercultural training, flexible compensation systems, international workforce recruitment, job redesign, and work-life balance programs to address xenophobia and its consequences—such as discrimination, prejudice, and stereotyping. Despite the presence of multiple models in the literature, some studies have highlighted the relative inefficacy and implementation challenges of such strategies. While certain studies associate organizational diversity with improved innovation and performance [12, 13], others report outcomes such as conflict, group fragmentation, and social exclusion [29, 30]. These discrepancies are often attributed to a mismatch between the adopted strategies and the specific cultural, organizational, and industrial contexts of countries [31]. One of the key findings in the literature is that there is no one-size-fits-all solution for HRDM. Shen et al. (2009) and Yadav & Lenka (2020) caution that universal approaches often overlook local differences and fail to meet the needs of organizations operating in diverse cultural settings. This issue is particularly evident in countries like Iraq, where institutional structures, legal systems, and cultural backgrounds differ markedly from those in Western contexts [9, 15]. In such environments, imported strategies often fail to achieve successful implementation [10]. Many commonly adopted diversity strategies in Western countries are based on assumptions such as institutional stability, anti-discrimination legislation, and an open organizational culture—conditions that are less prevalent in developing countries [10]. For example, Nguta (2024), in a study conducted in Kenya, shows that imported strategies lacking localization can lead to increased workplace conflict and reduced productivity [1]. The successful implementation of diversity policies in Iraq's construction industry is hindered by several key barriers, including weak policy frameworks, insufficient community participation [32], entrenched tribal systems, ineffective oversight mechanisms, and persistent political and sectarian tensions [11]. In response to these challenges, scholars recommend that HRDM strategies be designed with a deep understanding of the cultural, social, and economic characteristics of each country [14, 31]. In this regard, Table 1 provides an analytical overview of various HRDM strategies, including a brief description of each approach and its corresponding sources. The table offers a clear picture of the existing perspectives in the prior literature.

Table 1. Typology of HRDM Strategies.

Strategy Type	Brief Description	Ref.
Accommodative Strategy	Cultural assimilation training, awareness-raising programs, and intercultural mediation	[16, 19, 33, 34]
Integration Strategy	Institutionalizing diversity policies within HR processes, targeted recruitment	[18, 30, 35, 36]
Transformational Strategy	Transforming mindsets, power structures, and core organizational values	[2, 12, 31, 37]
Identity-conscious	Recognizing and leveraging individual differences	[26, 27, 29, 38]
Identity-blind	Emphasizing complete equality by disregarding differences	[28, 39, 40]

3. Methodology

This study employed a sequential exploratory mixed-methods approach (qualitative → quantitative). This methodology enables the simultaneous utilization

of the strengths of both qualitative and quantitative paradigms, thereby facilitating a deeper understanding of complex and multidimensional phenomena in the field of HRM [41]. In the first phase (qualitative section), semi-structured interviews were conducted with engineers and professionals who have diverse experiences [42] actively working in the Iraqi construction industry. The objective of this phase was to identify and analyze the impact of HRDM strategies on the consequences and performance of construction projects in the country. To enhance focus and strengthen the validity of the findings, the Karbala Airport construction project was selected as a case study. The international nature of this project provided a valuable opportunity for in-depth analysis. Engineers from various countries, representing diverse work cultures, collaborated under the supervision of an Iraqi firm. This structure offered an ideal setting for examining the challenges and opportunities of human resource management in multicultural environments. Selecting this project allowed for a deeper exploration of key HRDM strategies and their role in improving performance, team cohesion, and the success of large-scale construction projects in Iraq. Initially, interviews were conducted with a number of foreign engineers. They were then asked to refer their Iraqi colleagues with whom they had worked closely. Based on these referrals, additional interviews were conducted, and a total of 20 interviews were completed. Once data saturation was reached, the interviews concluded. The resulting qualitative data formed the basis for the development of a preliminary conceptual model, which was tested in the second phase. In the second phase (quantitative section), a structured questionnaire was developed based on the qualitative findings. This instrument utilized a five-point Likert scale (ranging from “strongly disagree” to “strongly agree”) to measure respondents’ perceptions. To ensure content validity, the questionnaire was reviewed and approved by two experts specializing in HRDM and the construction industry. To determine the sample size for this research, published tables were used as recommended by Creswell [43]. The target population included managers, engineers, professionals, and faculty members from universities who had participated in construction projects in Iraq and had experience working with international firms or foreign engineers. In total, 700 questionnaires were distributed online. After collecting the quantitative data, statistical analyses were conducted to test the theoretical model. This mixed-methods approach enabled the identification of effective HRDM strategies and allowed for the statistical examination of relationships among the identified variables. The combined methodology enhanced the validity of the findings and strengthened their generalizability to similar contexts.

