Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 5 Issue 4 (2025)

Unveiling the Synergy Between TAM and TTF: The Mediating Role of Symbolic Adoption in Enhancing Task Performance

Dr. Sonalee Srivastava[1*], Dr. Nakshatresh Kaushik[2], Dr. Vibhuti Vishnoi[3]

[1,2,3]GNIOT-MBA Institute, Greater Noida, Uttar Pradesh, India.
Email ID's: - [1]sonalee@gniotmba.net, [2]Nakshatresh.kaushik@gniotmba.net, [3]vibhuti@gniotmba.net.

Abstract
The current advancement of information technology has revolutionized the working of Human Resource (HR) in the mid-size organization. As new information systems has been introduced in almost every domain, there is an increasing need to examine the factors that impact HR employees' symbolic adoption towards new information system. Further due to vulnerability of information system database there is a need to examine the technology trust associated with information system in mid-size organization. The study also examines the relationship between Task-Technology Fit (TTF) & Technology Acceptance Model (TAM) with symbolic adoption of HR employees. Additionally, the study investigates the mediation role of Symbolic Adoption of new information system to explain the effects of Task-Technology Fit and Technology Acceptance Model factors on individual performance. The 319 HR employees from mid-size organizations working with HRIS responded to the survey questionnaire. The data were analysed using SEM- AMOS. The partial mediating role of symbolic adoption of new information system has been established between the study variables. The study finding also reveals that actual use of information system alone does not predict individual performance, rather it modifies the strength or direction of the engagement-performance relationship. Further, the research implications, limitations, and future recommendations were discussed.

Keywords: Information System; Task-Technology Fit (TTF); Technology Acceptance Model (TAM); Perceived Usefulness; Perceived Ease of Use; Engagement; Performance; Symbolic Adoption; Adoption Intention.

1. Introduction
The adoption of HRIS in mid-size organizations marked a significant change in the working of HR employees. HRIS automates and ease HR functions like planning, managing and collecting data while ensuring data security within an organization. It also integrates and allows easy access of employee data and facilitates in decision making [1]. Employee performance and engagement is an important consideration for a mid-size organization's individual and organizational development [2], [3], [12], [4]–[11]. Reference to the organization's technological adoption and employee intentions towards its adoption could be seen from the prior study [4], [6], [9], [10], [13]. The current research examines the impact of new information technology on HR employees. The study has taken the concept of Task-Technology Fit (TTF) and Technology Acceptance Model (TAM) with symbolic adoption of Human Resource Information System (HRIS) that affect employee performance. This will be an important addition to the information system literature as the study focuses on employee's symbolic adoption rather than employee's behavioural intentions in mandatory environment. The symbolic adoption occurs much before than actual adoption of any new information technology, therefore it is important to measure symbolic adoption of new information system

before its actual adoption. HRIS is defined as "a system used to acquire, store, manipulate, analyze, retrieve and distribute pertinent information about an organization's human resources" [12], [14], [15]

The mid-size organizations are not ready to accept this advancement in information technology due to their financial and technology readiness, lack of expertise, and employee resistance [16]–[18]. Now-a-days, information system facilitates organization's Human Resource in their day-to-day operations and decision-making but literature states the reason for its failure is resistance of employees towards adoption of new information systems [6], [12], [19]–[25].

Previous studies showed and highlighted the significance of symbolic adoption of information system [2], [9], [26], [27]. The symbolic adoption is the mental acceptance of any new technology. Behaviour intentions have been replaced with symbolic adoption in mandatory environmental setting of an organization. It is not in the hands of HR to use it or not, they have to obliged the new information system impose on them by the organization, though for their benefits. But still, it's a human tendency that people do not want to come out of their comfort zone of doing work and learn something new. Thus, the current study focuses on the mandatory environment within mid-size organization where Human Resource Information System has been implemented. Therefore, the study identifies the determinants of user's acceptance in mandatory environment and explain its relationship with individual performance. Organizations are investing in new information system as it maintains, sustain, and improve their employee performance. Nevertheless, they are adopting and implementing the new information system without taking employee's considerations and thus it creates dissonance in their mind, i.e., whether to adopt this new technology or not. As symbolic adoption always occurs before the actual adoption of new information system, it might impact the information system's use and the extent HR accompanied it for their day-to-day activity in mid-size organization. Any discord between symbolic and actual adoption leads to dissatisfaction and misuse of technology. Dissonance didn't allow employees to invest time and energy in learning more about technology [28], [29]. Thus, countering this effect by positively supporting and moulding end-users' perceptions towards technological adoption via influencing their symbolic adoption is essential. Larger organizations are having good amount of financial capital along with all new updated technologies, so it's being easier for them to adopt the modern changes in technology and switch to new work culture. But this is not the case with the mid-size organization, as they face many problems like lack of capital, lack of expertise, lack of infrastructure and lack of proper training regarding how to use this information technology. Sometime they themselves don't want to adopt this new information system due to not trusting the new information systems or they are very much satisfied with their traditional way of manually doing work [30]. They don't want to adapt or change themselves in accordance with changing organizational perspectives. Literature also emphasis on the technology trust which might affects the strength and direction of HR employees towards adoption of any new information technology in the mid-size organizations [30]–[33]. Today, organizations are also facing a technology trust issues due to online anonymity, data breaching and misinformation prevalence regarding information systems, which raised questions about the trustworthiness of these information systems [31], [34]. Though, due to the mandatory nature of this new information system, HR have to adopt these technologies, thus it becomes more important to explain the factors that are responsible for enhancing the

technological acceptance level within HR. We had also examined how TTF along with TAM determine the factors of Symbolic adoption of information system and how this indirectly or directly affect employee performance.

To understand the issue and enhance the acceptance level towards new information system in mandatory environment within the mid-size organizations, TTF and TAM are integrated and tested with symbolic adoption of information system (HRIS). Prior research has talked about TTF, TAM and its relations with individual and organizational performance [35]–[38]. Still there are little research focuses on how it impacts HR employee's symbolic adoption, employee performance in the mandatory environment. Thus, we define three objectives of the current study, firstly the study investigates and understand the relationship of TTF (Task Technology Fit) and TAM (Technology Acceptance Model) with symbolic adoption of HRIS. Secondly the study examines the mediating role of employee's symbolic adoption of HRIS with study variables.

To address this gap, we formulated research questions: What is the effect of TTF and TAM on symbolic adoption of new information system- HRIS? Does symbolic adoption of HRIS plays a mediation role between the technology adoption factors (TTF & TAM) and influence individual performance? To what extent does employee engagement strengthen or direct the relationship between actual usage of information systems and individual employee performance?

The current study empirically tested an integrated model of information systems; it integrates two theories namely; task technology fit (TTF) and technology acceptance model (TAM) to examine the role of symbolic adoption of information systems. The study includes sections as literature review and hypothesis development, research methodology and data analysis. Later paper concludes by discussing study's implications, limitations, and future recommendations.

2. Literature Review and Hypotheses Development

2.1. Task Technology Fit (TTF)

Researchers have used Technology-Task Fit (TTF) for examining the technological adoption within various types of organizations. The TTF, have been applied by prior study in relations to intention to adopt technology [39]. Literature explores various theories towards technology adoption intention of users, however TTF developed by Goodhue and Thompson (1995) states that users will accept technology when they symbolically believe that the new technology would be useful and is beneficial in improving their task performance [40]. The TTF is based on the individual task performance and information systems.

