

A Study of the relationship between the Symbolic Adoption of Human Resource Information Systems', Technology Adoption factors, and Work-Related Outcomes

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Abstract

Over recent years, the Human Resource Information System (HRIS) has gained tremendous impetus in industry. Still, the literature states that most information system failures result from employee resistance and subsequent opposition behaviour. To address the gap in the literature, this study has targeted employees' technological symbolic adoption to analyze employee resistance behaviour. As employees' technological symbolic adoption occurs much before their actual technology adoption. Symbolic adoption means users' mental evaluation of the technology used for their work. This study has taken the perspective of HRIS symbolic adoption and identifies its antecedents and outcome factors, i.e., technology adoption factors and work-related outcomes. Thus, this study investigates the relationship between technology adoption factors (performance expectancy, effort expectancy, social influence, and information quality) and work-related outcomes (work-life balance, engagement, and creativity). Furthermore, this study examines the mediating effect of HRIS symbolic adoption between the above-stated factors. 415 HRIS end-users from the HR department of small-to-medium-sized organizations were recruited to collect data. This paper offers a theoretical and practical contribution, extending the line of research on the end user's symbolic adoption domain, and helping small and medium-size organizations to better understand end-users' technological adoption factors. In light of this study's findings, HR practitioners and management should focus on effective HRIS interventions in small and medium-sized organizations to stay ahead with engaged, creative, and balanced employees.

Keywords: human resource information system, symbolic adoption, work-life balance, engagement, creativity

1. INTRODUCTION

With the emergence of information technologies, Human Resource Information Systems (HRIS) facilitates Human Resources functions; thus the organization relies more on Information and Communication Technologies (Bal, Bozkurt, and Ertemsir, 2012). A remarkable shift marks the changing role of Human Resources from an administrative function to a strategic business decision-making function (Ngai and Wat, 2006; Al-Dmour, Love and Al-Zu'bi, 2013; Aeron and Jain, 2015; Masum et al., 2018; Arefin and Hosain, 2019; Bayraktaroglu et al., 2019; Fenech, Baguant and Ivanov, 2019; Shahreki et al., 2019). Human Resources have been revolutionized globally with the arrival of information technology. So organizations started investing in HRIS (Brandon-Jones and Kauppi, 2018) to support, manage and integrate their HR functions (Bondarouk, Parry, and Furtmueller, 2017). According to Hendrickson (2003), "a well-designed HRIS can serve as the management tool in the alignment or integration of the human resource department goals with the goals of long-term corporate strategic planning" (Hendrickson, 2003). Tannenbaum (1990) defined HRIS as "a system used to acquire, store, manipulate, analyze, retrieve and distribute pertinent information about an organization's human resources" (Noutsu, Robert and Wamba, 2017). Though larger organizations are quickly adopting HRIS technologies, the same is not applicable for small-to-medium-sized organizations (Noutsu, Wamba and Robert, 2017; Bayraktaroglu et al., 2019), as they are witnessing low utilization and low return on investment despite HRIS technologies phenomenal benefits (Al Debei, Al Dmour, and Love, 2016).

Employees have to accept the organizational information systems (Nah, Tan, and Teh, 2004; Viridiananto et al., 2017). The current research focuses on the information systems, where the difference between employees' symbolic adoption and actual use behaviour creates dissonance (i.e., when employees symbolically reject technology). Further, this might result in dissatisfaction and misuse of technology (Karahanna and Agarwal, 2006; Marikyan, Papagiannidis, and Alamanos, 2020). The discord between employees' symbolic perceptions of the new information system and its actual usage alters their attitude regarding technology. They might fear losing their job or be habitually attached to the traditional way of doing things (Ghobakhloo et al., 2011).

Further, dissonance not only impacts employees' adoption decisions but also affects their work-related outcomes like well-being, satisfaction (Marikyan, Papagiannidis, and Alamanos, 2020), productivity, creativity, and employee engagement (Njoku and Ebie, 2016; Noutsu, Robert and Wamba, 2017; Pacauskas and Rajala, 2017). Recently, researchers have started exploring the role of information systems along with employees' engagement (Silic and Back, 2017; Mohamad Nor, Arokiasamy and Balaraman, 2018; Yoo and Lee, 2019; Molino, Cortese and Ghislieri, 2020) and creativity (Pacauskas and Rajala, 2017). The literature has noticed that information systems' direct and indirect effects on employees' work-related outcomes like employee engagement and creativity should be examined (Njoku and Ebie, 2016; Pacauskas and Rajala, 2017; Olszak, Bartuś, and Lorek, 2018). Additionally, the literature shows that only 6% of creativity is person-driven. The remaining 94% is facilitated by process, system-technological support, and external factors like the environment, rewards system, and training (Muller and Ulrich, 2013; Pacauskas and Rajala, 2017). Moreover, the literature states that HRIS influences human resource functions, helps maintain employee relations, and enhances employees' work-life balance (Buzkan, 2016).

The current study examined the information system research with the Unified Theory of Acceptance and Use of Technology (UTAUT) concerning HRIS symbolic adoption and employees' work-related outcomes. Though studies have focused on the symbolic adoption (Prasanna & Huggins, 2016; Viridiananto et al., 2017), they have not focused on end-users' symbolic adoption with work-related outcomes. This study addresses these gaps and further posits and examines the mediating role of HRIS symbolic adoption between the above-stated factors. Thus, this study's objective is to examine the antecedent factors of HRIS symbolic adoption and its impact on employees' work-related outcomes like work-life balance, engagement, and creativity.

This study also suggests that the UTAUT factors are the antecedent to the end user's symbolic adoption. Further, the study contributes to the HRIS literature by integrating the UTAUT model with information quality from DeLone and McLean's IS success research (DeLone and McLean, 2003). The information quality set forth by DeLone and McLean's model has been shown to be one of the antecedent factors of technology adoption and it influences employees' work-related outcomes.

The rest of the paper is organized as follows: theoretical background and hypothesis development, methodology, analysis and interpretation of the data, followed by discussion, implications, and conclusion (limitations and future research directions).

