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Technology acceptance and strategic role transformation: Human technology interaction among millennial HR professionals

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Abstract: This research paper examines the influence of technology acceptance by HR professionals on HRM effectiveness and how Millennial HR professionals contribute significantly to it. Organisations invest heavily in adopting advanced technology to strengthen their operations. The most important question still remains: would the incorporation of technology by HR professionals result in quantifiable improvements in HRM effectiveness through performing strategic roles in their function? Moreover, how do Millennials, with their proficiency with technology, influence this dynamic? By incorporating role theory and the Technology Acceptance Model, this study examines these critical questions. In order to determine the connections between these variables, the study has used structural equation modelling (SEM) and hierarchical regression on a sample of 384 HR professionals employed in the construction industry. The results indicate that technology acceptance has a significant effect on HRM effectiveness by helping HR professionals become strategic business partners. Moreover, the impact is greater among Millennials who are more willing to adopt technological innovations. This study contributes to the growing body of interdisciplinary research at the intersection of technology adoption and strategic HRM.

Keywords: role theory; HR roles; technology acceptance; hrms effectiveness; millennials; moderated mediation

1. Introduction

The end of the industrial age and the beginning of the information age have become the trend in the modern competitive business environment due to its pivotal role in repositioning economies across the globe. The move, which has been driven by information and knowledge sharing due to the advent of Information Communication Technology (ICT), has brought about what Piabuo et. al. (2017) refer to as the new social morphology of our society. Essentially, ICT eliminates time and space boundaries whereby information flows seamlessly and organisations adjust depending on their operational needs in order to attain a competitive advantage. Human Resource Management (HRM) is at the center of this change since it has accepted and adapted to the requirements of information technology. Very recently, the integration of ICT into HRM functions has experienced an extraordinary growth, which is an indication of a management paradigm shift. This trend has been brought out by Galanti et al. (2023) and Wahyoedi et al. (2023), who reported that the number of investments in human resource software systems across the world.

The implementation of IT within HRM is not a trend but a precondition of the strategy, driven by the need to attain increased efficiency and effectiveness (Azam,

2023). Also, the use of technology among HR professionals is more critical when organisations embark on strategic alignment (Prikshtat et al., 2025; Kim et al., 2025). With the adoption of technology, HR professionals are capable of focusing their attention on strategic tasks and using information and communication resources to propel the organisational goals. The benefits that come with technology acceptance in HRM are multiple, with repetitive administrative duties being regulated and automated. This not only increases efficiency but also helps in standardisation and greater communication in the organisation. Besides, the implementation of technology systems would make HR functions more consistent with the overall business goals, making them efficient, effective, and strategic (Jo et al., 2024; Sulaeman and Nurcholidah, 2023).

Although many attempts have been made to explore the relationship between technology acceptance, HR roles, and HRM effectiveness, the current literature on the subject has limitations. Although researchers found that HR roles may be one of the contributing factors to technology acceptance among HR professionals, it is important to mention that strategic roles tend to appear as a result of technology acceptance by the HR professionals (Azam, 2023; Caylan, 2024). Second, even though there is some research that a direct relationship has been proven between technology acceptance and effectiveness of HRM, the indirect effect of HRM effectiveness mediated through the process of strategic HR roles has not been studied (Kim et al., 2025; Van Beurden et al., 2025). Thirdly, the literature does not explore the moderating role of the millennial generation, commonly referred to as digital natives, on technology acceptance and the impact of the latter on the changes in the HR roles. It is assumed that millennials could more easily embrace and use technology than Gen X, but the effects of this trend on HR functions were not studied (Badar and Lasthuizen, 2023; Pyoria et al., 2017). Finally, the gap in the field of technology acceptance and its impact on the HR role transition in the construction industry is not present in the Indian setting (Somu et al., 2025; Gurmu and Ongkowijoyo, 2020; Gehlot and Shrivastava, 2022). Even though it is a labour-intensive industry, the role of HR in this regard is usually considered to be supportive and not strategic. It is essential to understand how the technology acceptance influences the strategic functions that the HR professionals play within this field and how it further affects the effectiveness of HRM.

Based on the role theory and the Technology Acceptance Model, this paper attempts to explain the relevance of the strategic roles of HR professionals in determining the nexus between the technology acceptance and HRM effectiveness. In organisations, HR professionals perform various roles, which are modulated based on the organisational requirements and performance needs. The HR professionals have several functions in organisations that are adjusted according to the organisational requirements and performance needs. These expectations and requirements are based on the roles of employees according to role theory (Katz and Kahn, 1978). According to Ulrich (1997), HR professionals should be able to go beyond traditional boundaries and assume other positions in the effort of competitiveness by providing tangible value (Azam, 2023; Jo et al., 2024). This involves playing strategic and operational roles, becoming partners and enforcers, as well as owning qualitative and quantitative objectives to promote HRM effectiveness. TAM also assumes that the attitudes and behaviours in the adoption of a technology are affected by perceptions of usefulness

and ease-of-use of the technology by the individuals (Viswanath et al., 2003). It is in this sense that HR professionals, with the understanding that HR technologies are useful and easy to use, have a higher tendency to incorporate them in their practice. Hence, increasing their level of strategic contribution. Kim et al. (2025) also support the view by noting that the role transformation in HRM due to technological interventions can alter the practices and result in the workplace.