TTF has been widely used in predicting the user's technology adoption behaviour [39], [41]–[44]. Recently researchers applied TTF in enhancing the users' adoptions in e-learning in healthcare organization [41], social media use in higher education [42]; organizational digital transformations [44]); accounting information systems for microfinance [45].
The TTF model include task characteristics and technology characteristics where Task characteristics have seen as "the actions carried out by individuals in turning inputs into outputs". The technology characteristics refer to "the technology used by individuals to perform their tasks" and the task-technology-fit is identified "the degree to which a technology assists an individual in carrying out his/her tasks [40], [46]. And if technology fits,

it would positively impact employees' task and it might result in better employee performance. Information systems facilitate users in completion of their tasks.

2.2. Technology Acceptance Model (TAM)

TAM, developed by Fred F. Davis (1989) is the most trusted model for understanding the user's intentions behaviour. Literature states that recent researchers have been widely used TAM for understanding the user's technological adoption behaviour [8], [10], [44], [47]–[49]. The TAM model includes perceived usefulness (PU) and Perceived Ease of Use (PEOU) where PU is "the degree to which a person believes that using a particular system would enhance their performance". If users symbolically accept that new information systems would facilitate in their performance enhancement, they would easily adopt the new changes. On the other hand, PEOU is "the degree to which a person believes that using a particular system would be free from effort" [50]. Moreover, users are more likely to adopt new information systems if they find them easy to use. Additionally, PU and PEOU of the information systems affect user's symbolic adoption towards new human resource information systems.

2.3. Symbolic Adoption of Human Resource Information System

Prior studies state the importance of symbolic adoption of information technology within an organization and how it facilitates HR in their day-to-day activities [48], [51]. Organizations have recently faced a pandemic like COVID -19 that changes their overall look and enhances the role of technology in HR activities. The advancement of technology plays a crucial role in the realm of HR. Human Resource Information System is tool in the hands of organization to gathers, maintain, evaluate, and distribute the relevant information about its Human Resource [52], [53]. And thus, it is imperative to understand the symbolic adoption of this information system within mid-size organization which occurs before the actual adoption of information technology.

Grounded on the cognitive dissonance theory [54], [55], any mental discord towards new technology would leads to dissonance in its adoption. This discrepancy develops unsatisfactory attitude of HR towards new information system and that might not lead them to fully engaged with the new information system technology. The under-utilization of information technology for which organizations have spent lots of money, is a concern for mid-size organizations [25], [28], [56]. The current study tries to focuses on the factors that trigger the symbolic adoption of information systems in the mid-size organizations. Symbolic adoption is defined as "a peak motivational state reflective of a user's mental evaluation of the technology and its use as a worthwhile concept" [28]. With evaluating technology's symbolic adoption, the employees of the mid-size organizations might enhance the adoption of new information system and thus it might lead to the enhancement of their performance and engagement towards organizational task.

Impact of Technology Characteristics and Task Characteristics on Task-Technology Fit

The compatibility of new information technology with HR tasks in the mid-sized organizations is determined by the task characteristics and task technology of the system. The current study applies the Task-Technology Fit (TTF) model as a theoretical framework to evaluate technology effectiveness and its alignment with HR tasks. Developed by Goodhue and Thompson (1995), the TTF model posits that new technology is beneficial only if it

supports employees in their tasks, thereby improving individual and organizational performance [40].
A better fit between technology and task leads to enhanced user performance, satisfaction, and greater technology acceptance [3]. The TTF model demonstrates that both task characteristics and task technology affect task-technology fit, which in turn influences HR performance [57], [58]. Essentially, task-technology fit is based on users' assessments. HR departments will adopt new information systems only when they fit well with their tasks and improve their performance [49]. When employee believe that, the task given by organization would be facilitated by new information systems, they start applying it. Thus, in turn it might impact their performance level.
Based on the preceding discussion, we hypothesize that:
H1. The Task Characteristic of new information systems influences Task Technology Fit.
H2: The Technology Characteristic of new information systems influences Task-Technology Fit.

2.4. Impact of Task-Technology Fit (TTF) on Symbolic Adoption of HRIS

Both the dimension of TTF model i.e. task characteristic and technology characteristic would be fruitful only when HR employees are ready to accept the new information technology. And they will accept it when they see that it facilitates in their day-to-day activities [42]. It is expected that the better Task-Technology-Fit will enhance acceptability level of HR employees towards new information systems [43]. Information systems provide many benefits to organization only when they integrate themselves with the new systems. Task characteristics, is the requirement of the HR employees which leads towards fulfilment of their assigned work [59]. Researchers explain task characteristics as a series of action required for completion of one's job [60], [61]. So, it is necessary for HR employees to understand the importance of new information systems which facilitates in the completion of their work. If they perceive that new information system is for their benefit and betterment, they would easily accept it. Thus, it becomes imperative to examine HR employee's symbolic information system adoption prior its actual adoption.
Based on the preceding discussion, we hypothesize that:
H3: The Task-Technology Fit (TTF) influence HR employees Symbolic Adoption of HRIS.

2.5. Impact of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) on Symbolic adoption of HRIS

After the outbreak of Covid-19 the scenario within an organization have been changed drastically and thus the urgency of automating technology within an organization arises. This rapid changes in technology transforms the work of HR within the mid-size organization. The acceptance of new technology within an organization is mandated and employees have to use these new technologies. Fred David in 1986, developed a framework Technology Acceptance model (TAM) for understanding the user's technology acceptance. The TAM plays an important role in analyzing the users' technology acceptance and use of technology. TAM has two determinants: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)[50], [62]. According to TAM, these two factors influence an individual's attitude towards using the technology, which in turn affects their behavioural intentions and actual technology use. In mandatory environment the behavioural intention has been replaced with symbolic adoption of new technology. TAM is the most trusted model in the technology adoption domain and

numerous recent studies have applied TAM across various contexts in relation to the technology adoption[44], [47]–[49], [63].