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

HRIS automates, accelerates, and facilitates human resources in disseminating information and easing their work activities (Bayraktaroglu et al., 2019). In general, HRIS is a critical tool in the hands of HR that helps in transferring employees' data into accessible information (Wiblen, Grant and Dery, 2010) along with assimilating organizations' policies and procedures (Hendrickson, 2003). HRIS tools assist in achieving strategic value for all HR functions (Troshani, Jerram, and Hill, 2011), such as tracking employees' performance, engagement level, payroll, recruitment, and even managing employee turnover (Troshani, Jerram and Hill, 2011). Thus, the effectiveness of almost all HR functions could be enhanced through one tool, i.e., HRIS. HRIS facilitates users in their day-to-day activities and offers an indicative dashboard for aligning HR strategies with organizational objectives. HRIS adoption will simplify the organization's complex calculations with precision and less cost (Hendrickson, 2003; Bondarouk, Parry and Furtmueller, 2017; Bayraktaroglu et al., 2019). The integration of HRIS with HR functions enables HR to do work swiftly and accurately (Hosnavi and Ramezan, 2010); HR has easy access to information, which facilitates decision-making (Lengnick-Hall and Moritz, 2003; Ben Moussa and El Arbi, 2020). Further, HRIS facilitates HR quality, productivity, and innovativeness (Lengnick-Hall and Moritz, 2003; Davarpanah and Mohamed, 2013; Mauro and Borges-Andrade, 2020). Thus, HRIS supports workforce planning, benefits, and administrations, and provides superior analysis for performance management (Hendrickson, 2003). All the complex management entities are planned and managed through HRIS (Ankrah and Sokro, 2016). HRIS automates and facilitates almost all the HR functions and influences their work-related outcomes like work-life balance, engagement, creativity, productivity, performance, and satisfaction (Muller and Ulrich, 2013; Buzkan, 2016; Ratna, 2016; Noutsu, Robert and Wamba, 2017; Pacauskas and Rajala, 2017; Alboloushi et al., 2018; Molino, Cortese and Ghislieri, 2020). Despite HRIS phenomenal benefits and usages, small and medium-sized organizations face problems in its adoption (Noutsu, Robert, and Wamba, 2017). Additionally, literature reports that around 50% of information system failures are due to employee resistance and subsequent opposition behaviour (Arekete, Ifinedo, and Akinnuwesi, 2015; Haddara and Hetlevik, 2016; Mahmud, Ramayah and Kurnia, 2017; Heidenreich and Talke, 2020).

There are various theories and models in the literature for examining users' acceptance of information technology. These theories and models are the Technology Acceptance Model (TAM), an adaptation of the theory of reasoned action (TRA), the theory of planned behavior (TPB), Combined TAM and TPB (C-TAM-TPB), Innovation Diffusion Theory (IDT), the Social Cognitive Theory (SCT), the motivational model (MM), the Model of PC Utilization (MPCU), and the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The UTAUT model is a unified model that incorporates all the previous theories (Venkatesh et al., 2003). TAM (Davis, 1989), TPB (Ajzen, 1991), and UTAUT (Venkatesh et al., 2003) are the widely accepted theories in the field of information systems (Vega and Chiasson, 2021). Though the technology acceptance model (TAM) is widely accepted by various researchers (Noutsu, Robert and Wamba, 2017; Lu, 2021), it has been criticized by many for not considering human and social factors (Boonsiritomachai and Pitchayadejanant, 2017). The current study considered the widely accepted UTAUT model and the information quality construct as antecedents to HRIS symbolic adoption.

The Unified Theory of Acceptance and Use Technology (UTAUT) model explains more accurate results as compared to other technological acceptance theories like TAM (Venkatesh et al, 2003). Recently, there has been an attempt to integrate the UTAUT Model with other models to enhance the model's explanatory power (Shibly, 2011; Al-Khowaiter, W., Dwivedi, Y., Williams, 2014; Aletaibi, 2016). We have used the UTAUT model and information quality constructs from the IS Success model to identify users' HRIS symbolic adoption determinants for this study. UTAUT includes performance expectancy, effort expectancy, social influence, and facilitating conditions. Facilitating conditions become predictive to intention behaviour in the absence of effort expectancy, as the core concept of facilitating conditions is predominantly captured by the effort expectancy construct (Venkatesh et al., 2003; Aeron and Jain, 2015). The current study examined the relationship between performance expectancy, effort expectancy, social influence, and information quality with HRIS symbolic adoption and work-related outcomes (work-life balance, engagement, and creativity).

2.1. Information System (IS) adoption

Information systems influence human resource functions and employees' work-related outcomes (Nielson, Grant-Vallone, and Jackson, 2002; Buzkan, 2016). Prior studies supported HRIS adoption and its relationship with work-life balance (Müller and Ulrich, 2013; Ratna, 2016), engagement (Molino, Cortese and Ghislieri, 2020), and creativity (Bondarouk, Parry and Furtmueller, 2017; Pacauskas and Rajala, 2017; Alboloushi et al., 2018).

2.1.1. Performance Expectancy

Performance expectancy refers to employees' perceived beliefs that HRIS technology usage would improve employees' job performance. Performance expectancy (PE) is defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003). Performance Expectancy is based on the perceived usefulness of the Technology Acceptance Model (TAM), where perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989; Venkatesh et al., 2003). This factor represents a robust antecedent of technology symbolic adoption (Venkatesh et al., 2003; Prasanna and Huggins, 2016) within organizations. Employees are mainly influenced by the outcome expectations with the new information system. This information system allows autonomy of work and provides employees with ample opportunities for growth via reducing their anxiety about the new information system, thus easing employees' work-life balance. One such linkage between performance expectancy and employee work-life balance has been shown by Bauwens et al. about teachers' acceptance of information systems and their impact on work-life balance, where performance expectancy stimulates teachers' work-life balance (Bauwens et al., 2020).