This study makes an important contribution to the theoretical and practical applications. It further improves the understanding of the relationship between strategic HR roles and determinants by considering the mechanisms that surround the relationship between technology acceptance and HRM effectiveness. Secondly, using the role theory, the study identifies novel insights into the processes and boundary conditions within the framework of which the technological adoption and HRM effectiveness are developed. It analyses the results of employees playing different roles in organisations and also the variables that cause adoption of certain roles, an aspect that has never been explored before. Thirdly, the study of these relationships in the Indian context, i.e., in the construction industry, which has not been properly researched, expands the knowledge base in a non-Western context.

2. Theory, model and data descriptions

This study is based on the role theory proposed by Katz and Kahn (1978). Role theory also assumes that organisations exist as social systems where members are supposed to play different roles according to the set values and expectations. These roles are based on their job descriptions and include certain expected activities of each member in the organisation. The role theory in strategic human resource management (SHRM) has been developed in recent literature. According to this, the HR professionals, especially the ones in strategic positions, are expected to play several roles and change them in response to organisational expectations and changes (Van Beurden et al., 2025). Role theory also holds that organisational expectations and performance criteria are based on the role of the employees. To complement this, the Technology Acceptance Model states that technology acceptance depends on whether users believe the technology is useful and easy to use (Viswanath et al., 2003). Such perceptions are a major determinant of how HR practitioners embrace and incorporate digital tools in their operations in an HR context (Priksat et al., 2025; Kim et al., 2025). By perceiving technology as easy to use and helpful in achieving work outcomes, HR professionals will lean towards strategic roles that utilise technology to enhance HRM effectiveness.

Bringing Role Theory and TAM together helps explain their enactment from two different perspectives: one from organisational expectations and the other from the interaction with technology. This integrated angle highlights the complex nature of HR roles and emphasises the importance of aligning technology adoption with strategic contributions to HR.

Technology acceptance refers to the implementation of the human resource information system (HRIS) within an organisation, which encompasses various mechanisms combining information technologies with human resource management practices. This involves individuals, policies and procedures that ease the workflow in

the organisation. Technology acceptance refers to the combination of computer hardware and networking devices at the individual and group levels within and between organisations that facilitates HRM practices (Galanti et al., 2023). The adoption of HRIS would entail the use of it to gather, analyse and disseminate HR-related data rapidly, thus improving information processing and interaction among workers, minimising expenses, and adding to the efficiency of HR operations in general (Kim et al., 2025; Prikshat et al., 2025).

This study also investigates the moderating influence of the millennial cohort, born between the 1980s and 2000s (Badar & Lasthuizen, 2023; Pyöriä et al., 2017), on the relationship between technology acceptance and HRM effectiveness. Millennials are often described as digital natives because they were raised in the age of technology, and as a result, they are competent in the realms of using and adjusting to new technologies. They have high levels of IT knowledge and skills owing to the upbringing that they have faced due to constant exposure to the world of technology (Somu et al., 2025). Thus, millennials are likely to moderate the technology adoption in the HRM processes due to their tech-savvy. The proposed study will examine the mechanisms underlying the relationship between technology acceptance and HRM effectiveness, as well as the moderating effect of generational differences, particularly among millennials. Through a combination of these factors, the study aims to establish and test a combined model of HRM effectiveness. The proposed research model is shown in **Figure 1**; it shows how technology acceptance is related to HRM effectiveness and how the millennial generation serves as a moderator between the two elements.

2.1. Technology acceptance and HRM effectiveness

The employment of technology in HR departments not only improves the efficiency of the departments but also plays an important role in the overall effectiveness of organisations (Galanti et al., 2023). This change is driven by the urgency to have HR functions closely pegged to business objectives, thus becoming more strategic and effective in delivering organisational goals (Azam, 2023). The rationale behind investments in HR automation is that it is expected to improve the effectiveness of HRM functions when it comes to automation that simplifies the processes, improves decision-making, and results in greater efficiency (Prikshat et al., 2025; Kim et al., 2025).

Technological adoption by HR professionals provides tangible improvements in efficiency and decision-making capabilities, which enhance the general performance of HRM. The rapid and precise decision-making through the adoption of technology increases the effect of HR professionals in their functions. Moreover, the use of technology improves the quality of the services, minimizes mistakes, increases the speed of data processing, and makes informed decisions, which all lead to the effectiveness of HRM (Wahyoedi et al., 2023; Ryketeng and Syachbrani, 2023; Sulaeman and Nurchsolidah, 2023; Yusliza et al., 2019). Based on the comprehensive evidence provided, it is strongly hypothesised that:

H1: *Technology acceptance will positively correlate with HRM effectiveness.*

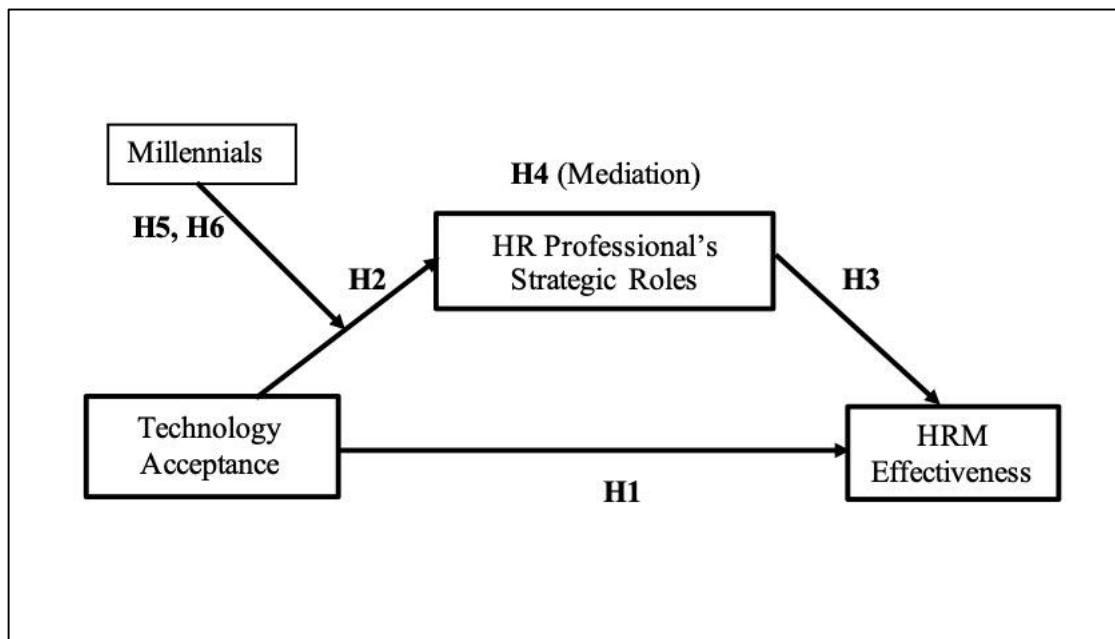


Figure 1. Research Model.

2.2. Technology acceptance and HR roles

Technology is transforming Human Resource Management (HRM) by shifting the function from conventional transactional roles into strategic transformational roles (Wahyoedi et al., 2023). Recent studies show that there is a significant change in the HR profession from operational and administrative to strategic, consultative, and proactive (Azam, 2023; Dalain et al., 2026). Ulrich's (1997) framework is based on four differing roles of the HR professionals known as strategic partner, change agent, Administrative Expert, and Employee champion, which are geared towards value creation and result delivery to organisations. Crucially, information technology plays a pivotal role in enabling HR professionals to fulfil these roles and add value to the business (Caylan, 2024). The HR information systems will also play a critical role in improving the performance of the organisation by providing HR professionals with the time to work strategically. Also, IT enables higher productivity levels among HR professionals since it creates a learning organisation where the access, processing, and spreading of information are simplified (Darmawan, 2025). Consequently, the HR professionals will be able to shift their attention to the organisation-wide issues, strategy formulation, and manage organisational change, whereas IT systems will manage routine administrative tasks (Van Beurden et al., 2025).

With the help of advanced technological systems, HR professionals will be able to successfully redistribute their attention to the strategic areas of operation (Galanti et al., 2023). The automation decreases the quantity of administrative tasks, enabling the HR professionals to concentrate on more complicated tasks and duties that demand a strategic approach. This type of decentralised decision-making process, which is promoted by the distributed nature of data access, will allow HR professionals to think and act strategically, which will change the role (Priksht et al., 2025). Technology adoption in the Human Resource Management (HRM) is a phenomenon that has been steadily associated with strategic role performance (Kim et al., 2025; Azam, 2023; Jo

et al., 2024). Therefore, constructed on this compelling evidence, it is hypothesised that:

H2: *Technology acceptance will have a positive relationship with strategic HR roles.*

2.3. HR roles and effectiveness of HRM

HR professionals in leadership roles at any organisational level play a central role in the efficiency of the HR department (Jo et al., 2024). Most importantly, it is their capability to shift the HR role to the changing needs and development of an organisation, which requires the evolution of the HR professional as a means to adapt to the changing organisational practices and procedures (Azam, 2023). As Shakil et al. (2019) emphasize, the proper functioning of the HR roles by HR professionals plays a crucial part in the efficiency of HRM. Successfully executing strategic HR roles enables HR professionals to emerge as influential business partners, effectively contributing to the achievement of organisational objectives (Caylan, 2024). The success of the HR activity depends on the capacity of HR specialists to strategically move through the environmental issues and organisational requirements. The careful balance between strategic and operational activities is an important factor in making proactive, knowledgeable contributions to organisational advantage (Kim et al., 2025). The effective performance of HR functions is obviously linked with the efficacy of HRM (Shakil et al., 2019; Somu et al., 2025; Caylan, 2024). Hence, the study propose that,

H3: *Strategic HR roles will positively influence HRM effectiveness.*

2.4. HR roles as mediator

Based on role theory, the premise is that HR professionals adeptly performing their strategic roles contribute significantly to the effectiveness of their function, thereby providing a competitive edge to the organisation. With the growing adoption of technology in HR practices, the technology triggers a change in the HR environment, especially in improving the efficiency of the administrative services (Wahyoedi et al., 2023). Such a change requires a significant input of time, resources, and talent to take advantage of technology. Technology can be regarded as a critical element in striking a balance between strategic and administrative functions of HR. This helps HR professionals to act in their full potential and promote efficiency in HRM processes (Kim et al., 2025; Prikshat et al., 2025).