Literature states that the perceived usefulness and perceived ease of use affects the intention to adopt new information system- HRIS [10], [41], [47]. The PU and PEOU plays a pivotal role in enhancing the mid-size organization's HR symbolic adoption towards adoption of new information system. Positive symbolic adoption perceptions will enhance employees trust and usefulness towards new technology and motivates them towards full utilization of HRIS technology. The organizations believe that for being competitive in the market they need to upgrade themselves with new technology and for successful utilization of new information system, organizations have to consider employees symbolic adoption much before then their actual technology adoption.
Based on the preceding discussion, we hypothesize that:
H4. The Perceived Usefulness (PU) of new information technology *influences symbolic adoption of HRIS.*
H5. The Perceived Ease of Use (PEOU) of the new information systems *influences symbolic adoption of HRIS.*

2.6. Mediating Effects: Symbolic Adoption of Human Resource Information Systems

The symbolic adoption of Human Resource Information Systems (HRIS) has been defined as "a peak motivational state reflective of a user's mental evaluation of the technology and its use as a worthwhile concept" [28]. Symbolic adoption is crucial for moulding HR employees' attitude towards actual adoption of new information technology. Symbolic adoption occurs before actual adoption of any information technology, first an impression about any new technology develops within the minds of its user's then they evaluate the technology in terms of benefits and ease of use. Symbolic adoption includes: heightened enthusiasm, which is "the eagerness with which a user approaches the behaviors associated with technology use." mental acceptance, the extent to which a user views the artifact, in principle, as a good idea." use commitment, "the degree to which one is committed to the use of the technology independent of whether it is mandated or not." and effort worthiness refers to "the user's positive evaluation of the return on resources expended to be able to use the technology" [28], [64]. Initially, researchers examined behavioural intention to adopt any information technology. However, due to the mandatory nature of this technology symbolic adoption of new information technology has to analyse much before than its actual adoption, and thus the behavioural intentions has been replaced with symbolic adoption of any new technology [28], [65]–[68]. The TTF model plays an important role in IS literature, which states that any new information systems will be fully utilized to its capability by its employees only when the information technology capabilities match the task associated with it, and if it matches it will positively impact individual performance [40]. If technology fits and facilitates in the easing the tasks of the employees, it might impact their performance, as Task-Technology Fit, align with work requirements of the employees [69]. Additionally, if employees symbolically adopt information systems, they are likely to start using it in their day-to-day work activities. The positive impact on HR employees would only be visible when they start actually using the new information systems [70]. Additionally, in light of the importance of the information systems for individual and organizational growth, researchers have begun to investigate different technology adoption theories. Addition to TTF, TAM is also readily acceptance theory in the field of information system. The model is extensively examined and tested in

relation to information system research [71]. If the HR perceive that using a new information system would positively impact their performance level and ease their work, they would likely to accept and support towards acceptance of new information system in the mid-size organization. And this acceptance towards a system must be checked before the actual adoption, thus it becomes imperative to understand HR employee's symbolic adoption towards new information systems.

Based on the preceding discussion, we hypothesize that:

H6: Symbolic adoption of HRIS mediates the relationship between Task-Technology Fit and actual use of information systems.

H7: Symbolic adoption of HRIS mediates the relationship between Perceived usefulness (PU) and actual use of information systems.

H8: Symbolic adoption of HRIS mediates the relationship between perceived ease of use (PEOU) and actual use of information systems.

2.7. Impact of HR employees' actual usages of information systems on employee performance

When HR employees develop a positive symbolic adoption towards the new information systems they might actually start accepting, engaging, and using the new information systems in their day-to-day activity. The actual usage of new information systems could be measured with the intensity i.e. the technology type; duration i.e., time spent in new information systems, and frequency i.e., how often HR employee uses the new information systems for their day-to-day work [72]. And when they engaged themselves with the new information systems, start learning and doing their day-to-day assigned work, it might impact their performance level. By actually adopting and using technology will ease their work with accuracy and thus that will impact their performance level.

H9: The actual use of information systems impact performance level of HR employees.

2.8. Moderating effect of employee work engagement

Engagement is the "emotional and intellectual commitment towards the organization or the amount of discretionary effort exhibited by employees in their job" [73]. The main element of work-engagement includes vigor, dedication, and absorption [74]. Vigor is "high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence in the face of difficulties". Dedication is "a sense of significance, enthusiasm, inspiration, pride, and challenge". Absorption is "being fully concentrated, happy, and deeply engrossed in one's work whereby time passes quickly"[75].When employees symbolically adopt and start using the new information systems, they engage themselves with the technology for the completion of their work requirement and thus it might strengthen their performance level. Thus, employees work engagement along with technology will strengthen or give path towards reaching their desired performance level. Thus, it being essential to examine the moderating role of work engagement. So, the current study examines the moderating role of work engagement between actual use of information system and individual performance.

H10: Employee engagement in information systems moderates the relationship between actual use of information systems and employee performance.

3. Research Model

Based on the above literature and hypothesis relationship a conceptual model is proposes as-

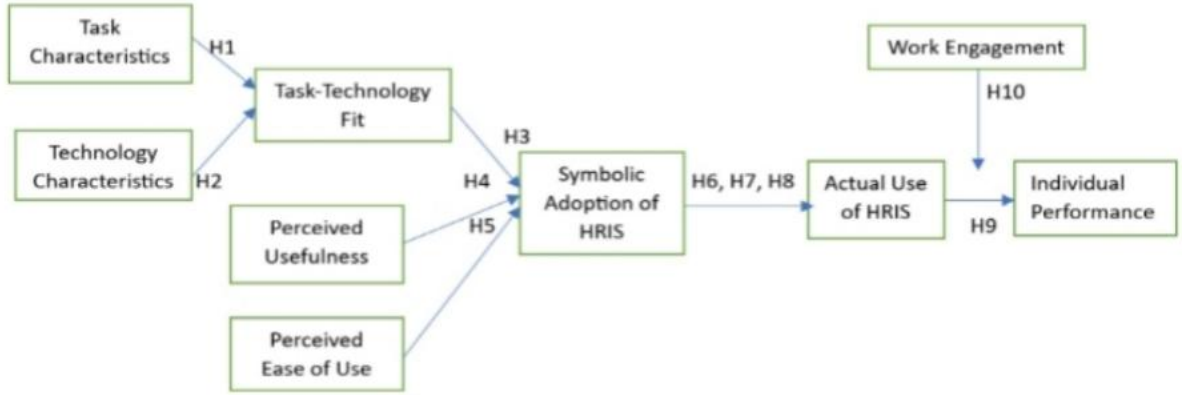

FIG I The conceptual model of the study

4. Research Methodology

4.1. Participants and Data Collection

The current study has adopted the deductive approach which test and review the related information systems research and theories and thus the casual relationship was developed and examined with the help of quantitative survey method. The current study aims to examine the impact of symbolic adoption of new information system on HR employee's performance level. The respondents for the study include HR employees working in the mid-size organizations in National Capital Region, India. These organizations have successfully implemented new information system (HRIS) over the past six months. They are registered under Udyog Aadhaar Memorandum (UAM), Ministry of Micro, Small, and Medium Enterprises (MSME). The Indian mid-size organizations can invest up to Rs. 125 crores in plant and machinery or equipment and their annual turnover can reach up to Rs. 500 Crore. The Indian mid-size organization generally employ between 100-999 employees. The information and communication systems play an important role in assisting the HR employees in their day-to-day work and also help them in strategically align their work with organizational goal.

Before collecting the data from these mid-size organizations, the preliminary questions were asked from the HR of this mid-size organization like "Do you invest in the new information systems"; How many months you have been using or applying the new information system in your organization? Only those organizations have been taken who have responded positively and are using new information system- HRIS since past 6 months. Thus, for the current study we have selected the sampling using a judgemental sampling technique. The preliminary questionnaire were floated online to the HR of the mid-size organizations in Delhi/NCR, those responded positively and accepted to do further survey, were taken as a sampling size for the current study. Five hundred structured questionnaires were distributed to the mid-size organization out of which 319 were taken for the final data analysis. The demographic details as given in Table No. 1.