Further, it could be stated that when employees get acquainted with the new information system and have fun learning using HRIS modules, they absorb and flow with the technology (Rheinberg, 2010; Mahnke, Hess and München, 2014). So, engagement with information systems is likely to be in a playfulness state (Webster, 1997; Rheinberg, 2010; Mahnke, Hess and München, 2014). Furthermore, if employees perceive that HRIS brings performance-related benefits, we expect them to be more engaged with their work. Recently researchers have started exploring the role of information systems along with employee engagement and showed a significant relationship between performance expectancy and employees' engagement (Silic and Back, 2017; Mohamad Nor, Arokiasamy and Balaraman, 2018; Yoo and Lee, 2019; Molino, Cortese and Ghislieri, 2020).

Furthermore, it has been argued that 94% of creativity among people is facilitated by process, system-technological support, and external factors like the environment, rewards system, and training (Muller and Ulrich, 2013; Pacauskas and Rajala, 2017). Thus extrinsic motivation is conducive to inspiring creativity among individuals (Eisenberger and Aselage, 2008). When employees perceive that performance expectancy is positively related to rewards/outcomes, they try to find new and unique solutions to the problems or suggest new ideas for their work assignment. Thus, we hypothesize the following

H1: Performance expectancy has a significant relationship with a) work-life balance, b) engagement and c) creativity.

2.1.2. Effort Expectancy

Effort expectancy refers to employees' perceived beliefs that HRIS technology is easy to use. It has been defined as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003). Effort expectancy is based on perceived ease of use from TAM, where perceived ease of use is "the degree to which a person believes that using a system would be free of effort" (Davis, 1989; Venkatesh et al., 2003; Williams, Rana, and Dwivedi, 2014; Dwivedi et al., 2017). The construct has been strongly associated with employees' symbolic adoption of information systems (Prasanna and Huggins, 2016; Virdyananto et al., 2017). The easier the system is to use, the greater the users' perceived self-efficacy and lesser would-be employees' anxiety (Edmunds, Ntoumanis, and Duda, 2008; Bataineh, 2019). It proactively enhances employee self-efficacy by reducing stress as the new information system has facilitated their work. With the arrival of a new information system, employees could perform their work effortlessly and immerse themselves wholly in their work, enhancing their absorption, dedication, and engagement towards their work.

Further, effort expectancy enhances the accessibility of employees towards full utilization of any system (Venkatesh et al., 2003). Employees flow with the new information system and respond actively towards work-related challenges via demonstrating higher creative thinking by providing unique and novel ideas/solutions to the work-related issues (Liu et al., 2016; Nyesiga Catherine et al., 2017). Information technology automation often reduces the amount of routine work that has to be done, potentially providing more opportunities for individuals to think and use their full cognitive capacities and thus enhancing their creativity (Müller and Ulrich, 2013; Pacauskas and Rajala, 2017). Thus, we hypothesize the following

H2: Effort expectancy has a significant relationship with a) work-life balance, b) engagement and c) creativity.

2.1.3. Social Influence

Social Influence refers to an employee's perception that people important to him or her believe that they should use the new information system. It is defined as "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003). Further, it has been defined as "the person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein and Ajzen, 1975; Davis, 1989; Todd, 1995; Venkatesh et al., 2003; Aletaibi, 2016). The intention of people to use new technology is usually influenced by the thoughts and perceptions of their immediate environment (Aletaibi, 2016). This construct is a strong antecedent to the employees' symbolic adoption of technology (Venkatesh et al., 2003; Prasanna and Huggins, 2016; Viridiananto et al., 2017).

The employees' perception is that people within their social and work circle believe that they should use a new information system. The workplace norms help employees positively associate themselves with information systems like HRIS (Adkins and Premeaux, 2014; Bauwens et al., 2020), which channelized employees towards a more productive and satisfying work environment.

Further, employees indulge and engage themselves in the activities that the most important people think they should do (Venkatesh et al., 2003). Thus, employee involvement with the new information system enhances their engagement. Additionally, social influence directs employees' attention and cognitive energy towards generating new and valuable ideas (Zhou and George, 2001; Hughes et al., 2018). Thus, we hypothesize the following

H3: Social Influence has a significant relationship with a) work-life balance, b) engagement and c) creativity.

2.1.4. Information Quality

Information quality refers to employees' perception of information system output in terms of its characteristics (Korunka and Hoonakker, 2014; Gopinathan, 2016). Information quality is defined as "the desirable characteristics of the system output" (DeLone and McLean, 2003). Further, the information system's output should have desirable characteristics, such as, it should be relevant, easy to understand, accurate, concise, complete, timely and useable (DeLone and McLean, 2003; Al-mamary, Shamsuddin and Aziati, 2014). Information quality supports employees' work activities and thus reduces stress and helps in maintaining healthy relationships among co-workers and management. Sound quality information systems are needed to ensure better work possibilities within an organization (Kankanhalli et al., 2012). Only one previous study has suggested it is one of the antecedent factors to symbolic adoption (Prasanna and Huggins, 2016).

Further, with better information system support, employees channel their energy towards fulfilling their work assignments with dedication (Gandhi et al., 2016). The new information system engages and captivates employees so much that they flow along with it and reach a state of cognitive absorption, which leads to information system usage, its absorption, and cognitive engagement (Webster, 1997; Mahnke, Hess and München, 2014). Moreover, information systems defines "problems, provokes opportunities, compiles relevant information, generates new ideas or concepts, and evaluates and prioritizes ideas for implementation" (Müller and Ulrich, 2013). Thus, we hypothesize the following

H4: Information quality has a significant relationship with a) work-life balance, b) engagement and c) creativity.

2.2. Mediation Effect (HRIS symbolic adoption)

HRIS symbolic adoption, "a peak motivational state reflective of a user's mental evaluation of the technology and its use as a worthwhile concept" (Karahanna and Agarwal, 2006), plays a vital role in the actual adoption of the technology. Symbolic adoption constitutes four dimensions: heightened enthusiasm, mental acceptance, use commitment, and effort worthiness. Heightened enthusiasm represents "the eagerness with which a user approaches the behaviors associated with technology use." Mental acceptance means "the extent to which a user views the artifact, in principle, as a good idea." Use commitment is "the degree to which one is committed to the use of the technology independent of whether it is mandated or not." Effort worthiness refers to "the user's positive evaluation of the return on resources expended to be able to use the technology" (Karahanna and Agarwal, 2006; Wang and Hsieh, 2006).