4. Results and discussion

To analyze the qualitative data derived from the interviews, thematic analysis was employed using a three-stage coding process (open, axial, and selective) with the support of the specialized software MAXQDA. This process facilitated the systematic organization of data and enabled a deeper understanding of the phenomenon under investigation. During the open coding stage, the raw data were carefully reviewed, and initial concepts were extracted from the content of the interviews. These concepts were then categorized into major and sub-themes as reflections of the key characteristics of HRDM within the construction industry. In the axial coding stage, guided by the paradigm model, logical and theoretical relationships between the categories and subcategories were identified. This stage focused on causal, contextual, intervening, strategic, and consequential relationships, contributing to the structured understanding of various dimensions of the phenomenon. Analytical inference was also applied to validate these relationships, relying on both field data and a review of the theoretical literature. During the selective coding phase, the core category of the study was identified; this category represented the central theme of the research, to which all other concepts were connected. As a result, an integrated causal model was developed, systematically linking the diverse dimensions of HRDM strategies in the construction industry, Table 2. Finally, based on the results, a set of conceptual propositions was formulated, reflecting the final structure of the theoretical model. Supported by both theoretical coherence and empirical evidence, this model provides a solid foundation for future empirical testing Fig. 1. The conceptual model of the research, using the components identified in the qualitative phase, is shown in Fig. 1. Based on this model, the research hypotheses are as follows:

- Hypothesis 1: “HRDM” has a significant impact on “HRDM consequences in the construction industry of Iraq.”
- Hypothesis 2: “HRDM” has a significant impact on “HRDM strategies in the construction industry of Iraq”.
- Hypothesis 3: “HRDM strategies in the construction industry of Iraq” have a significant impact on “HRDM consequences in the construction industry of Iraq”.

- Hypothesis 4: “HRDM strategies in the construction industry of Iraq” plays a mediating role in the relationship between “HRDM and “HRDM consequences in the construction industry of Iraq”.

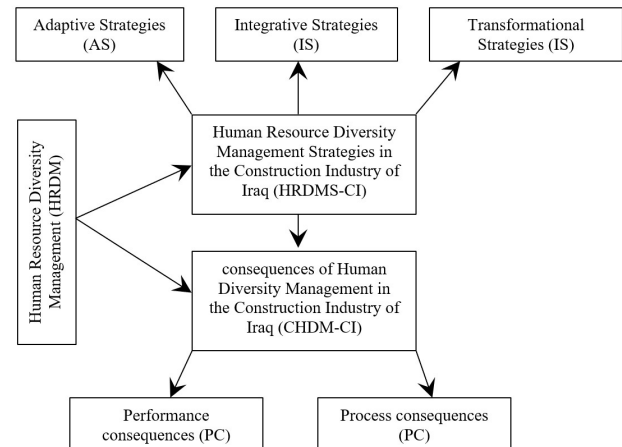


Figure 1. Conceptual Model of the Research (Source: Author).

To design the data collection instrument for this study, feedback from two faculty members was sought to ensure the scientific validity and reliability of the questionnaire. The questions were developed based on the core indicators of the theoretical model, adhering to principles such as clarity, coherence, and appropriateness to the characteristics of the respondents. After drafting the initial version, the questionnaire was reviewed and revised by the aforementioned experts to align with academic standards and comprehensively reflect the study variables. The final version of the questionnaire was distributed among professionals from the three main sectors of the construction industry: contractors, clients, and consultants. The distribution process was conducted both in-person and online. In total, more than 700 professionals from the industry were invited to participate in the study. Efforts were made to ensure the questionnaire reached individuals in diverse organizational positions and roles, aiming to capture a comprehensive and multi-dimensional perspective on the current state and challenges of HRDM. Ultimately, 329 completed questionnaires were returned, representing a response rate of 47%. Such a participation rate in academic research is considered an indicator of the instrument’s quality and the credibility of the results. According to previous studies, response rates above 44.1% in face-to-face surveys and 30% in online surveys are generally deemed acceptable [44]. In this study, a combined response rate of 57.3% was achieved, reflecting the high level of interest and engagement among professionals regarding the research topic. This broad participation underscores the relevance of the study to construction industry stakeholders and their commitment to improving the sector. Additional information regarding the respondents’ profiles, including their Age, Education Level, Specialization, Experience, and Field of Activity, is provided in Table 3. In the quantitative data analysis process of this study, the SmartPLS software was utilized, and the SEM technique was applied to assess the relationships between the research variables. This method was selected due to its ability to examine complex relationships and simultaneously analyze multiple indicators for each construct, allowing for a more precise and comprehensive data analysis. To assess convergent validity, two key indicators were used: Average Variance Extracted (AVE) and Composite Reliability (ρ_C). The data related to these indicators for the study’s four primary constructs are presented in Table 4. According to established standards for instrument validation, a ρ_C value should exceed 0.7, and the AVE should be above 0.5 for the model to demonstrate acceptable convergent validity [45]. Based on the table, all ρ_C values are above 0.7 and all AVE values exceed 0.5, indicating that the research instrument possesses appropriate convergent validity. Additionally, Cronbach’s alpha values for each central construct are reported in the same table. All values are greater than 0.7, confirming the satisfactory reliability of the questionnaire in measuring the variables. Moreover, to further evaluate the instrument’s reliability, the Partial Least Squares (PLS) method was employed. In this method, the reliability of the indicators is assessed using factor loadings, which reflect the relationship between each indicator and its corresponding construct. If these values are 0.4 or higher, the measurement model is considered to have sufficient reliability.