Table No. 1 Demographic Details of the respondent (N=319)

Category	N	%
Gender		
Male	229	71.8
Female	90	28.2

Age		
20-30 yrs	34	10.7
31-40 yrs	241	75.5
41-50 yrs	42	13.2
Above 50 yrs	2	6
Education		
Graduate	193	60.5
Post Graduate	126	39.5
Work exp		
1-10 yrs	111	34.8
11-20 yrs	199	64.2
21-30	5	1.6
Above 30 yrs	4	1.3
HRIS Work Exp		
6 months-2 yrs	258	80.9
2yrs-4 yrs	61	19.1

4.2. Measures

The end-users' perceptions of Task Characteristics, Technology Characteristics, and TTF were measured with Zhou's 3 item scale [76]. The current study has taken the Davis's scale for measuring Perceived Usefulness (PU) and Perceives Ease of Use (PEOU) [50]. To access symbolic adoption of information system- HRIS, we adopted multi-dimensional scale of Karahanaa and Agarwal 2006 [28]. Actual Use of HRIS has been studied with the help of Venkatesh Scale [62].End-users engagement has been measured with Utrecht Work Engagement Scale (UWES) [74]. Individual Performance has been studied with the help of Kositanurit scale [77].

5. Data analysis and results

5.1. Preliminary analysis and measurement model

The items were taken from prior validated scales with minor modifications in the words related to Information System. For assessing the dimensionality and psychometric properties of the constructs CFA was performed in AMOS. Using the maximum likelihood (ML) estimation, we ran a CFA model with all the constructs (i.e., task characteristics, technology characteristics, task-technology fit, perceive usefulness, perceived ease of use, symbolic adoption of information system, actual use, and individual performance). The four dimensions measuring symbolic adoption of information system have been parcelled. Similarly, the three dimensions of work engagement items have been parcelled[78]. Reliability analysis showed that the constructs had Cronbach's alphas above .70, indicating adequate internal consistency (Hair et al., 2018). Further, the study applied three criteria "Factor loadings >0.7>, Average Variance Extracted (AVE) >0.50, and Composite Reliability (CR)>0.7" for establishing the convergent validity [79], [80].

The correlation matrix along with Cronbach's alpha, composite reliability, and AVEs values have been shown in Table no. 2

Table No. 2. Correlation Matrix, Cronbach's Alpha CR and AVEs

	Correlations											
	Variable/ Alpha	**CR**	**AVE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1	TaskCh (α=.81)	0.81	0.6	1								
2	Tech_ch (α=.83)	0.82	0.63	.339**	1							
3	TTF (α=.76)	0.79	0.52	.221**	.419**	1						
4	PU (α=.84)	0.89	0.74	.173**	.322**	.406**	1					
5	PEOU (α=.82)	0.82	0.5	.183**	.150**	.177**	.673**	1				
6	SYM_ADP (α=.85)	0.84	0.52	.261**	.164**	.263**	.411**	.285**	1			
7	USE (α=.81)	0.82	0.67	.467**	.293**	.351**	.490**	.299**	.334**	1		
8	ENG (α=.96)	0.96	0.75	.360**	.256**	.350**	.377**	.229**	.318**	.410**	1	
9	PERF (α=.85)	0.86	0.67	0.059	.285**	.119*	.253**	.174**	.140*	.162**	.293**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Note: TaskCh= Task Characteristics, Tech_ch=Technology Characteristic,TTF=Task Technology Fit,
PU=Perceived Usefulness,PEOU=Perceived Ease of Use, Sym_Adp= Symbolic Adoption
USE=Actual Use, ENG= Engagement, PERF=Individual Performance

5.2. Common method bias

To assess common method variance, the Harman's single-factor test was conducted using SPSS. The analysis revealed that a single factor accounted for 29.82% of the total variance, which is below the critical threshold of 50%. Therefore, common method bias does not appear to be a concern in this data set [81].

5.3. Analysis of Structural Model: The Mediation Analysis

The relationship or the direct effects between variables (hypotheses H1, H2, H3, H3, and H5) has been examines with AMOS software in order to test the significant level between the variables. The validity of the measurement model is presented in Table No. 3. The direct relationship between task characteristics and TTF i.e, the regression weight for task characteristic in the prediction of TTF (Task_Ch $\rightarrow$ TTF) is significant at $\beta = 0.26$, $p < 0.001$.

The direct relationship between technology characteristics and TTF i.e, the regression weight for technology characteristic in the prediction of TTF (Tech_Ch ⟶ TTF) is significant at $\beta = 0.51$, $p < 0.001$.
The direct relationship between TTF and symbolic adoption i.e, the regression weight for TTF in the prediction of Symbolic adoption of information system (TTF ⟶ Symb_Adopt) is significant at $\beta = 0.36$, $p < 0.001$.
The direct relationship between perceived usefulness and symbolic adoption i.e, the regression weight for perceived usefulness in the prediction of symbolic adoption (PU ⟶ Symb_Adopt) is significant at $\beta = 0.40$, $p < 0.001$.
The direct relationship between perceived ease of use and symbolic adoption i.e, the regression weight for perceived ease of use in the prediction of symbolic adoption (PEOU ⟶ Symb_Adopt) is significant at $\beta = 0.34$, $p < 0.001$.
The direct relationship between symbolic adoption and actual use of information systems i.e, the regression weight for symbolic adoption in the prediction of actual use of information system (Symb_Adopt ⟶ Use) is significant at $\beta = 0.33$, $p < 0.001$.
The direct relationship between actual use and Individual Performance i.e, the regression weight for actual use in the prediction of Individual Performance (Use ⟶ Indiv_Perf.)is significant at $\beta = 0.10$, $p < 0.001$.

Table No. 3. The Results of Structural model

Proposed Hypothesis	**(β)**	**SE**
Direct Effect		
Task Characteristics → TTF	0.26***	0.71
Technology Characteristics → TTF	0.51***	0.055
TTF → Symbolic Adoption	0.36***	0.059
PU → Symbolic Adoption	0.40***	0.029
PEOU → Symbolic Adoption	0.35***	0.081
Symbolic Adoption → Actual Use	0.33***	0.122
Actual Use → Individual Performance	0.1ns	0.054
Notes: ***p < 0.001; **p < 0.01; *p < 0.05; ns=not significant Model fit indices is within the acceptable level Chi-square/df=2.069, CFI= .901, RMSEA=.074, Standardized RMR = .05.		

Next, the mediation effects between the variables were examined, first we examine the criteria required for testing the mediation effect. For this we have taken Preacher and Hayes's approach, which suggest that for establishing the mediation effects independent (exogenous) variable must have a significant relationship with mediator variable, mediator variable must have a significant relationship with dependent (endogenous) variable, and the effect of an independent (exogenous) variable on a dependent (endogenous) variable reduces while coming of the mediator variable. When all the above criteria fulfil the mediation is established [82].

Further for determining the mediation effects we examine the indirect effects using bootstrap methods [83]. The 5000 resample with confidence interval (CI) of 95% was performed in AMOS to assess the indirect effect on actual use of information technology.