Additionally, symbolic adoption has been used for analyzing information systems due to the mandatory nature of the information systems (Rawstorne, Jayasuriya and Caputi, 1998; Nah, Tan and Teh, 2004; Karahanna and Agarwal, 2006; Prasanna and Huggins, 2016; Viridiananto et al., 2017). HRIS influences employees' human resource functions and work-related outcomes within an organization (Nielson, Grant-vallone, and Jackson, 2002; Buzkan, 2016). The current study has taken

employees' work-life balance, engagement, and creativity as a work-related outcome to information technology adoption.

Work-life balance is an employee's cognitive perception of work and life roles. Work-life balance is defined as the "individual perception that work and non-work activities are compatible and promote growth in accordance with an individual's current life priorities" (Kalliath and Brough, 2008). Further, it is a subjective perception of an employee's professional and personal lives (Brough, Timms and Driscoll, 2014). Though professionally employees are related to their work roles and responsibilities, they are attached to their friends and family. Information systems play a vital role in easing, maintaining, and sustaining employees' work-life balance. With the new information system, employees assess abundant knowledge and learning, which clarifies all their doubts regarding the information system and their work activities. Therefore, it reduces the stress and anxiety among employees by establishing their work-life balance.

Engagement is the "emotional and intellectual commitment towards the organization or the amount of discretionary effort exhibited by employees in their job" (Saks, 2005). Schaufeli et al. (2002) proposed an engagement model with vigor, dedication, and absorption as the main elements of the model. 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"; and absorption is "being fully concentrated, happy, and deeply engrossed in one's work whereby time passes quickly" (Schaufeli, 2002). HRIS delivered self-empowering tools that facilitate, intervene, and elevate employee engagement towards technology and thus facilitate better employee engagement via positively impacting their HRIS symbolic adoption.

Creativity refers to the novel and valuable ideas created by an individual or group of individuals. It is defined as the "production of novel & useful ideas by an individual or small group of individuals working together" (Amabile et al., 2005). Information technology automation often reduces the amount of routine work that has to be done, potentially providing more opportunities for individuals to think and use their full cognitive capacities and thus enhancing their creativity. IS tools support idea generation and the enhancement of creativity within individuals and groups (Yang, Lin, and Xue, 2018).

Additionally, it has been reported that a good exchange between organizational, technological advancement in HRIS could promote creativity among employees. Creativity could result from the learning and experience gathered from HRIS use, enabling employees to expand the current use of the system and modify task and work procedures. They surely enhance their creative thinking and provide unique and novel ideas/ solutions to work-related issues (Liu et al., 2016).

Hence, performance expectancy, effort expectancy, social influence, and information quality contribute to HRIS symbolic adoption (Arekete, Ifinedo, and Akinnuwesi, 2015; Prasanna and Huggins, 2016; Virdyananto et al., 2017), which further contributes to work-related outcomes like work-life balance, engagement, and creativity (Nielson, Grant-vallone and Jackson, 2002; Buzkan, 2016; Liu et al., 2016; Noutsu, Wamba and Robert, 2017; Nyesiga Catherine et al., 2017). So, in this study, HRIS symbolic adoption was hypothesized to mediate the relationship between technology adoption factors and work-related outcomes.

Therefore, performance expectancy, effort expectancy, social influence, and information quality would predict users' HRIS symbolic adoption, which would, in turn, predict their work-related outcomes. There has been little attention paid to the end-users' symbolic adoption (Arekete, Ifinedo, and Akinnuwesi, 2015; Prasanna and Huggins, 2016; Virdyananto et al., 2017) and work-related outcomes (Maier, 2012). Thus, the study's second objective is to examine the mediation effect between the above-stated variables. Hence, we formulate the following hypotheses:

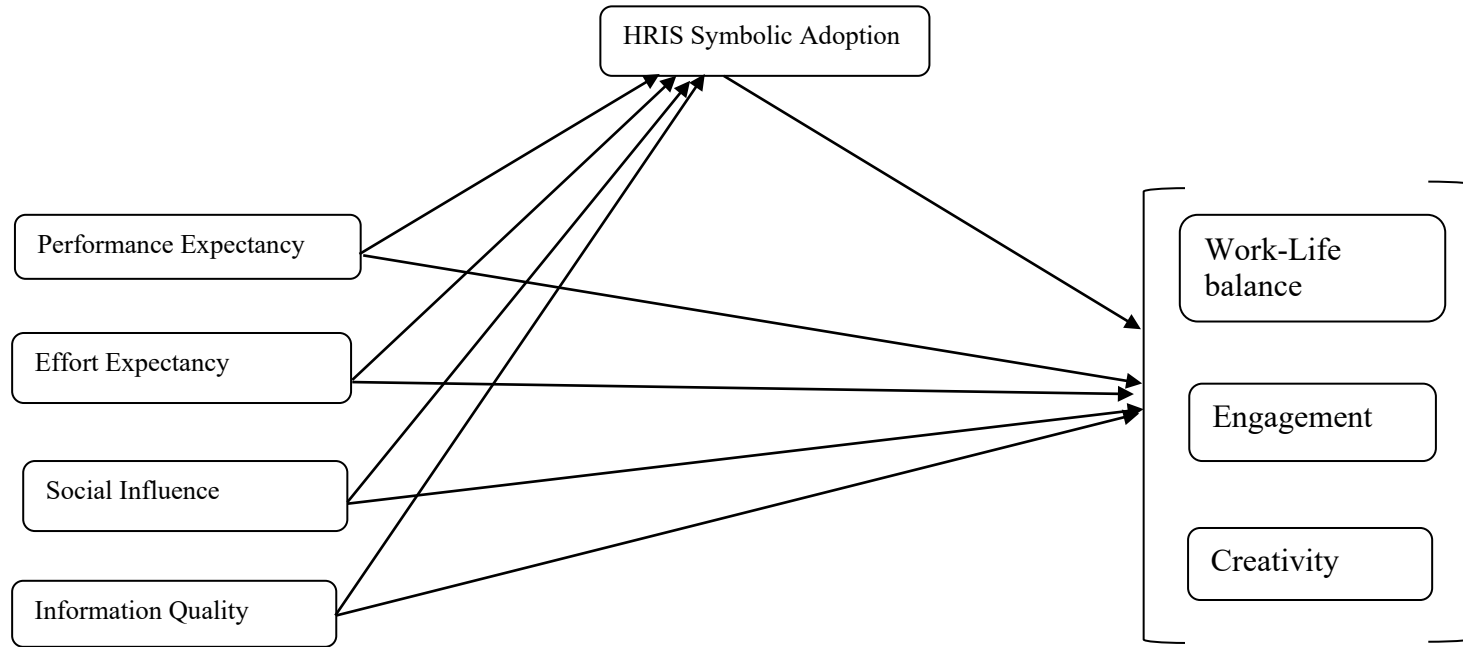
H5: HRIS symbolic adoption mediates the relationship between performance expectancy and a) work-life balance, b) engagement, and c) creativity.