Table 2. Axial coding of qualitative data.

Selective code	Axial code	Open code
Human Resource Diversity Management	Fostering an inclusive and flexible organizational culture	<ul style="list-style-type: none"> ○ Importance and Necessity of HRDM in the Construction Industry ○ Culture and conflicts in HRDM
	Human resource development and employee empowerment	<ul style="list-style-type: none"> ○ Development and improvement of skills and awareness ○ Training and leadership development in human resources
Accommodative Strategy in the Construction Industry	Formulation and implementation of comprehensive diversity policies	<ul style="list-style-type: none"> ○ Legislation to reduce discrimination ○ Diversity principles in recruitment ○ Guidelines for promoting diversity ○ Performance evaluation
	Inclusive communication and operational efficiency	<ul style="list-style-type: none"> ○ Communication and collaboration strategies ○ Strategies to enhance coordination and cooperation
Integrative Strategies in the Construction Industry	Leadership, organizational culture, and cohesion	<ul style="list-style-type: none"> ○ Leadership and management strategies ○ Strengthening an inclusive organizational culture and diversity acceptance ○ Strategies to reinforce organizational belonging ○ Formulation of diversity and inclusion support policies
	Talent development, recruitment, and motivation	<ul style="list-style-type: none"> ○ Diverse recruitment and hiring strategies ○ Training and development of human resources ○ Motivational and reward strategies ○ Skill and awareness development initiatives
Transformational Strategies in the Construction Industry	Innovation, creativity, and technological advancement	<ul style="list-style-type: none"> ○ Innovation and creativity strategies ○ Expansion of technology use and digital tools
	Continuous improvement and feedback	<ul style="list-style-type: none"> ○ Continuous evaluation and feedback
Process-Related Consequences	Organizational culture and workplace environment	<ul style="list-style-type: none"> ○ Healthy and dynamic work culture ○ Knowledge-friendly culture ○ Acceptance within one's organization ○ Reduction of bias ○ Awareness of cultural differences
	Organizational relationships	<ul style="list-style-type: none"> ○ Employee relations ○ Collaboration ○ Coordination ○ Conflict resolution and trust
	Employee attitudes	<ul style="list-style-type: none"> ○ Positive attitudes and behaviors ○ Self-confidence ○ Job satisfaction ○ Perception of discrimination
	Job opportunities	<ul style="list-style-type: none"> ○ Promotion opportunities ○ Source of ideas ○ Knowledge creation
	Job sustainability and accountability	<ul style="list-style-type: none"> ○ Intention to leave the job ○ Accountability ○ Work processes
	Performance at various levels	<ul style="list-style-type: none"> ○ Individual performance ○ Team performance ○ Organizational performance ○ Project and industry performance ○ Productivity ○ Time management and scheduling challenges
Performance-Related Consequences	Innovation	<ul style="list-style-type: none"> ○ Individual innovation and creativity ○ Industry innovation and advancement
	Continuous advancement	<ul style="list-style-type: none"> ○ Continuous learning and improvement of human resource management processes ○ Problem solving ○ Decision making
	Organizational cohesion	<ul style="list-style-type: none"> ○ Active participation ○ Job commitment
	Organizational culture	<ul style="list-style-type: none"> ○ Knowledge sharing ○ Positive work environment ○ Effective leadership
	Organizational success	<ul style="list-style-type: none"> ○ Higher marketability ○ Competitiveness ○ Long-term sustainability and growth ○ Organizational success ○ Industry development ○ Organizational advancement
	Trust-building	<ul style="list-style-type: none"> ○ Better customer service ○ Stakeholder trust and reputation ○ Improvement in quality and safety

4.1 Divergent validity (Fornell-Larcker)

The Fornell and Larcker (1981) matrix has been used to examine divergent validity Table 5. As shown in Table 5 The values located on the diagonal of the

matrix are higher than the off-diagonal values, indicating that each latent variable has the strongest correlation with its indicators and less overlap with other

constructs. This suggests that the model demonstrates acceptable discriminant validity.

Table 3. Demographic Characteristics of the Respondents.

Characteristic	Category	Frequency (N)	Percentage
Age	< 30 years	107	32/5
	30 to 40 years	128	38/9
	> 41 years	94	28/6
Total		329	100%
Education Level	Bachelor’s Degree	166	50/5
	Master’s Degree	101	30/7
	PhD	62	18/8
Total		329	100%
Specialization	Civil Eng.	112	34
	Architecture Eng.	47	14/3
	Electrical Eng.	87	26/4
	Mechanical Eng.	68	20/7
	Other	15	4/6
Total		329	100%
Experience	< 5 years	54	16/4
	5-10 years	82	24/9
	11-20 years	98	29/8
	> 20 years	95	28/9
Total		329	100%
Field of Activity	University Professor	62	18/8
	Execution Sector	148	45
	Employer Sector	58	17/6
	Consultant Sector	61	18/5
Total		329	100%

Table 4. Provides the values of AVE, CR, and Cronbach’s alpha for the primary constructs of the study.