Table No. 4. Mediation Effect (Direct and Indirect Effect)

The summary of the mediation effects			
Hypothesis	**Direct Effect**	**Indirect Effect**	**Result**
TTF → Symb_Adpt → Actual Use	.23***	.08**	Partial Mediation
PU → Symb_Adpt → Actual Use	.32***	.05**	Partial Mediation
PEOU → Symb_Adpt → Actual Use	.46***	.16***	Partial Mediation

Note: ***p<0.001; **p<0.01; *p<0.05

Further, for checking whether there is partial, full or no mediation we have taken the following criteria shown in Table No. 5 [84], [85].

Table No. 5. Criteria for establishing mediation effect

Direct Effect	Indirect Effect	Mediation
Significant	Significant	Partial Mediation
Not Significance	Significane	Full Mediation
Significant	Not Significance	No Mediation

The bootstrapping results showed that symbolic adoption of information system partially mediated the effects between the variables, TTF (direct effect=0.23, $p < 0.001$; indirect effect=0.08, $p < 0.01$), perceived usefulness (direct effect=0.32, $p < 0.001$; indirect effect=0.05, $p < 0.01$), and perceived ease of use (direct effect=0.46, $p < 0.001$; indirect effect=0.16, $p < 0.01$) on Actual use of information system. Hence, H6, H7, and H8 were accepted. Table no. 3 exhibits the result of the mediation test.

5.4. Actual Use and Individual Performance

The relationship or the direct effects between actual use and individual performance (hypotheses H9) has been examines with AMOS software in order to test the significant level between the variables. The validity of the measurement model is presented in Table no. 2. The direct relationship between actual use of information system and individual performance i.e, the regression weight for actual use in the prediction of individual performance (Actual Use ⟶ Indiv_Perf)) is significant at $\beta = 0.10$, $p < 0.05$.

5.5. The moderating effect of Employee Engagement

To test the hypotheses (H10), a moderation analysis was conducted to examine whether the effect of **Engagement (ZENG)** on **Performance (ZPERF)** is influenced by the level of **Use (ZUSE)** in SPSS AMOS. The result is shown in Table No. 6

Table No. 6. Moderation Effect

	Estimate	**S.E.**	**C.R.**	**P**
ZPERF <--- ZUSE	.110	.062	1.777	.076

ZPERF <--- ZENG	.256	.058	4.390	***
ZPERF <--- Use_x_Eng	.157	.057	2.760	.006

The results of the regression analysis have been summarized in Table 5. The study finding shows that the regression weight for ZENG in predicting ZPERF was found to be statistically significant at the $p < .001$ level (two-tailed). This indicates that Engagement has a strong positive effect on Performance. Further, the regression weight for the interaction term (Use × Engagement) was significant at the $p < .01$ level (two-tailed). This confirms the presence of a moderation effect, suggesting that the relationship between Engagement and Performance varies depending on the level of Use. Interestingly, the regression weight for ZUSE alone was not statistically significant at the $p < .05$ level, indicating that Use by itself does not have a direct effect on Performance. Thus, the study finding reveals that 'use' alone does not predict performance, but it modifies the strength or direction of the engagement-performance relationship.

6. Discussion

In the discussion section we discuss the study results, where we have tested the set of hypothesis i.e., the direct relationship (H1- H5 and H 9), the mediation analysis (H6-H8), and the moderator analysis (H10). The first set of hypotheses i.e., the direct relationship effects of the task characteristics and technology characteristic of new information system on Task-Technology fit (TTF) has been analyse. The test findings show that both the task and technology characteristics significantly effects the TTF, the result is in line with the previous study [41]. Further, the test also reveals that the direct relationship effects of TTF, perceived usefulness, and perceived ease of use on symbolic adoption of information system like HRIS is significant [86]. Additionally, the study also states that there is a significance relationship between actual use of information system and individual performance. The research result is in line with the previous study related to TAM and TTF [43], [47], [53].

Next set of hypotheses (H6-H8) is related to the mediation effect of symbolic adoption of the new information system- HRIS. The study finding shows that the symbolic adoption of information system partially mediates the relationship between TTF, perceived usefulness, and perceived ease of use with actual use. The prior literature reveals that there exist a relationship between the above stated variables [53]. Additionally, the research also studies the moderating effect of employee engagement. The result of the moderating effect reveals that engagement has a significant effect on performance level and the interaction effect is also significant which thus confirms the presence of a moderation effect, suggesting that the relationship between engagement and performance varies depending on the level of actual use.

7. Implication

7.1. Theoretical Implications

The current study makes several contributions to the literature of information system. Due to digitization and competitive nature of the industry, organizations are adopting the new information system for fulfilling their day-to-day activities. In the study we analyze that before every actual acceptance of information system there is symbolic adoption of information system. This symbolic adoption determines the level of HR employee involvement in new information system in the voluntary setting of a mid-sized organization.

The study findings states that symbolic adoption mediates the relationship between the variables, which is in consistent with some of the prior study [68], [87], however literature stated the need to analyze the variable symbolic adoption in voluntary organizational settings. The study introduces symbolic adoption of information system i.e., the mental acceptance of new information system as a mediator factor between TTF, perceived usefulness, perceived ease of use and actual use of new information system. Secondly, the research also studies the moderator effect of employee engagement between actual use of new information system and individual performance. The study extended the line of research toward end users' symbolic adoption domain in mandatory environmental settings. Notably, the study identifies the mediating mechanisms of HRIS symbolic adoption, broadening the research avenues on information systems. The study targeted the mid-size organization's HR employees and the symbolic adoption factors that help and trigger them to adopt such technology by affecting their cognitive dissonance symbolically.

7.2. Managerial Implications

Our findings carry significant practical implications for both practitioners and researchers in the field of Information Systems (IS). This study not only investigates the symbolic adoption of a new information system but also examines its actual utilization and the resulting impact on individual performance, with a specific focus on the moderating role of employee engagement. The results suggest that when HR professionals move beyond symbolic acceptance to actual usage and actively engage with the new information system, their performance levels show improvement. The more frequently and effectively they incorporate the system into their daily HR functions, the greater the potential for enhanced efficiency, accuracy, and decision-making.

Moreover, this research contributes to a deeper understanding of the behavioral and psychological transformation among information system end-users. It highlights how engagement with the system can positively influence users' cognitive attitudes, shift perceptions and foster a more open and proactive approach to technology adoption. This cognitive shift is crucial, as it underpins the successful integration of information system into organizational workflows.

Additionally, the study underscores that the full realization of HR performance improvements is contingent upon the comprehensive and strategic use of the system's functionalities. When employees harness the full capabilities of the information system, not merely as a compliance tool but as an enabler of productivity and innovation, the benefits to individual and organizational performance become more substantial. Thus, this research bridges the gap between system implementation and performance outcomes, offering actionable insights for maximizing the return on information system investments.

8. Limitations and further recommendations

The study carries some limitations too which future research should take up and resolve it accordingly. The research measures the symbolic adoption of HR employees towards new information system in mid-size organizations. So, the research could be replicated with another set of industries in India or in other countries. Due to enhanced utilization of technological application in HR functions, many small, medium, and large organization are adopting and getting benefits of this system. Thus, it becomes important to measure the new information system. The study has taken cross-sectional data, which possess some limitations, so the future researcher must take up the study with longitudinal data, which establishes the

true cause and effect relationship between variables. The current study has taken a single source for data collection, which may account for standard method variance. Data for exogenous, mediator, moderator, and endogenous variables should be collected from multiple sources for more robust findings. The study has taken the symbolic adoption of information system as a mediator variable, future researcher may take up different mediating variables like information system quality, HRIS experience, HR expertise, management support, and user involvement. The current study hasn't analysed the demographic data of the study; the future researcher may replicate the study by taking into consideration demographic profile of the respondent as a moderator variable.