The automation and streamlining of HR activities not only minimizes the costs but also improves the efficiency of the operations. According to the previous studies, the HR profession has switched to a strategic, technology-oriented mode and no longer remains an administrative one (Azam, 2023; Galanti et al., 2023). Information technology creates a learning environment where information, processing, and dissemination are accessible, which results in increased efficiency among the HR professionals (Kim et al., 2025; Yusliza et al., 2019). With increased receptiveness to information and autonomy, HR professionals become more efficient, leveraging technology as a medium to enhance work quality and contribute to organisational value creation.

The effective performance of HR roles by HR professionals has a positive influence on HR effectiveness, as per the study conducted by Shakil et al. (2019). The success of the HR work depends on the professionals skillfully balancing these functions in the conditions of environmental challenges and the needs of the organisation (Van Beurden et al., 2025). According to prior research, technology acceptance also enables HR professionals to focus on strategic issues by reducing their dependence on routine processes, thereby improving HRM performance (Prikshat et al., 2025; Kim et al., 2025; Wahyoedi et al., 2023). Based on the above evidence, it is strongly proposed that:

H4: *HR roles will mediate the relationship between technology acceptance and HRM effectiveness.*

2.5. Generational difference as moderator

Generation Y was born between the years 1980 and 2000 (Williams, 2019). Being dubbed as digital natives, millennials can be described as being inherently capable of integrating and adjusting to new technology (Badar and Lasthuizen, 2023; Chawla et al., 2017). The generation that is born in the age of technological advancement has a profound knowledge of information technology and demonstrates the skills in its use (Somu et al., 2025). Since childhood, millennials have been exposed to digital platforms, which contribute to their multitasking abilities and define their vision of the world via technology (Williams, 2019; Pyoria et al., 2017). Their familiarity with technology is ingrained from birth, earning them the title ‘Net Generation’.

Exposed to technology since childhood, Generation Y, or millennials, has a certain edge when it comes to navigation in digital space, like acquiring a new language at an early age (Badar & Lasthuizen, 2023). They are also technologically savvy, and this translates to a competitive edge since they use their knowledge to propel organisational success (Somu et al., 2025). As a result, organisations will have to change their strategies and policies to suit this technologically-oriented generation of HR professionals. Digitalisation of the workplace also leaves HR professionals re-considering and redefining their functions to suit the changes in technology (Yin, 2025; Kim et al., 2025; Galanti et al., 2023). Considering that the millennials are natural consumers of technology and would readily fit into the digital landscape, they are set to introduce a major moderating effect in the relationship between the acceptance of technology and the HR functions. The rapid adoption rate of technology by this generation indicates that the relationship between technology acceptance and HR professionals undertaking strategic roles will have a stronger association with millennials than with other generations. Therefore, based on this literature evidence, it is hypothesised that:

H5: *Generational differences will moderate the relationship between technology acceptance and HR roles, with the relationship being stronger for Millennials.*

Expanding upon the model, the study aim to investigate the moderating effect of generational differences on the relationship among technology acceptance, HR roles, and HRM effectiveness. Specifically, the study hypothesises that the mediated pathway from technology acceptance to HRM effectiveness through HR roles will be influenced by the millennial generation. Given their innate proficiency with

technology, millennials are expected to adopt technology more readily compared to earlier generations, enabling them to perform strategic HR roles effectively. Consequently, they are likely to make a more significant contribution to HRM effectiveness. Therefore, the study proposes the hypothesis:

H6: *Generational difference will moderate the mediated relationship between technology acceptance and HRM effectiveness, such that the relationship will be stronger for Millennials.*

2.6. Sample and data collection

The construction industry is a major indicator of economic development and has several opportunities for investment and adds a significant contribution to the GDP of the country. This industry is diverse in the sense that it comprises large corporations, small and medium-sized enterprises, and informalised labour. The industry is a key factor in the economic growth, especially in infrastructure development, given that it has the second-highest rate of employment after agriculture, which is a source of employment to about 49.5 million individuals. Yet, the task of human resources management in the construction industry is particularly challenging because it is a labour-intensive industry. Despite its importance, there is a dearth of studies examining the relationship between technology acceptance and HRM effectiveness within this sector. To address this gap, this study examines these dynamics in the context of India.