Categories	Cronbach’s α	ρ_A	ρ_C	AVE
(AS)	0.758	0.759	0.892	0.805
(CHDM-CI)	0.904	0.915	0.941	0.843
(HRDM)	0.724	0.724	0.879	0.783
(HRDMS-CI)	0.800	0.806	0.858	0.503
(IS)	0.732	0.736	0.882	0.789
(PFC)	0.862	0.863	0.894	0.548
(PC)	0.817	0.821	0.873	0.579
(TS)	0.841	0.841	0.927	0.863

Table 5. Divergent validity results.

Term	AS	A*	B*	C*	IS	PFC	PC	TS
AS	0.897	—	—	—	—	—	—	—
A*	0.512	0.918	—	—	—	—	—	—
B*	0.456	0.516	0.885	—	—	—	—	—
C*	0.705	0.665	0.656	0.709	—	—	—	—
IS	0.380	0.515	0.544	0.817	0.888	—	—	—
PFC	0.434	0.873	0.445	0.580	0.444	0.741	—	—
PC	0.460	0.876	0.461	0.584	0.458	0.531	0.761	—
TS	0.346	0.536	0.538	0.822	0.527	0.482	0.457	0.929

Where: A*:CHDM-CI; B*:HRDM; C*:HRDMS-CI

4.2 Structural equation modeling (SEM)

Considering the distributional characteristics of the data and the presence of a mediating variable in the research model, the SEM method, using the PLS approach, was employed with the aid of SmartPLS version 3 software. Based on the analysis conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), Fig. 2, the relationships among the variables in the conceptual model were examined. The obtained results from path coefficients, coefficient of determination (R^2), and factor loadings indicate a good model fit and confirm the hypothesized relationships among the variables. In the first step, the findings revealed that three types of HRDM strategies—adaptive, integrative, and transformative—have a positive effect on the HRDMS-CI. Specifically, transformative strategies had the strongest influence, with a path coefficient of 0.822 and an R^2 value of 0.676, highlighting their significant

contribution to enhancing HRDMS-CI. Adaptive strategies also showed a meaningful effect with a path coefficient of 0.705 and an R^2 of 0.496. Likewise, integrative strategies played a substantial role in shaping HRDMS-CI, with a path coefficient of 0.817 and an R^2 of 0.667. Moreover, the variable HRDM had a significant and positive impact on HRDMS-CI, with a reported path coefficient of 0.656. In addition, HRDM directly influenced the CHDM-CI, although the strength of this relationship was relatively weak (path coefficient = 0.141) compared to other paths in the model. This suggests that the effect of HRDM on final consequences is largely mediated through HRDMS-CI. The path analysis between HRDMS-CI and CHDM-CI also revealed a significant and positive effect. The path coefficient between these two variables was 0.573, with an R^2 value for CHDM-CI of 0.453. This indicates that improvements in HRDMS-CI can lead to better CHDM-CI. Finally, the results showed that CHDM-CI had a strong and significant impact on two categories of Consequences: PC with a path coefficient of 0.876 and R^2 of 0.768, and PFC with a path coefficient of 0.873 and R^2 of 0.762. According to the data presented in Fig. 2 and 3. The factor loadings between the items and their corresponding latent variables are all above 0.7, and the t-values are greater than 1.96. These results indicate that the relationships between each item and its respective latent variable are statistically significant. Based on the data obtained through SEM, the results of the hypothesis testing indicate the significance of the relationships among the main components of the proposed conceptual model in the context of HRDM in Iraq’s construction industry Table 6. A detailed analysis of the tested paths using t-tests and p-values confirms the hypotheses and demonstrates the strength of influence among the variables. The following section presents a detailed discussion and interpretation of the observed relationships. The findings of this study indicate that HRDM has a direct impact on organizational performance, particularly within the construction industry. These impacts include enhanced employee interaction, increased team creativity, and improved project success. When cultural, linguistic, gender, generational, and professional differences are managed in an inclusive and intelligent manner, they can positively influence decision-making processes, problem-solving capabilities, and innovation. This finding aligns with Olabiya (2023), who argues that diversity, when effectively managed, can serve as a source of competitive advantage for organizations [2]. Moreover, Al-Bayati (2019) found that diverse teams in project-based industries such as construction perform better in innovation and problem-solving when supported by effective leadership and a psychologically safe environment [19]. Similarly, Nguta (2024) emphasizes that diversity, when combined with an open and inclusive organizational culture, contributes to better financial outcomes and higher job satisfaction [1]. Based on the findings obtained from the path analysis, the variable HRDM has a significant and positive effect on HRDMS-CI. Additionally, the path between HRDMS-CI and the CHDM-CI was also found to be significant and positive. These results indicate that the implementation of effective HRDM strategies can meaningfully contribute to more favorable organizational and project-level consequences. Previous research has also highlighted the importance of intermediary strategies in the successful implementation of diversity policies. For instance, Olabiya (2023) asserts that an effective HRDMS-CI framework can enhance organizational competitiveness [2]. In addition, Zaim et al. (2024) state that the relationship between diversity and organizational outcomes becomes stronger when HRDM is approached in a systematic and strategic manner [46]. Furthermore, the findings of the current study are consistent with prior studies demonstrating that HRM, through HRDM, influence behavioural, performance-related, and institutional consequences [15, 28]. For example, Zaim et al. (2024), in a study on Kuwaiti organizations, found that using intermediary HRDM approaches can significantly enhance organizational citizenship behaviors [46]. These results also carry important practical implications. According to Ozbilgin (2019), effective global HRDM requires the integration of macro-level policies with localized, operational practices at the organizational level [31]. Therefore, designing strategies tailored to the cultural, economic, and industrial characteristics of countries like Iraq particularly in the construction industry can play a key role in the success of diversity initiatives [10]. These results are also in line with the views of Liu (2025), who assert that HRDM strategies should adopt a participatory, training-oriented approach tailored to the needs of a diverse workforce in order to yield positive consequences [27]. On the other hand, the findings of this study indicate that transformational leadership strategies play a pivotal role in the effectiveness of HRDM. Transformational leaders, characterized by inspirational motivation, individualized consideration, intellectual stimulation, and idealized influence, create a safe and inclusive environment that recognizes individual differences. This leadership style fosters a sense of belonging, personal value, and intrinsic motivation among team members, regardless of cultural, linguistic, gender, or generational differences. By articulating a shared vision, transformational leaders align individual and organizational goals and provide a conducive