9. Conclusion

Information system created a new revolution in the industries. The new information system in mid-size organization plays a critical role in enhancing HR employee operational efficiency with easing their functional day-to-day activities. By implementing new information system like HRIS, it benefited organizations in taking data driven decisions that improve efficiency, reduces paper work, improves engagement and thus enhance individual performance. By introducing HRIS, it automates routine HR tasks (payroll, attendance, leave, performance reviews, benefits), it reduces paperwork and manual overhead. The mid-size organization could take HRIS as an IT solution to all their problems by targeting employees' symbolic adoption that in turn enhances the actual use of information systems. The finding contributes to information system and technology acceptance research in mandatory environmental settings.

10.References

1. Becker BE, Huselid MA (2006) Strategic human resources management: Where do we go from here? J Manage 32(6):898–925. doi:10.1177/0149206306293668.
2. Aletaibi RG (2016) An analysis of the adoption and use of HRIS in the public universities in Saudi Arabia. Doctoral Thesis, Coventry University.
3. Alyoussef IY (2021) E-Learning acceptance: The role of task–technology fit as sustainability in higher education. Sustainability 13(11):6450. doi:10.3390/su13116450
4. Ammupriya A, Subrahmanyan P (2023) Enhancement of work engagement through HRIS adoption mediated by workplace well-being. Brazilian J Oper Prod Manag 20(1):e20231499. doi:10.14488/BJOPM.1499.2023
5. Bamel N, Bamel UK, Sahay V, Thite M (2014) Usage, benefits and barriers of human resource information system in universities. VINE J Information Knowledge Manag Syst 44(4):519–536. doi:10.1108/VINE-04-2013-0024
6. Bayraktaroglu S, Kahya V, Atay E, Ilhan H (2019) Application of expanded technology acceptance model for enhancing the HRIS usage in SMEs. Int J Appl Manag Technol 18(1):48–66. doi:10.5590/IJAMT.2019.18.1.04.
7. Bhuiyan F, Gani MO (2015) Usage of human resource information system and its application in business: A study on banking industry in Bangladesh. iBusiness 7(3):111–122. doi:10.4236/ib.2015.73013
8. Dahri NA, Yahaya N, Al-Rahmi WM, Aldraiweesh A, Alturki U, Almutairy S, Shutaleva A, Soomro RB (2024) Extended TAM based acceptance of AI-Powered ChatGPT for supporting metacognitive self-regulated learning in education: a mixed-methods study. Heliyon 10(8):e29317. doi:10.1016/j.heliyon.2024.e29317
9. Das S, Das S, Sarkar PR (2019) Factors affecting the adoption of human resource

information system (HRIS) in Bangladesh: A study on private banking industry. Int J Account Bus Financ 5(2):1–15. doi:10.4038/ijabf.v5i2.42

10. Göktaş P, Akgül Y (2019) The investigation of employer adoption of human resource information systems at university using TAM, in: Akgül Y (ed) Structural Equation Modeling Approaches to E-Service Adoption, IGI Global. pp 1–27. doi:10.4018/978-1-5225-8015-7.ch001

11. Al-Dmour RH, Obeidat BY, Masa'deh RT, Almajali DA (2015) The practice of HRIS applications in business organizations in Jordan: an empirical study. Proceedings of the 4th Scientific & Research Conference on New Trends in Business, Management and Social Sciences, Istanbul, pp 53–74.
12. Noutsa FA, Kala Kamdjoug JR, Wamba SF (2017) Acceptance and use of HRIS and influence on organizational performance of SMEs in a developing economy: the case of Cameroon. In: Rocha Á et al (eds) Recent Advances in Information Systems and Technologies, Advances in Intelligent Systems and Computing, vol 569, Springer, pp 563–580. doi:10.1007/978-3-319-56535-4_5
13. Ibrahim H, Mohd Zin ML, Aman-Ullah A, Mohd Ghazi MR (2023) Impact of technostress and information technology support on HRIS user satisfaction: a moderation study through technology self-efficacy. Kybernetes 53(3):[ahead of print pages]. doi:10.1108/K-01-2023-0018
14. Noutsa F, Wamba SF, Kala Kamdjoug JR (2019) Exploring factors affecting the adoption of HRIS in SMEs in a developing country: Evidence from Cameroon. In: Baghdadi Y, Harfouche A (eds) ICT for a Better Life and a Better World. Lecture Notes in Information Systems and Organization, vol 30. Springer, Cham, pp 281–295. doi:10.1007/978-3-030-10737-6_18
15. Tannenbaum SI (1990) Human resource information systems: User group implications. J Syst Manag 41(1):27–32
16. Baiod W, Hussain MM (2024) The impact and adoption of emerging technologies on accounting: perceptions of Canadian companies. Int J Account Inf Manag 32(4):557–592. doi:10.1108/IJAIM-05-2023-0123
17. Gfrerer A, Hutter K, Füller J, Ströhle T (2021) Ready or Not: Managers' and employees' different perceptions of digital readiness. Calif Manage Rev 63(2):23–48. doi:10.1177/0008125620977487
18. Kroon N, Alves MdC, Martins I (2021) The impacts of emerging technologies on accountants' role and skills: connecting to open innovation—a systematic literature review. J Open Innov Technol Mark Complex 7(3):163. doi:10.3390/joitmc7030163
19. Al-Okaily M (2024) Attitudes toward the adoption of accounting analytics technology in the digital transformation landscape. J Account Organ Change 21(3):593–613. doi:10.1108/JAOC-04-2024-0127
20. Alzahrani A, Mahmud I, Thurasamy R, Alfarraj O, Alwadain A (2021) End users' resistance behaviour paradigm in pre-deployment stage of ERP systems: evidence from Bangladeshi manufacturing industry. Bus Process Manag J 27(5):1496–1521. doi:10.1108/BPMJ-08-2019-0350
21. Ankrah E, Sokro E (2016) Intention and usage of human resource information systems among Ghanaian human resource managers. Int J Bus Manag 11(2):241. doi:10.5539/ijbm.v11n2p241
22. Arekete S, Ifinedo P, Akinnuwesi BA (2014) Antecedent factors to end-users' symbolic acceptance of enterprise systems: An analysis in Nigerian organizations. In: Proceedings

of the IEEE 6th International Conference on Adaptive Science & Technology (ICAST), Covenant University, Ota, Nigeria, pp 1–8. doi:10.1109/ICASTECH.2014.7068108

23. Brandon-Jones A, Kauppi K (2018) Examining the antecedents of the technology acceptance model within e-procurement. Int J Oper Prod Manag 38(1):22–42. doi:10.1108/IJOPM-06-2015-0346