This paper gathered data among 384 HR professionals in the construction sector in Bangalore City using a stratified random sampling technique. The sample was made of professionals from core civil contracting companies, construction companies, real estate companies, construction consultants, and mechanical, electrical, and plumbing contractors. The HR heads of the companies were initially contacted and the purpose of the research was conveyed and sought their consent to collecting the data from HR professionals. Upon approval, the questionnaire was distributed to the respondents. The questionnaire was received duly filled. 53 percent of the respondents were from the real estate sector, 37 percent from civil contracting companies and the remaining 10% of the respondents were from other construction-related companies. Of this, 63% belonged to Generation Y (Millennials—1980 to 2000) and the remaining 37% were from Generation X.

3. Materials and methods

3.1. Measures

The first part of the questionnaire was focused on demographic variables, collecting details on gender, designation, age, year of birth, educational qualification, and marital status. Organisational profile information, such as organisation name, category (civil engineering/construction contractors, real estate companies, MEP contractors, project consultants, and others), total work experience, and work experience in the current organisation, was also collected. The sources of the scale, example item, and the number of questions in each variable are given in **Table 1**. The TAM scale, developed by Viswanath et al. (2003), was employed for assessing the

technology acceptance of the HR Professionals. The scale comprises two domains: effectiveness and ease of use, each consisting of six questions. Respondents rated questions on a five-point scale ranging from 'strongly agree' to 'strongly disagree'.

Table 1. Measures and Its Source.

Construct	Variables	Source of scale	Sample item	No. of items
Role of HR Professionals	Strategic Partner	Conner & Ulrich (1996)	"My effectiveness is measured by the ability to help make strategy happen"	10
	Administrative Expert		"I develop processes and programs to efficiently process documents and transactions."	10
	Employee Champion		"I work to offer assistance to help employees meet family and personal needs."	10
	Change agent		"I participate in shaping culture change for renewal and transformation."	10
Technology Acceptance	Effectiveness	Viswanath, Morris, Davis, & Davis,(2003)	"Using the system enhances my effectiveness on the job"	6
	Ease of use		"It was easy for me to become skilful at using the system"	6
HRM Effectiveness	Technical Effectiveness	Huselid, Jackson, & Schuler, (1997)	"Please indicate how much you are satisfied with the results achieved in employee education and training."	14
	Strategic Effectiveness		"Please indicate how much you are satisfied with the results achieved in the advance issue identification and strategic studies."	9

Four HR role dimensions of Strategic Partner, Employee Champion, Administrative Expert, and Change Agent, each containing ten questions, were used to evaluate the same. The scale developed and validated by Conner and Ulrich (1996) was used. Similarly, HRM effectiveness, comprising two domains: Strategic effectiveness and Technical effectiveness, was measured using a scale developed by Huselid et al. (1997). 14 questions were used to measure strategic effectiveness and 9 questions for Technical effectiveness. A five-point scale from 'strongly satisfied' to 'strongly dissatisfied' was used by the respondents to rate their satisfaction levels. The generational difference, represented by Millennials, was determined based on the year of birth (1980 to 2000). For each measure, the results of confirmatory factor analysis (CFA) are presented in **Table 2**.

Table 2. Confirmatory Factor Analysis Results.

Variable	Count of original items	Count of retained items	Composite reliability	Relative χ^2 (df)	GFI	CFI	RMSEA
Technology Acceptance	12	6	0.87	1.70 (15)	0.98	0.98	0.04
HR Roles	40	20	0.96	1.52 (131)	0.95	0.97	0.03
HRM Effectiveness	23	9	0.91	1.23 (32)	0.97	0.98	0.04

3.2. Control variables and common method bias

Age, gender, designation and work experience were the control variables included to address potential influences on the study variables. Harman's one-factor test was performed to mitigate common method bias. This test, aggregating items related to human resource professional roles into a single factor, yielded a value of 37.461%, which is below the recommended threshold level of 50%.

3.3. Convergent and discriminant validity

Convergent validity was evaluated using confirmatory factor analysis (CFA), with Cronbach's alpha and composite reliability values approaching or exceeding the recommended threshold of 0.70 (Anderson and Gerbing, 1988). Discriminant validity was evaluated using Fornell and Larcker's (1981) test, with a focus on the average variance explained (AVE). The AVE values surpassed the square root of the intercorrelations amongst latent constructs, confirming the presence of discriminant validity. Results are summarised in **Table 3**.

Table 3. AVE and Discriminant validity.

	Cronbach's alpha (1)	CR (2)	(3)	(4)	(5)
Technology acceptance	0.67	0.87	(0.87)	0.61	0.67
HR Roles	0.81	0.96	0.78**	(0.96)	0.74
HRM Effectiveness	0.77	0.91	0.82**	0.86**	(0.91)

Notes: $n = 386$, 1—Cronbach's α reliability; 2—CR, construct's composite reliability. The average variance extracted (AVE) for every construct (Nos 3 to 5) is given in parentheses alongside the diagonal. Values beneath the diagonal are inter-construct associations, and values over the diagonal (i.e., AVE) are squares of correlations. (** $p < 0.05$).