environment for leveraging the potential of diverse teams. These findings are consistent with the studies of Brown et al. (2019) and Gupta & Verma (2024), who emphasize that transformational leadership, beyond its managerial effica-

cy, serves as a strategic tool for unlocking the potential of a diverse workforce. Such leaders promote a culture of respect, mutual trust, and inclusion, thereby enhancing workplace relationships and employee engagement [25].

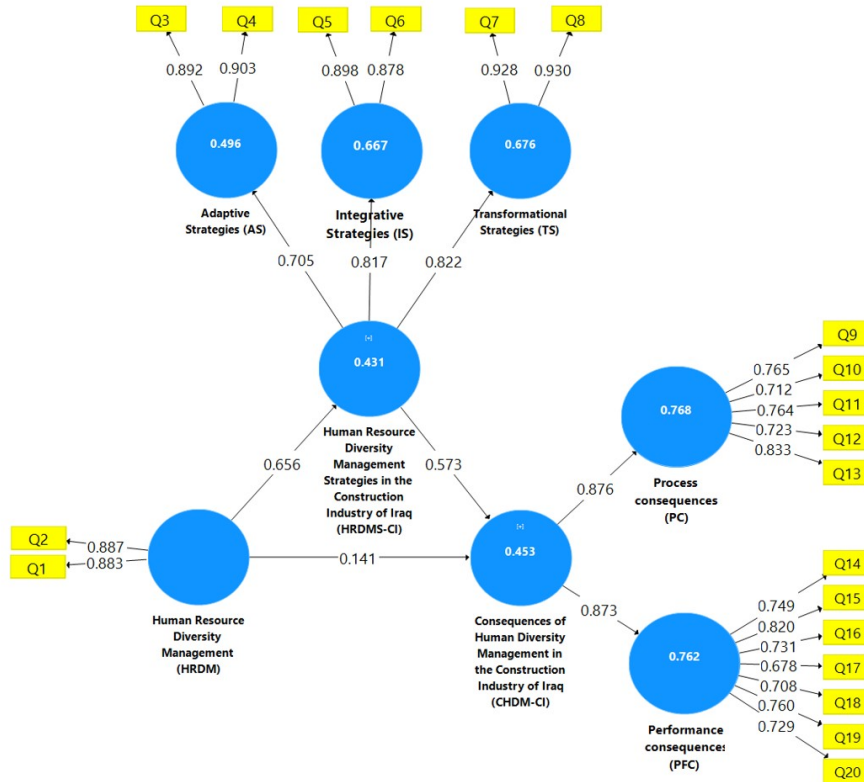


Figure 2. The research model with standardized factor loadings and path coefficients.