24. Haddara M, Hetlevik T (2016) Investigating the effectiveness of traditional support structures & self-organizing entities within the ERP shakedown phase. Procedia Comput Sci 100:507–516. doi:10.1016/j.procs.2016.09.189
25. Heidenreich S, Talke K (2020) Consequences of mandated usage of innovations in organizations: developing an innovation decision model of symbolic and forced adoption. AMS Rev 10(3–4):279–298. doi:10.1007/s13162-020-00164-x
26. Al-Debei MM, Al-Dmour RH, Love S (2016) Factors influencing the organisational adoption of human resource information systems: a conceptual model. Int J Bus Innov Res 11(2):161–207. doi:10.1504/IJBIR.2016.077986
27. Alam MGR, Masum AKM, Beh LS, Hong CS (2016) Critical factors influencing decision to adopt human resource information system (HRIS) in hospitals. PLoS ONE 11(8):e0160366. doi:10.1371/journal.pone.0160366
28. Karahanna E, Agarwal R (2006) When the spirit is willing: symbolic adoption and technology exploration. Working Paper, University of Georgia
29. Marikyan D, Papagiannidis S, Alamanos E (2020) Cognitive dissonance in technology adoption: a study of smart home users. Inf Syst Front 1–23. doi:10.1007/s10796-020-10042-3
30. Twum KK, Yalley AA (2024) Marketing analytics acceptance: using the UTAUT, perceived trust, personal innovativeness in information technology and user attitude. J Sci Technol Policy Manag. Advance online publication. doi:10.1108/JSTPM-01-2022-0001
31. Astiti S, Ngafidin KM, Mahendra M, Science C (2023) Evaluation of human resource information system implementation success and technology trust factors in the context of a manufacturing company. In: 11th International Conference on Cyber and IT Service Management (CITSM), pp 1–6. doi:10.1109/CITSM60085.2023.10455732
32. Bodó B (2021) Mediated trust: A theoretical framework to address the trustworthiness of technological trust mediators. New Media Soc 23(9):2668–2690. doi:10.1177/1461444820939922
33. Wu K, Zhao YC, Zhu Q, Tan X, Zheng H (2011) A meta-analysis of the impact of trust on technology acceptance model: Investigation of moderating influence of subject and context type. Int J Inf Manage 31(6):572–581. doi:10.1016/j.ijinfomgt.2011.03.004
34. Jethava G, Rao UP (2024) Exploring security and trust mechanisms in online social networks: an extensive review. Comput Secur 140:103790. doi:10.1016/j.cose.2024.103790
35. Alam MN, Jameel H, Al-Zeyadi KB, Saeed M, Salman M, Dakov S (2024) Investigating Three Digital Transformation Theories: TAM, TTF and UTAUT. In: Proceedings of the 36th Conference of Fruct Association, pp 538–548.
36. Jebril HM, Mohamad UH, Ahmad MN (2024) Exploring the application of ISSM and TTF theories: a literature review. Int J Adv Sci Eng Inf Technol 14(5):1589–1595. doi:10.18517/ijaseit.14.5.10955
37. Lim TL, Lee ASH (2021) Extended TAM and TTF model: A framework for the 21st Century teaching and learning. In: Proceedings of the International Conference on Computer & Information Sciences (ICCOINS 2021), pp 339–344.

doi:10.1109/ICCOINS49721.2021.9497216
38. Paravastu NS, Ramanujan SS. (2021) Interpersonal trust and technology trust in information systems research: a comprehensive review and a conceptual model. Int J Inf Syst Soc Chang 12(4):44–61.
39. Alghizzawi M. (2021) Extension of technology continuance theory (TCT) with task technology fit (TTF) in the context of Internet banking user continuance intention. Int J Qual Reliab Manag. https://doi.org/10.1108/IJQRM-03-2020-0074.
40. Goodhue DL, Thompson RL. (1995) Task-technology fit and individual performance. MIS Q 19(2):213–236.
41. Abdekhoda M, Dehnad A, Zarei J. (2022) Factors influencing adoption of e-learning in healthcare: integration of UTAUT and TTF model. BMC Med Inform Decis Mak 9:1–8. https://doi.org/10.1186/s12911-022-02060-9
42. Al-rahmi AM, Shamsuddin A, Wahab E, Al-rahmi WM, Al-rahmi AM. (2022) Integrating the role of UTAUT and TTF model to evaluate social media use for teaching and learning in higher education. Front Public Health 10:1–13. https://doi.org/10.3389/fpubh.2022.905968
43. Alkhwaldi AF, Abdulmuhsin AA, Al-Okaily M. (2022) Investigating the antecedents of HRIS adoption in public sector organizations: integration of UTAUT and TTF. Int J Organ Anal. https://doi.org/10.1108/IJOA-04-2022-3228.
44. Dash B, Sharma P, Swayamsiddha S. (2023) Organizational digital transformations and the importance of assessing theoretical frameworks such as TAM, TTF, and UTAUT: a review. Int J Adv Comput Sci Appl. https://doi.org/10.14569/IJACSA.2023.0140201
45. Wijayanti P, MIS M, Daud D. (2023) Computerized accounting information system and task characteristics in Indonesian Islamic. In: European Proceedings of Social and Behavioural Sciences. p. 461–471. https://doi.org/10.15405/epsbs.2023.11.39
46. Andersone N, Nardelli G, Ipsen C. (2021) Task-technology fit theory: an approach for mitigating technostress. In: A Handbook of Theories on Designing Alignment between People and the Office Environment. p. 39–53.
47. Edo OC, Ang D, Etu EE, Tenebe I, Edo S, Diekola OA. (2023) Why do healthcare workers adopt digital health technologies: a cross-sectional study integrating the TAM and UTAUT model in a developing economy. Int J Inf Manag Data Insights 3(2):100186. https://doi.org/10.1016/j.jjimei.2023.100186
48. Musa HG, Fatmawati I, Nuryakin N, Suyanto M. (2024) Marketing research trends using technology acceptance model (TAM): a comprehensive review of researches (2002–2022). Cogent Bus Manag 11(1). https://doi.org/10.1080/23311975.2024.2329375
49. Wu R, Tian X. (2021) Investigating the impact of critical factors on continuous usage intention towards enterprise social networks: an integrated model of IS success and TTF. Sustainability 13:7619.
50. Davis FD. (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Q 13(3):319–340. https://doi.org/10.2307/249008
51. Bangura S. (2024) Human resource information system (HRIS): navigating the implementation, challenges. [Journal Name if available]. https://doi.org/10.56734/ijbms.v5n10a3
52. Bhatia A, Nangia R. (2023) Impact of human resources information system on human resource strategies with empirical study of banking industry. J Pharm Negat Results 14(1):1034–1037. https://doi.org/10.47750/pnr.2023.14.S01.140
53. Raja M, Swamy TNVRL, Das S, Bansal R, Fahlevi M, Aziz AL. (2025) Does human