H6: HRIS symbolic adoption mediates the relationship between effort expectancy and a) work-life balance, b) engagement, and c) creativity.

H7: HRIS symbolic adoption mediates the relationship between social and a) work-life balance, b) engagement, and c) creativity.

H8: HRIS symbolic adoption mediates the relationship between information quality and a) work-life balance, b) engagement, and c) creativity.

Figure 1. Research Model



Note: Performance expectancy, effort expectancy, social influence, and information quality have a relationship with a) work-life balance, b) engagement and c) creativity, respectively.

Symbolic Adoption mediates the relationship between performance expectancy with a) work-life balance, b) engagement and c) creativity; effort expectancy with a) work-life balance, b) engagement and c) creativity; social influence with a) work-life balance, b) engagement and c) creativity; and information quality with a) work-life balance, b) engagement and c) creativity, respectively.

3. METHODOLOGY

The study used a descriptive research design, which portrays naturally happening events or situations (Kothari, 2004). The purposive/judgmental sampling method is a sort of non-probability sampling wherein researchers can use their judgment to select respondents for the sample by following specific criteria (Kothari, 2004). The criteria are that only those employees have been taken as respondents (nominated by the respective organization's HR Department) who often use HRIS modules in their day-to-day activities. Employees who work with small and medium-size organizations in the National Capital Region, India, the Ministry of Micro, Small, and Medium Enterprises registered under the Udyog Aadhaar Memorandum and MSME Annual Reports and NASSCOM database were used as a sampling frame to select the organizations. The study adopted a quantitative research methodology along with a deductive approach, where theory guides research (Bryman and Bell, 2011)

Survey items were taken from previously validated scales. Minor modifications were made to the wording of the scale to suit the HRIS adoption; however, the information quality scale has been adapted from the Bailey and Pearson Scale (1983) (Bailey and Pearson, 1983; Almutairi and Subramanian, 2005); thus, EFA was conducted for this scale. Measurement items with factor loading and Cronbach's Alpha values are shown in Table 2.

The questionnaire reliability has been analyzed and pre-tested by 5 assistant professors of management disciplines. Further, online pilot testing has been done with 50 samples randomly taken from our survey population. We modified our survey instrument based on the feedback given by academicians, HR experts, and Managers (see the Appendix for the final set of questionnaires). Then, the final data was collected using the pen-pencil method. The HR department of small and medium organizations was briefed about the purpose of the study and was ensured about their data confidentiality. A total of 500 questionnaires were distributed, 440 were returned, and finally, 415 useable data-sets were taken for analysis. Table 1 outlines the demographic profile of the participants.

Table 1: Demographic Profile of the Respondents n=415

Variable	Category	Frequency	Percentage
Gender	Male	276	66.5
	Female	139	33.5
Qualification	Graduate	161	38.8
	Postgraduate	239	57.6
	Other	15	3.6
Age	Age 20-30 (years)	62	14.9
	Age 31-40 (years)	268	64.6
	Age 41-50 (years)	81	19.5
	> 51 (years)	4	1.0
Work Experience	Exp 1-10 (years)	210	50.6
	Exp 11-20 (years)	191	46
	Exp 21-30 (years)	6	1.4
	> 30 (years)	8	1.9

4. ANALYSIS AND RESULTS

Data analysis has been done with the help of statistical tools like Statistical Package for the Social Sciences (SPSS) and Structural Equation Modelling using AMOS version 21. To ensure the validity of the Information quality measures (adapted scale), Exploratory Factor Analysis (EFA) was conducted. The EFA result showed a one-dimensional scale of information quality. The total variance explained was 67.20%. Further to establish convergent validity, mainly three criteria are used: "Factor loadings >0.7>, Average Variance Extracted (AVE) >0.50 and Composite Reliability (CR)>0.7" (Sarstedt, Ringle and Hair, 2017; Hair et al., 2018). The results are under the prescribed threshold limits. Table 2 displays the factor loadings along with Cronbach's Alpha values. The correlation matrix, composite reliability (CR), and AVE of the study variables are shown in Table 3.