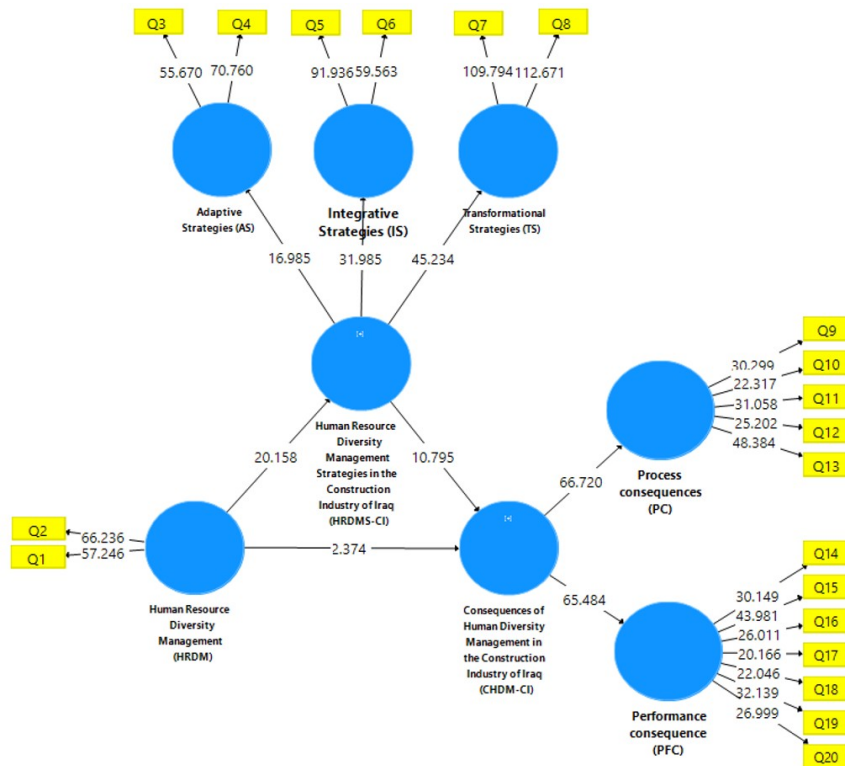


Figure 3. The research model with t-values.

Table 6. Results of structural and general model fit criteria.

Path	β	M	STDEV	T	P
CHDM-CI→PFC	0.873	0.873	0.013	65.484	0.000
CHDM-CI→PC	0.876	0.876	0.013	66.720	0.000
HRDM→CHDM-CI	0.141	0.143	0.059	2.374	0.018
HRDM→HRDMS-CI	0.656	0.659	0.033	20.158	0.000
HRDMS-CI→AS	0.705	0.706	0.041	16.985	0.000
HRDMS-CI→CHDM-CI	0.573	0.572	0.053	10.795	0.000
HRDMS-CI→IS	0.817	0.815	0.026	31.985	0.000
HRDMS-CI→TS	0.822	0.824	0.018	45.234	0.000

M: Mean; **STDEV:** Standard Deviation **T:** Statistics

Moreover, the study by Shen et al. (2009) reveals that effective HRDM, through the implementation of transparent and inclusive policies, significantly contributes to improving organizational performance. These policies, by increasing productivity, fostering internal collaboration, and reducing conflicts arising from cultural and gender differences, lead to improved consequences [15]. The formulation of equitable policies in recruitment, training, performance evaluation, and career advancement—when grounded in principles of social justice—can enhance employees' sense of belonging and job satisfaction [32]. In line with this, Ohunakin et al. (2019) stress that employees' perception of genuine organizational support for diversity enhances their commitment, productivity, and job engagement [34]. Similarly, the research by Zaman et al. (2021) demonstrates that organizations with inclusive approaches in HRM and organizational culture are more successful in capitalizing on the potential of a diverse workforce. Such organizations tend to have lower turnover rates and experience fewer conflicts [29]. Accordingly, HRDM is not only an ethical imperative but also a strategic means for enhancing organizational performance. This is particularly critical in project-based industries such as construction, where collaboration among multicultural teams is essential. Job stability and accountability are among the key outcomes of implementing equitable policies in recruitment, promotion, and training. According to the Resource-Based View (RBV), diversity if effectively managed can become a rare, valuable, and inimitable resource that provides sustainable competitive advantage [47]. In this regard, Friday et al. (2024) argue that effective HRDM leads to the retention of skilled employees, reduced turnover, and increased loyalty [17]. Similarly, Herring (2009), through an empirical study, demonstrated that proper HRDM contributes to workforce stability and reduced attrition rates [13]. Furthermore, Waldman and Sparr (2023) contend that multidimensional approaches to HRDM can foster an organizational culture based on transparency, accountability, and professional ethics [17]. To this end, practices such as two-way feedback mechanisms, transparency in HRDM processes, and diversity-related training play a crucial role in enhancing individual accountability. These approaches promote greater awareness and commitment among employees regarding both individual and team performance [40]. Organizational culture and the work environment are among the most critical CHDM-CI. The findings of this study indicate that organizations employing coherent and strategic HRDM policies tend to experience a more positive work environment, a richer organizational culture, and stronger team cohesion. These achievements are direct results of effective HRDM interventions. As noted by Olabiyi (2023), diversity, when properly managed, fosters an innovative, equitable, and responsive work environment. In such settings, all employees regardless of their individual differences experience a sense of belonging and security [2]. Zaim et al. (2024), through the introduction of the concept of organizational inclusion, emphasize that respecting individual differences lays the foundation for a positive organizational culture [46]. This kind of culture enhances job satisfaction, interpersonal trust, and reduces conflict [12]. In Iraq's multicultural construction projects, individuals from diverse ethnic, religious, and cultural backgrounds collaborate. In such contexts, the absence of effective HRDM strategies often leads to the emergence of an exclusionary and conflict-prone culture a factor that can severely impair project performance [8]. Organizational relationships, employee attitudes, and job opportunities are additional process-related consequences identified in this study, ranked after job sustainability, accountability, and organizational culture and workplace environment. With regard to PFC, the study highlights several factors including organizational performance, innovation, continuous improvement, internal cohesion, organizational success, and trust-building. Among these, innovation stands out as particularly significant. Data analysis reveals that effective HRDM directly enhances an organization's capacity for innovation. This relationship is especially pronounced in Iraq's construction industry. Many researchers argue that innovation is not only an consequences but also a key mechanism within diverse organizations. Studies suggest that a diverse workforce, by virtue of