resource information system influence performance management? Cogent Bus Manag 12(1):1–17. https://doi.org/10.1080/23311975.2024.2438862
54. Elliot AJ, Devine PG. (1994) On the motivational nature of cognitive dissonance: dissonance as psychological discomfort. J Pers Soc Psychol 67(3):382–394. https://doi.org/10.1037/0022-3514.67.3.382
55. Miller MK, Clark JD, Jehle A. (2015) Cognitive dissonance theory (Festinger). In: Cognitive Dissonance Theory (Festinger).
56. Mahmud I, Ramayah T, Kurnia S. (2017) To use or not to use: modelling end user grumbling as user resistance in pre-implementation stage of enterprise resource planning system. Inf Syst 69:164–179. https://doi.org/10.1016/j.is.2017.05.005
57. Brock V, Khan HU. (2017) Big data analytics: does organizational factor matters impact technology acceptance? J Big Data 4(21):1–29. https://doi.org/10.1186/s40537-017-0081-8
58. Howard MC, Jr JFH. (2023) Integrating the expanded task-technology fit theory and the technology acceptance model: a multi-wave empirical analysis. AIS Trans Human-Computer Interact 15(1):83–110. https://doi.org/10.17705/1thci.00184
59. Abuhantash A. (2023) The impact of human resource information systems on organizational performance: a systematic literature review. Eur J Bus Manag Res 8(3):239–245. https://doi.org/10.24018/ejbmr.2023.8.3.1992
60. Al-maatouk Q, Othman MS, Aldraiweesh A, Alturki U. (2020) Task-technology fit and technology acceptance model application to structure and evaluate the adoption of social media in academia. IEEE Access 8:1–14. https://doi.org/10.1109/ACCESS.2020.2990420
61. Oye ND, Iahad NA, Ab Rahim N. (2014) The history of UTAUT model and its impact on ICT acceptance and usage by academicians. Educ Inf Technol 19(1):251–270. https://doi.org/10.1007/s10639-012-9189-9
62. Venkatesh V, Morris MG, Davis GB, Davis FD. (2003) User acceptance of information technology: toward a unified view. MIS Q 27(3):425–478.
63. Ruangkanjanases A, Khan A, Sivarak O. (2024) Modeling the consumers' flow experience in e-commerce: the integration of ECM and TAM with the antecedents of flow experience. [Journal Name if available] 1–13. https://doi.org/10.1177/21582440241258595
64. Wang W, Hsieh (2006) Beyond routine: symbolic adoption, extended use, and emergent use of complex information systems in the mandatory organizational context. In: Proc ICIS 2006. [Online]. Available: http://aisel.aisnet.org/icis2006/48
65. Nah FF-H, Tan X, Teh SH. (2004) An empirical investigation on end-users' acceptance of enterprise systems. Inf Resour Manag J 17(3):32–53. https://doi.org/10.4018/irmj.2004070103
66. Prasanna R, Huggins TJ. (2016) Factors affecting the acceptance of information systems supporting emergency operations centres. Comput Human Behav 57:168–181. https://doi.org/10.1016/j.chb.2015.12.013
67. Rawstorne P, Jayasuriya R, Caputi P. (1998) An integrative model of information systems use in mandatory environments. In: Proc ICIS 1998. [Online]. Available: http://aisel.aisnet.org/icis1998/32
68. Virdyananto A, Aristyana MA, Hidayanto AN, Hanief S. (2017) User acceptance of human resource information system: an integration model of Unified Theory of Acceptance and Use of Technology (UTAUT), Task Technology Fit (TTF), and Symbolic Adoption. In: Proc 2016 Int Conf Inf Technol Syst Innov (ICITSI) 2016. pp. 1–6.

https://doi.org/10.1109/ICITSI.2016.7858227
69. Elçi A, Abubakar AM. (2021) The configurational effects of task-technology fit, technology-induced engagement and motivation on learning performance during Covid-19 pandemic: an fsQCA approach. Educ Inf Technol. https://doi.org/10.1007/s10639-021-10580-6
70. El Horr M. (2025) Validation of a theoretical model to control actual usage of e-learning in organizations: case of Lebanon. Int J Learn Teach 11(1):54–66. https://doi.org/10.18178/ijlt.11.1
71. Rabaa'i AA, Zhu X. (2021) Understanding the determinants of wearable payment adoption: an empirical study. Interdiscip J Inf Knowl Manag 16:173–211. https://doi.org/10.28945/4746
72. Susanto TD, Assani S, Chan C. (2025) Importance role of IT self-efficacy towards IT actual competency, IT usage, and productivity: a case study on university students. Indones J Inf Syst 7(2):204–217.
73. Saks AM. (2006) Antecedents and consequences of employee engagement. J Manag Psychol 21(7):600–619. https://doi.org/10.1108/02683940610690169
74. Schaufeli WB, Bakker AB. (2006) The measurement of work engagement with a short questionnaire: a cross-national study. J Occup Organ Psychol 79:701–716.
75. Schaufeli WB, Salanova M, González-Romá V, Bakker AB. (2002) The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. J Happiness Stud 3(1):71–92.
76. Zhou T, Lu Y, Wang B. (2010) Integrating TTF and UTAUT to explain mobile banking user adoption. Comput Human Behav 26(4):760–767. https://doi.org/10.1016/j.chb.2010.01.013
77. Kositanurit B, Ngwenyama O, Osei-Bryson KM. (2006) An exploration of factors that impact individual performance in an ERP environment: an analysis using multiple analytical techniques. Eur J Inf Syst 15(6):556–568. https://doi.org/10.1057/palgrave.ejis.3000654
78. Little TD, Cunningham WA, Shahar G. (2002) To parcel or not to parcel: exploring the question, weighing the merits. Struct Equ Model A Multidiscip J 9(2):151–173. https://doi.org/10.1207/S15328007SEM0902
79. Hair JF, Black W, Babin B, Rolph A. (2010) Multivariate data analysis, 7th ed.
80. Sarstedt M, Ringle CM, Hair JF. (2017) Partial least squares structural equation modeling. In: Handbook of market research. Cham: Springer International Publishing.
81. Fuller CM, Simmering MJ, Atinc G, Atinc Y, Babin BJ. (2016) Common methods variance detection in business research. J Bus Res 69(8):3192–3198. https://doi.org/10.1016/j.jbusres.2015.12.008
82. Memon MA, et al. (2019) Mediation analysis. JAMA 321(7):697–698. https://doi.org/10.1001/jama.2018.21973
83. Byrne BM. (2010) Structural equation modeling with AMOS, 2nd ed. New York: Routledge.
84. Cheung MW. (2009) Comparison of methods for constructing confidence intervals of standardized indirect effects. Behav Res Methods 41(2):425–438. https://doi.org/10.3758/BRM.41.2.425
85. Shankar A, Jebarajakirthy C, Ashaduzzman M. (2020) How do electronic word of mouth practices contribute to mobile banking adoption? J Retail Consum Serv 52:101920. https://doi.org/10.1016/j.jretconser.2019.101920

86. Fridkin S, Greenstein G, Cohen A, Damari A. (2024) Perceived usefulness of a mandatory information system. Appl Sci 14(16):7413. https://doi.org/10.3390/app14167413
87. Arekete S, Ifinedo P, Akinnuwesi B. (2015) Antecedent factors to end-users' symbolic acceptance of enterprise systems: an analysis in Nigerian organizations. In: Proceedings of the 2014 IEEE 6th International Conference on Adaptive Science & Technology (ICAST), Covenant University, Ota, Ogun State, Nigeria. https://doi.org/10.13140/2.1

Funding Statement: The authors declare that no funds, grants, or other support were received during the preparation and conducting of this manuscript.