Table 2: Measurement Items, Cronbach's Alpha and Factor Loadings

Variable/Scale/ (α)	Measurement Items	FL
Performance Expectancy Venkatesh et al. (2003) (α)= 0.84	I find HRIS useful in my job	0.73
	Using HRIS enables me to accomplish tasks more quickly	0.86
	Using HRIS increases my productivity	0.7
	If I use HRIS, I will increase my chances of getting a raise	0.75
Effort Expectancy Venkatesh et al. (2003) (α)=0.79	My interaction with HRIS is clear & understandable	0.75
	It is easy for me to become skillful by using HRIS	0.70
	I find HRIS easy to use	0.7
	Learning to operate HRIS is easy for me	0.71
Social Influence Venkatesh et al. (2003) (α)=.090	People who influence my behavior think I should use HRIS	0.79
	People who are important to me think that I should use HRIS	0.85
	The senior management of this organization has been helpful in the use of HRIS	0.85
	In general, the organization has supported the use of HRIS	0.87
Information Quality Bailey and Pearson (1983), Almutairi, H., & Subramanian, G. H. (2005) (α)=0.87	HRIS provides accurate output information	0.7
	HRIS output information is available at a time suitable for its use	0.93
	HRIS output information is precisely what it purports to measure	0.74
	HRIS output information is consistent & dependable	0.73
	HRIS material design & layout display of the output is satisfactory	0.83
HRIS Symbolic Adoption Karahanaa and Agarwal (2003) (α)=0.85	I am excited that I can use HRIS	0.68
	I am always looking forward to using HRIS	0.69
	I view the use of HRIS with enthusiasm	0.70
	In my mind, I am convinced that HRIS is a vital technology	0.69
	I don't view HRIS as an essential concept	0.85
	The only way I will use HRIS is if it is mandated	0.67
	If I can choose what I use, I will not choose HRIS	0.87
	If I have a choice, I do not use HRIS	0.87
	Learning to use HRIS was worth the effort I put in	0.69
My investment in learning HRIS was worthwhile	0.84	
Work-Life Balance Brough, Timms, and Driscoll (2014) (α)=0.83	I am currently able to balance the time at work and time for non-work activities	0.66
	I have difficulty in balancing my work & non-work activities	0.92
	I feel that the job and other non-work activities are currently balanced	0.78
	Overall, I believe that my work & non-work life are balanced	0.67
Engagement Schaufeli (2006) (α)=0.91	At my work, I feel energetic	0.89
	At my job, I feel strong & vigorous	0.94
	When I get up in the morning, I look forward to going to work	0.93
	My job inspires me	0.91
	I am enthusiastic about my job	0.91
	I am proud of the work that I do	0.78
	I feel happy when I am working intensely	0.84
	I am engrossed in my work	0.86
Time flies when I am working	0.71	
Creativity	I suggest new ways to achieve goals or objectives	0.89

Zhou and George (2001) (α)=0.91	I come up with new and practical ideas to improve performance	0.78
	I search out new technologies, processes, techniques, and product ideas	0.72
	I am a good source of creative ideas	0.79
	I develop adequate plans & schedules for the implementation of new ideas	0.87
	I often have new and innovative ideas	0.94
	I come up with creative solutions to problems	0.77
	I suggest new ways of performing work tasks	0.78

Note: (α)=Cronbach's Alpha; FL= Factor Loading

Table 3: Correlation, CR, AVE

S.No.	Correlations, CR, AVE	CR	AVE	1	2	3	4	5	6	7	8
1	Performance Expectancy	0.84	0.58	0.76							
2	Effort Expectancy	0.79	0.51	.208**	0.71						
3	Social Influence	0.9	0.7	.173**	.556**	0.83					
4	Information Quality	0.89	0.62	.127**	.222**	.410**	0.78				
5	HRIS Symbolic Adoption	0.92	0.57	.249**	.239**	.330**	.342**	0.75			
6	Work-Life Balance	0.84	0.58	.233**	.179**	.195**	.192**	.220**	0.76		
7	Engagement	0.96	0.75	.422**	.359**	.388**	.212**	.287**	.206**	0.86	
8	Creativity	0.94	0.67	.271**	.248**	.340*	.300**	.179**	.197**	.353**	0.81

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

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

Note: Square root of AVE on the diagonal

Confirmatory factor analysis (CFA) using AMOS version 21 was performed. Internal reliability and construct validity have been examined to assess the measurement model. To ensure the study variables' reliability, the Cronbach's Alpha coefficients should be ≥ 0.7 (Sarstedt, Ringle and Hair, 2017; Hair et al., 2018). The measurement model was tested, and if it turned out to be satisfactory, then the structural model could be tested (Anderson and Gerbing, 1988). For model fit, four fitness criteria were examined (chi-square statistics; Root-Mean-Square Error of Approximation (RMSEA) ≤ 0.08 ; Standardized Root-Mean-Square Residual (SRMR) of ≤ 0.08 ; and Comparative Fit Index (CFI) ≥ 0.9) (Hu and Bentler, 1999). For HRIS symbolic adoption, information quality, engagement, and creativity, parcels of the items were formed; this was done to control inflated measurement errors caused by multiple items for the latent factors. Four HRIS Symbolic adoption dimensions were used as indicators to create the HRIS Symbolic Adoption latent factor; three employee engagement dimensions were used as indicators to create the employee engagement latent factor; three item parcels were made for the creativity scale and information quality scale using a random assignment approach (Little, Cunningham and Shahar, 2002).

4.1. Measurement Model

The measurement model consists of performance expectancy, effort expectancy, social influence, information quality, HRIS symbolic adoption, work-life balance, engagement, and creativity, and it revealed a satisfactory overall model fit with the data: CMIN/DF=2.251, RMSEA = .055; SRMR = .04; and CFI=.93.

4.2. Structural Model

The structural model was tested to establish a relationship between independent and dependent variables. The structural model of the relationship between performance expectancy with work-life balance, engagement, and creativity (with a path coefficient $\beta=0.26$, $\beta =0.34$, $\beta =0.30$ $p < .001$

respectively) provided support to accept hypothesis H1. Further, the structural model of the relationship between effort expectancy and work-life balance, engagement, and creativity (with a path coefficient $\beta=0.21$, $\beta =0.41$, $\beta =0.28$ $p < .001$ respectively) provided support to accept hypothesis H2. The structural model of the relationship between social influence and work-life balance, engagement, and creativity (with a path coefficient $\beta=0.22$, $\beta =0.41$, $\beta =0.37$ $p < .001$ respectively), provided support to accept hypothesis H3. Lastly, the structural model of the relationship between information quality and work-life balance, engagement, and creativity (with a path coefficient $\beta=0.22$, $\beta =0.21$, $\beta =0.33$ $p < .001$ respectively) provided support to accept hypothesis H4.