possessing varied perspectives and experiences, provides fertile ground for ideation and creative problem-solving [2]. Cultural, linguistic, and value-based differences if properly managed can help break traditional mental models and foster novel solutions [14]. Moreover, research by Tajeddini et al. (2023) shows that effective HRDM increases employees' affective commitment and empowers HR departments to play a strategic role, thereby promoting innovative behaviour [12]. When employees feel that their differences are recognized and valued, they tend to participate more actively in creative processes [1]. These findings align with those of Jayne & Dipboye (2004) and Shen et al. (2009), who emphasize that investing in comprehensive diversity and inclusion policies enhances innovation, flexibility, and adaptability to environmental change [15]. Based on the findings of this study, organizational success emerges as the second most significant consequence within the CHDM-CI framework. This highlights the growing importance of diversity as a strategic tool for enhancing organizational performance, particularly in multicultural, complex, and challenging environments such as Iraq. From both theoretical and empirical perspectives, numerous studies have confirmed that human resource diversity, when effectively managed, can be a key driver of competitiveness, creativity, innovation, and ultimately, organizational success. For instance, Breuillot (2021), drawing on the RBV, demonstrated that organizations leveraging racial diversity as a strategic asset tend to achieve superior financial performance [47]. These findings were further supported by Herring (2009), who, in a study of 506 U.S. companies, found that highly diverse organizations perform better in terms of revenue, profitability, and employee satisfaction [13]. In a comprehensive meta-analysis, Ding & Ricucci (2023) examined the effects of multicultural teams and concluded that, despite initial challenges, diversity when coupled with transformational leadership and supportive structures leads to enhanced innovation, improved constructive interactions, and ultimately, greater organizational success [48]. In the construction industry, there is also growing evidence supporting the link between HRDM and project success. Othman & Ibrahim Fouda (2022) reported that effective HRDM in Middle Eastern construction projects leads to reduced conflicts, improved communication, and enhanced productivity [14]. Likewise, Li et al. (2021) in China highlighted the crucial role of cultural awareness and team-based planning in the success of international construction projects [49]. The results of this study, alongside extensive international evidence, indicate that strategic HRDM is not merely an ethical or legal obligation but a powerful tool for achieving organizational success, profitability, and project sustainability in challenging environments like Iraq. However, realizing this potential requires the development and implementation of structures, policies, and leadership practices rooted in inclusivity and meritocracy [14,33]. Although this study was conducted within the context of Iraq's construction industry, its conceptual framework and findings can be generalized to other countries, particularly those with similar developmental conditions. The challenges associated with managing human resource diversity and its impact on organizational performance are not unique to Iraq; rather, they represent a global phenomenon shaped by diverse cultural, institutional, and structural contexts. For instance, Nguta (2024) in Kenya and Agu et al. (2024) in Nigeria emphasized the strategic role of HRDM in enhancing organizational performance in African countries [1,3]. Similarly, Olabiyi (2023) demonstrated that effective management of human resource diversity, even in non-industrial and culturally distinct settings such as service organizations, can contribute significantly to organizational development [2]. In this regard, Özbilgin (2019), in a comprehensive study, introduced the concept of "global HRDM" and emphasized its applicability across various organizational types regardless of geographic location [31]. The results of the present study also align with findings from other Middle Eastern countries, including Egypt [14]. This consistency suggests that the cultural and ethnic diversity challenges in construction projects across the region follow similar management patterns in relation to human resources and project success. From a theoretical standpoint, the framework developed in this study is compatible with international models. For example, Shen et al. (2009) proposed a conceptual model of HRDM that examines the causal relationships between diversity, human resource policies, and organizational performance [15]. To strengthen the discussion section and facilitate a comparative understanding of the research findings, Table 7 presents a summary of the main results of the present study alongside previous research. This table not only enables a direct comparison between the current findings and existing evidence but also highlights the theoretical and empirical coherence of the proposed framework. As shown in the table, most of the study's findings align with prior research, further emphasizing the key role of HRDM strategies in enhancing performance, strengthening organizational culture, increasing innovation, and achieving success in the construction industry within multicultural contexts. However, some discrepancies and variations are also observed, which require interpretation within the specific cultural and institutional settings of developing countries such as Iraq.