4. Results & discussion

The relationship between the study variables is established using SPSS AMOS 22, which employs covariance-based (CB) structural equation modelling. The Model fits the data of the variables under study with $\chi^2(494) = 781.39$, Relative $\chi^2(494) = 1.58$, p -value = 0.023, GFI = 0.901, CFI = 0.942, and RMSEA = 0.039. The SPSS macro PROCESS is employed to test the indirect effects and the moderation.

4.1. Hypothesis testing

The total effect of technology acceptance on HRM effectiveness was significant ($\beta = 0.64$, $B = 0.82$, $p < 0.01$), thus supporting H1. Technology acceptance was positively correlated with HR Roles ($\beta = 0.63$, $B = 1.75$, $p < 0.01$), thus supporting H2. HR Roles were positively related to HRM effectiveness ($\beta = 0.75$, $B = 0.35$, $p < 0.01$), supporting H3. Hypothesis testing results are presented in **Table 4**.

The relationship between technology acceptance and HRM effectiveness due to a transition in HR Roles was positive and significant (unstandardized indirect effect $B = 0.462$, $p < 0.01$), thereby suggesting mediation. The bootstrap CI (confidence interval) of the unstandardized indirect effect at 95 percent (attained using 10,000 bootstrap samples) was 0.36 to 0.58. Additionally, Sobel's normal theory test for indirect effect yielded the following results: effect = 0.46, $se = 0.046$, $Z = 10.15$, and $p < 0.01$, providing strong support for H4, which states that HR roles will mediate the relationship between technology acceptance and HRM effectiveness. The mediation analysis results are given in **Table 5**.

Table 4. Hypothesis Testing Results.

Variable	HRM effectiveness		HR roles			
	Step 1 (control variables)	Step 2	Step 1 (control variables)	Step 2	Step 1 (control variables)	Step 2
Constant	32.54***	14.02***	32.54***	9.75***	65.40***	25.80***
Gender	1.28**	0.42	1.28**	−0.19	420**	2.37**
Designation	0.66	0.67	0.78	1.17**	−1.13	−1.35
Age	0.74	−0.48	−0.62	−1.42**	2.29	2.58**
Work Experience	0.41	0.61	0.5	−0.25	0.71	0.96
Marital Status	0.71	0.073	−0.77	0.37	−3.27**	−1.48
Technology Acceptance		0.82***				1.75***
HR Roles				0.35***		
R ²	0.31	0.43	0.03	0.55	0.067	0.5
▲R ²	0.31**	0.40***	0.03**	0.52***	0.07***	0.40***
F	F (5379) = 2.45**	F (1378) = 260.86***	F (5379) = 2.45**	F (1378) = 442.31***	F (5379) = 5.47***	F (1378) = 274.31***

(** $p < 0.05$, *** $p < 0.01$).**Table 5.** Results of the Mediation Analysis.

Explanation	Indirect effect (IE)	Direct effect (DE)	Total effect (TE)
Unstandardized regression Coefficient (B)	0.46	0.36	0.82
t Value		6.51	16.36
P value	<0.01	<0.01	<0.01
95% Bootstrapped confidence interval using 10,000 samples	0.36 to 0.58	0.25 to 0.47	0.73 to 0.93

The interaction term between technology acceptance and millennials was significant and positive ($B = 0.87$, $p < 0.0$), thereby suggesting moderation. The bootstrap confidence interval (CI) of the unstandardized indirect effect at 95 percent (using 10,000 bootstrap samples) was 0.37 to 1.42. H5, which states that generational differences will moderate the association between technology acceptance and HR Roles, such that the association will be stronger for Millennials, was thus supported. The interaction effect is plotted in a chart, and the plots are represented in the pictorial format in **Figure 2**.

The results of the conditional indirect effects(CIE) of technology acceptance on HRM effectiveness at M-1SD are (unstandardised indirect effect $B = 0.182$, $SE = 0.040$), the bootstrap confidence interval (CI) of the unstandardised indirect effect at 95 percent (using 10,000 bootstrap samples) was 0.11 to 0.27. At M+1SD (unstandardized indirect effect $B = 0.301$, $SE = 0.046$), the bootstrap confidence interval (CI) of the unstandardised indirect effect at 95 percent (using 10,000 bootstrap samples) was 0.22 to 0.39. The values are positive and significant, and the values do not capture zero in their interval, which provides support for H6, which states that generational difference will moderate the mediated association between technology acceptance and HRM effectiveness, such that the relationship will be stronger for Millennials. The results are represented in **Table 6**.