4.3. Mediation Effect of HRIS Symbolic Adoption

The mediation effect was examined by satisfying a relationship between predictor and mediator variable and between mediator and outcome variables (Baron and Kenny, 1986). The result indicates a significant positive relationship between performance expectancy, effort expectancy, social influence, and information quality with HRIS symbolic adoption, as the direct path shows $\beta=.29$, $\beta=.29$, $\beta=.39$, and $\beta=.40$ respectively. Further, the SEM result shows the direct path between HRIS symbolic adoption and work-life balance ($\beta=.27$), engagement ($\beta=.34$), and creativity ($\beta=.22$). Five thousand bootstrapping samples were generated from the original data, N=415, with a confidence interval of 95 %. The result of this test is shown in Table 4; when there are significant direct and indirect effects, there is partial mediation, and when the indirect effect is significant, but the direct effect is not significant, then full mediation is assumed (Cheung, 2009; Shankar, Jebarajakirthy and Ashaduzzman, 2020). Hence, H5 concerning a) work-life balance, b) engagement, and c) creativity; H6 concerning a) work-life balance, b) engagement and c) creativity; H7 concerning a) work-life balance, b) engagement and H8 concerning a) work-life balance, b) engagement have been accepted. However, H7 c) and H8 c) concerning creativity have been rejected. A summary of the mediation effects is shown in Table 4.

Table 4. Mediation Effect

	Direct Effect	Indirect Effect	Results
PE→HRIS SA→WLB	.196*	.062**	Yes (Partial)
PE→HRIS SA→ENG	.362***	.069***	Yes (Partial)
PE→HRIS SA→CR	.255***	.042*	Yes (Partial)
EE→HRIS SA→WLB	.151*	.065***	Yes (Partial)
EE→HRIS SA→ENG	.342***	.069***	Yes (Partial)
EE→HRIS SA→CR	.238***	.043*	Yes (Partial)
SI→HRIS SA→WLB	.138*	.084***	Yes (Partial)
SI→HRIS SA→ENG	.327***	.081**	Yes (Partial)
SI→HRIS SA→CR	.338**	.034ns	No
IQ→HRIS SA→WLB	.141*	.086**	Yes (Partial)
IQ→HRIS SA→ENG	.091ns	.121***	Yes (Full)
IQ→HRIS SA→CR	.283***	.042ns	No

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; ns=not significant, PE=Performance Expectancy,

EE=Effort Expectancy, SI=Social Influence, IQ= Information Quality, HRIS SA= Human Resource Information System Symbolic Adoption, Work-Life Balance,

ENG= Engagement, CR=Creativity

5. DISCUSSION

Our study contributes to information system research concerning small and medium-sized organizations. These organizations are reluctant to adopt new technologies due to their financial and technological readiness, lack of HR expertise, and resistance from employees (Al Debei, Al Dmour, and Love, 2016; Noutsu, Robert and Wamba, 2017; Viridiananto et al., 2017). Our study is based on Venkatesh’s IT adoption Model-UTAUT factors (performance expectancy, effort expectancy, social influence) and Information quality from DeLone and McLean’s IS Success Model (DeLone and McLean, 2003; Venkatesh et al., 2003). HRIS is essential for HR functions, and knowing its importance, organizations are adopting it. However, for some, it is easier to adopt, while for others, like small and medium-sized organizations, it has been difficult (Al Debei, Al Dmour and Love, 2016;

Noutsu, Wamba and Robert, 2017; Bayraktaroglu et al., 2019). Most small and medium-sized organizations use standalone modules of HRIS, such as employee record-keeping applications, or payroll and attendance mapping applications (Kinnie and Arthurs, 1996; Ball, 2001; Ngai and Wat, 2006; Kundu S.C, 2012). In India, as a developing country, the adoption of HRIS is still a problem for small and medium organizations, and this needs to be analyzed. The study shows that the performance expectancy, effort expectancy, social influence, and information quality positively correlate with work-related outcomes, work-life balance, engagement, and creativity. We formulated a positive relationship between performance expectancy, effort expectancy, social influence, and information quality with HRIS symbolic adoption to examine its antecedent factors. The result was analyzed through structural equation modelling, which portrays a significant positive relationship between performance expectancy, effort expectancy, social influence, and information quality with HRIS symbolic adoption. Thus, the positive perception towards performance expectancy, effort expectancy, social influence and information quality enhances end-users' symbolic adoption of HRIS technology. Thus helpful in reducing employees' reluctance to use HRIS technology. Further, the SEM result shows the direct path between HRIS symbolic adoption and work-life balance, engagement and creativity. Hence, as soon as employees adopt HRIS technology symbolically and start its usage for achieving their daily work assignments, they elevate their work-related outcomes, such as work-life balance, engagement and creativity.

The findings suggest that employees have a better work-life balance when they symbolically adopt HRIS technology. Prior studies revealed a linkage between performance expectancy and employee work-life balance ($\beta = 0.27$) concerning teachers' acceptance of information systems (Bauwens et al., 2020). Further, the study conducted by Gopinathan, 2016, reveals a positive influence of information quality on employees' work-life balance with $\beta = 0.508$ (Gopinathan, 2016). Thus, the current study at the same time resembles and differs from prior research and found that all the factors, i.e., performance expectancy, effort expectancy, social influence, and information quality, have a significant relationship with employees' work-life balance.

Additionally, the current study has shown a positive relationship between technology adoption factors and employee engagement, and it aligns with prior researchers' findings that establish a positive association between technology adoption and work engagement (Silic and Back, 2017; Mohamad Nor, Arokiasamy and Balaraman, 2018; Yoo and Lee, 2019; Molino, Cortese and Ghislieri, 2020). Furthermore, the study has shown a positive relationship between technology adoption factors and employee creativity. However, there has been very little empirical evidence has shown of a relationship of technology adoption factors with creativity. (Suki and Suki, 2017). The current study investigated both direct and indirect effects of the performance expectancy, effort expectancy, social influence, and information quality on employees' work-life balance, engagement, and creativity via examining the mediating role of HRIS symbolic adoption.