Table 7. Summary of the Main Findings and Comparison with Previous Studies to Clarify the Theoretical and Empirical Position of the Results.

Key Finding of the Present Study	Alignment with Previous Studies	Source
HRDM enhances organizational performance through increased team creativity, employee engagement, and project success.	Effective HRDM, when inclusive, serves as a source of competitive advantage for organizations.	[2]
Diverse teams in the construction industry perform better when supported by effective leadership and a safe environment.	Diverse project-based teams demonstrate higher performance in inclusive and psychologically safe environments.	[19]
An inclusive organizational culture leads to improved financial outcomes and higher job satisfaction.	Organizational inclusion and acceptance of differences are associated with positive job-related and financial outcomes.	[1]
HRDM has a significant positive impact on HRDMS-CI and CHDM-CI.	Diversity Integration Strategy play a crucial role in translating effects into final outcomes.	[35]
Transformational leadership plays a key role in the success of HRDM.	Inspirational and inclusive leadership enhances the productivity of diverse teams.	[18]
Inclusive HR policies increase collaboration and reduce conflicts.	Transparent HR practices improve organizational performance.	[12, 15]
Genuine organizational support for diversity increases employee commitment and engagement.	Diversity-supportive environments boost employee loyalty and productivity.	[34]
Strategic HRDM fosters innovation, especially in project-based industries.	Workforce diversity enhances creativity and fosters innovative problem-solving.	[13, 46]
HRDM contributes to strengthening organizational culture and fostering a positive work environment.	Respect for differences lays the foundation for a positive culture and team cohesion.	[2]
Organizational success is directly influenced by HRDM in multicultural contexts such as Iraq.	Strategic HRDM enhances project success and financial outcomes in complex environments.	[14, 47]
HRDM contributes to reducing turnover and improving employee retention.	Effective HRDM promotes workforce stability.	[13, 16]
Cultural and institutional challenges affect the effectiveness of HRDM in Iraq.	Developing countries face barriers such as bias, weak institutional support, and lack of training.	[1, 14]

The integrated analysis of the two research strands in this study reveals that HRDM not only contributes to improved project consequences but also enhances organizational process infrastructures and internal mechanisms. This underscores the critical role of HRDM, particularly in sectors such as construction and other project-based industries in advancing organizational performance and strategic sustainability. A review of the findings derived from the study's conceptual model demonstrates its strong theoretical coherence and high scientific validity. Statistically, the significance of path coefficients and t-values indicates the robustness of relationships among variables. Conceptually, the model aligns with and reinforces the international literature on HRDM. Most of the proposed relationships, especially those linking HRDM, diversity strategies, and organizational consequences, were found to be statistically significant. These results suggest that the presented model offers a coherent and causal framework for understanding the complex interactions in this domain. However, the varying strength of certain pathways, such as the relatively weaker direct impact of HRDM on some organizational consequences, requires interpretation within the local research context. These fluctuations can be attributed to structural and cultural factors specific to Iraq, including: (1) Challenges in implementing diversity policies in environments where acceptance of ethnic, religious, or generational differences is limited; (2) Weak institutional support and the absence of binding legal frameworks for protecting minority rights and promoting workplace diversity; (3) The lack of cultural frameworks aligned with diversity and inclusion values, which may result in latent resistance at both individual and organizational levels. This explanation is consistent with findings from studies conducted in other developing countries. For example, research by Othman and Ibrahim Fouad (2023), as well as Nguta (2024), highlights that the effectiveness of diversity policies in such contexts is often hindered by rigid organizational cultures, deep-seated biases, and inadequate training on cultural diversity. Overall, while the findings of this study support a theoretically grounded framework consistent with international scholarship, they also emphasize the necessity of contextualizing HRDM strategies. To achieve real effectiveness, diversity policies must be designed and implemented in alignment with each country's unique cultural, institutional, and social conditions.

5. Conclusions

The main conclusions of this study can be summarized as follows:

- HRDM can have a positive impact on organizational consequences, although this effect is generally relatively weak.
- Adaptive and integrative diversity strategies in HRM demonstrated a highly positive influence on the development of policies and the improvement of both project performance and organizational processes.

- The results indicated that transformational strategies play a key role in advancing HRDM and are capable of initiating fundamental changes within organizational structures.
- Overall, the findings highlight the importance of aligning diversity strategies with the specific cultural and social characteristics of Iraq, enabling organizations to leverage these strategies for enhanced productivity and team cohesion.
- The research model confirmed that HRDM is a key factor in improving project performance and organizational processes in the construction industry in Iraq.

Authors' contribution

All authors contributed equally to the preparation of this article.

Declaration of competing interest

The authors declare no conflicts of interest.

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Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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