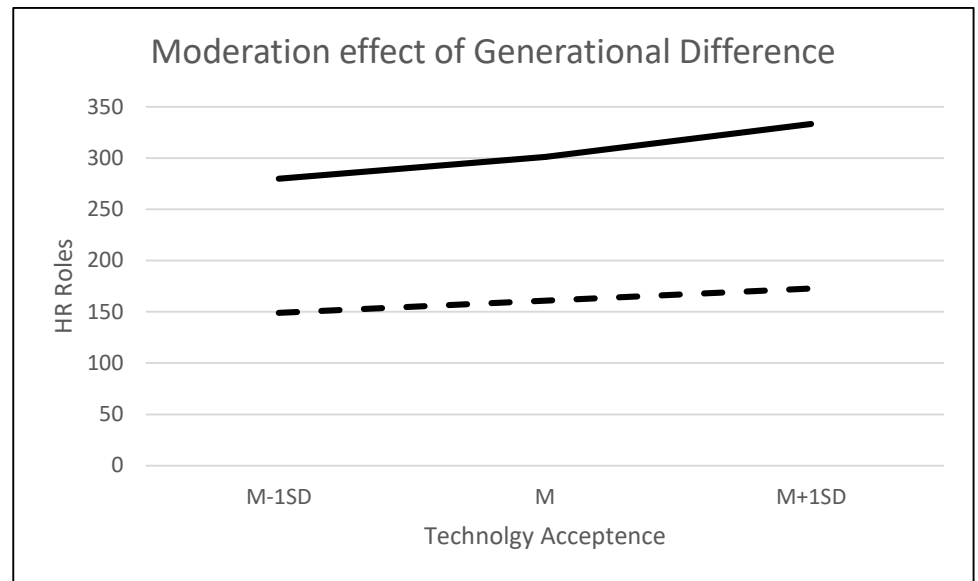


Figure 2. The Moderation Effect.

Table 6. Mediated Moderation result.

Moderator (value)	Conditional indirect effect (CIE)	Bootstrap SE	Bootstrap LLCI	Bootstrap ULCI
Low (-1SD)	0.182	0.040	0.112	0.273
High (+1SD)	0.301	0.046	0.22	0.39

4.2. Discussion

The study clarifies the mechanisms of achieving HRM effectiveness via technology acceptance enabled by strategic roles played by HR professionals and taking into account the effect of the generational differences. Other studies also backed the investigation of the direct effect of technology acceptance on HRM effectiveness (Zhao, 2024; Galanti et al., 2023; Yusliza et al., 2019; Dalain et al., 2026). It is noted that the adoption of technology translates into automation of the daily tasks, better decision-making processes and consequently better technical and strategic effectiveness (Kim et al., 2025; Wahyoedi et al., 2023). The positive relationship between technology acceptance and HRM effectiveness could be explained by a number of factors. Technology simplifies the administrative processes and allows HR professionals to allocate more time and resources to strategic activities. Technology liberates human resources by automating boring tasks such as payroll processing and data management, enabling them to focus on value-added tasks (Priksat et al., 2025; Yusliza et al., 2019). This enhances efficiency and effectiveness in the HR functions, which adds up to the overall effectiveness of HRM in the organisation (Somu et al., 2025). In addition, the culture of innovation and flexibility in the HR department is encouraged by technology acceptance. HR professionals who are technologically forward-looking show that they are open to the possibility of using new tools and approaches in order to increase their performance and contribute to organisational success. Through the use of improved HR technologies, artificial intelligence, and cloud-based services, HR professionals make effective decisions and predict new

trends and adopt proactive HR practices that meet organisational objectives (Kim et al., 2025; Zhao, 2024).

The findings of this study highlight the transformational impact of technology acceptance on the roles of HR professionals. The adoption of technology helps HR professionals to abandon the routine transactional roles and concentrate on more strategic and transformational duties (Somu et al. 2021; Azam, 2023). As digitalisation sets in, HR practitioners are likely to have multitasking roles that go beyond the conventional administrative roles (Darmawan, 2025). Technology enables HR professionals to be strategic collaborators and thus they can contribute more towards the success of organisations (Jo et al., 2024; Kim et al., 2025). With the adoption of technology, HR professionals will be able to improve their ability to overcome complex HR issues, increase employee engagement, and deliver organisational change initiatives.

The findings of this study verify that HRM effectiveness increases with technology acceptance, mediated by the role of HR. This is in line with the studies of (Van Beurden et al., 2025; Prikshat et al., 2025), which conclude that Technology Acceptance enables the HR professionals to assume strategic positioning roles, thus making them part of the overall effectiveness of the HRM functions. The mediatory aspect of the HR functions indicates that the effectiveness of the HRM practices depends on the degree to which the HR professionals play their various roles in the organisation. The tasks that can be performed by the use of technology acceptance include those in the strategic, operational, and interpersonal spheres, allowing the HR professionals to succeed in them (Kim et al., 2025; Somu et al., 2025). Through successful performance in their jobs, HR professionals would be in a position to promote the effectiveness of HRM by ensuring a favourable working environment, enabling talent management and ensuring that the HR strategies are aligned to organisational goals. The use of technology by millennials compared to Generation X is empirically supported by the fact that this generation is more inclined to accept technology. As a result, a greater number of millennial HR professionals are more likely to move to strategic roles with the help of technology acceptance (Badar and Lasthuizen, 2023; Williams, 2019). This is explained by the fact that Millennials are comfortable with technological tools, which allows them to use digital tools more efficiently in their HR work (Chawla et al., 2017).

4.3. Theoretical contribution

Several theoretical implications arise from these findings, enriching our understanding of HRM practices and organisational dynamics. Firstly, the study has extended Role Theory to understand how individual perceptions of technology, specifically those related to ease of use and usefulness according to the Technology Acceptance Model (TAM), affect the adoption and enactment of strategic HR roles (Viswanath et al., 2003). This hybridisation introduces psychological and perceptual dimensions into the change process of role performance, thereby enhancing insight into the dynamic nature of role performance in evolving digital environments. Secondly, the study aims to expand the literature on the Role Theory and Technology Acceptance Model (TAM) by identifying the mechanisms through which the

acceptance of technology promotes strategic behaviour in HR professionals, especially under the constraints imposed by generational groups. Thus, by linking perceptions of technology to role enactment and, in turn, to successful HRM, the study uncovers the complex path of operating organisations, which is certainly not much discussed in the literature.

Third, the research introduces a mediated model and demonstrates that the acceptance of technology indirectly affects HRM effectiveness- that is, the acceptance passes through strategic HR role performance (Somu et al., 2025). Such a mediation reinforces the significance of role transformation in technology use and, therefore, offers a process perspective whereby digital tools are linked to performance outcomes. Fourth, the study enriches the Technology Acceptance Model (TAM) by incorporating a generational lens, demonstrating how Millennials, as digital natives, moderate the relationship between technology perceptions and role adoption. This moderating effect reveals that technology acceptance is not uniform across users. Still, it is shaped by generational familiarity and comfort with digital systems, an essential addition to TAM-based research (Viswanath et al., 2003). Finally, the study validates and builds upon existing work in both the Technology Acceptance Model (TAM) and Strategic Human Resource Management (HRM) literature while also revealing novel linkages between technology adoption, role dynamics, and generational differences. In doing so, it offers a more holistic understanding of how human-technology interaction influences strategic capability within organisations, contributing meaningfully to interdisciplinary research at the intersection of human resource management (HRM), organisational behaviour, and information systems.

4.4. Managerial implications

This paper provides a number of practical implications for organisational management. To begin with, it is important to promote organisational commitment, ensuring top management support during the process of implementing technology initiatives and setting specific goals. This type of support system enables HR professionals to become strategic in their roles. Secondly, the cooperation between CEOs and HR professionals is relevant to making HR more valuable to the process of strategic decision-making (Jo et al., 2024). This partnership is critical in transforming the HR position into strategic alliances. Third, the top management and the organisation, in general, should take proactive steps to create favourable conditions in which the HR professionals can perform well in the strategic positions (Kim et al., 2025). It is possible to support the transition of HR professionals to strategic contributors by providing the needed resources, training, and mentorship opportunities. Fourthly, it is essential to acknowledge the peculiarities of the needs and preferences of millennial HR professionals. The management should aim at designing and providing policies and practices that can meet the expectations of such demographics to create a positive work environment. Finally, the organisational leadership should adjust to the changing managerial views when HR professionals take strategic positions. The role ambiguity can be effectively addressed proactively leading to making job responsibilities clear to prevent the possible challenges of such a change in the role of HR (Priksht et al., 2025).

As the study highlights the role of technology acceptance in increasing HRM effectiveness, it becomes imperative for organisations to invest in digital HR tools and systems and the top leaders should prioritize and streamline operational and HR functions by leveraging technology. For the smooth transition from administrative to strategic roles, organisations can devise motivational tools and strategies to encourage HR professionals in adopting technology.

Training should be an ongoing and continuous process in organisations to increase technological competencies amongst the HR professionals. Also, through digital integration, HR roles should be aligned with organisational strategy. A supportive and encouraging culture in organisations can facilitate technology adoption amongst Generation X, while utilising the technological strengths of the millennials. Investment in user-friendly HR technologies can lessen the resistance to change and increase the adoption rates. Overall, integrating technology with HR roles can significantly improve organisational performance and effectiveness.

4.5. Limitations and future research recommendations

Although this research provides some insight into technology acceptance and the effectiveness of HRM, it is possible to develop new directions and enhance future research. A possible area of future research is to replicate the use of the model on other industries other than the construction industry. Investigating the role of the model in other industries like IT, telecommunications, banking, and others can help to understand the peculiarities of the technology adoption and HR functions in different industries (Somu et al., 2025). A comparison of these sectors can provide information on the practices of role models in various organisational settings. Also, further research can broaden the geographical area through cross-country research. Research on the functioning of the suggested model in the context of various cultural and institutional backgrounds may provide valuable data on the universality of HR activities and the use of technology. Comparative analysis of both the private and the public sector enterprises can also offer useful information on the peculiar challenges and opportunities that organisations in the other sectors can encounter (Kim et al., 2025). Also, expanding the theoretical framework and including new variables and models offers new insights.

5. Conclusion

Companies in different sectors are heavily investing in technology to improve the performance of their operations, and the HR department is not an exception. This research aims to substantiate the organisational expectations on how HRM functions can be improved using technology acceptance by HR professionals. This research helps advance the current discussion on the relevance of technology acceptance and HRM effectiveness by analyzing the relationship between these variables and empirically demonstrating their importance. The results of the given research are not limited to rhetoric, as they offer concrete information about how technology acceptance can contribute to the effectiveness of HRM.

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