The findings suggest that the hypothesized relationships have been supported. The indirect effects of performance expectancy, effort expectancy, social influence, and information quality on work-related outcomes have been established. These findings lead us to conclude that performance expectancy, effort expectancy, social influence, and information quality are instrumental in reducing end-users' dissonance via impacting their symbolic adoption, which is influential in enhancing work-related outcomes like work-life balance, engagement, and creativity.

6. THEORETICAL AND PRACTICAL CONTRIBUTION

The current study is a significant addition to the field of Information systems. It empirically demonstrates the role of end-users in technology adoption via affecting their HRIS symbolic adoption. Additionally, the study has shown a relationship of HRIS symbolic adoption with work-related outcomes as a novel contribution to the literature on information systems. The study uniquely explores the symbolic adoption process and significantly advances human resource information system research. Notably, the study identifies the mediating mechanisms of HRIS symbolic adoption and broadens the research on IS. The study helps better understand how end users' technological adoption factors and information quality become instrumental in alleviating employees' work-life balance, employee engagement, and employees' creativity by facilitating positive outcomes such as HRIS symbolic adoption. The findings confirmed that end users' performance expectancy, effort expectancy, social influence, and information quality positively correlate with HRIS symbolic adoption. Further, information quality set forth by DeLone and McLean's model has been shown to be one of the antecedent factors of technology adoption (Prasanna and Huggins, 2016) and it influences employees' work-related outcomes.

The current study found that the effects of the performance expectancy, effort expectancy, social influence, and information quality are relevant for HRIS symbolic adoption (Arekete, Ifinedo, and

Akinuwesi, 2015; Prasanna and Huggins, 2016; Virdyananto et al., 2017). Thus, the study has contributed to and extended the line of research on end-users' symbolic adoption and the technology acceptance domain (Venkatesh et al., 2003; Karahanna and Agarwal, 2006).

The study targeted small and medium-sized organizations' employees and the symbolic adoption factors that help and trigger them to adopt such technology. Small and medium organizations in India are the most promising and emerging organizations. The findings are helpful to these organizations in elevating employees' technology adoption via enhancing employees' symbolic adoption. The study findings could encourage organizations and their management to incorporate more information system modules to gain inherent benefits of the systems. Therefore, in light of the study's findings, practitioners and organizations need to focus on effective HRIS interventions to help small and medium-sized organizations stay ahead in competition with engaged, creative, and balanced employees.

Organizations should motivate end-users to develop and nurture faith in the organizational information system. When employees have access to resources, information, and support from top management and are considered an integral part, this cultivates a sense of belonging. Eventually, employees and organizations indulge in a positive exchange relationship. With the emergence of information technologies, these organizations will significantly gain advantages if they use information systems to enhance their strategy, boost their productivity, and obtain accurate information from the HRIS technology (Bhatti, 2017; Johnson and Diman, 2017).

7. CONCLUSION, LIMITATIONS, AND FUTURE DIRECTIONS

The study collected primary data from HRIS end-users working in various small and medium-size organizations from India's National Capital Region. The present study uses a single source for data collections, which may cause common method variance. Thus, more robust findings may be obtained if the exogenous, mediator and endogenous variables are collected from multiple sources. Adopting cross-sectional design poses difficulty in interpreting the direction of causality, as there may be a possibility of alternative paths among the variables.

To better understand the role of end users' technology adoption factors in predicting work-related outcomes, future research may explore moderating variables like top management support, HRIS training, employee involvement, age and experience, HR expertise, which accentuate or mitigate the strength of the relations hypothesized in the present study. Future researchers should examine the cloud-based human resource information system adoption by small and medium-sized organizations. Furthermore, a comparative study could be done between the HRIS adoption mechanism of large-scale organizations and small-to-medium-sized organizations. Researchers could explore more work-related outcomes like satisfaction, productivity, and effective communication in the future. Additionally, small and medium-sized organizations could be segregated sector-wise, like the service or manufacturing sector. Then data could be analyzed to give specific outcomes for a particular sector or industry type. Finally, researchers could see differences in HRIS symbolic adoption from employees' demographic profiles.

Small and medium organizations highly contribute to the Country's economic and social development. Organizations are focused on adopting HRIS modules to enhance their day-to-day activities. Additionally, with the arrival of cloud computing, these organizations are better positioned to adopt new technologies. Still, many of these organizations are reluctant to adopt HRIS due to their lack of financial and technological readiness, dearth of HR expertise, and employees' unwillingness to adopt any new technology. Therefore, organizations should enhance the adoption level of HRIS by targeting employees' symbolic adoption perception. HRIS is an emerging IT solution for small-to-medium organizations, and employees' symbolic perception can trigger their intention towards HRIS technology adoption. This research has extended the understanding of HRIS symbolic adoption in Indian small and medium-sized organizations. The results indicate that all the studied factors are significantly associated with work-related outcomes. The mediation effect of HRIS symbolic adoption between technological factors, information quality, and work-related outcomes has been established. The findings contribute to the HRIS symbolic adoption phenomenon and the technology acceptance literature.

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Appendix: Final Research Questionnaire

Part A

Name (optional):

Organization Name (Required):

Designation/Department (Required)-----

Qualifications: Graduate () Post Graduation () Other ()

Experience (years): 1-10 () 11-20 () 21-30 () Above 30 ()

HRIS Experience (years) -----

Gender: Male () Female () Other ()

Age (years): 20-30 () 31-40 () 41-50 () Above 51 ()

Part B

Below are the statements regarding employee perception of Human Resource Information System. Using a 1-7 scale, mark your agreement with each statement

	Strongly Disagree 1	Disagree 2	Somewhat Disagree 3	Neutral 4	Somewhat Agree 5	Agree 6	Strongly Agree 7
Items							
I find the HRIS helpful system in my job							
Using the HRIS system enables me to accomplish tasks more quickly							
Using the HRIS system increases my productivity							
If I use the HRIS system, I will increase my chances of getting a raise							
My interaction with the HRIS system is clear & understandable.							
It is easy for me to become skillful at using the HRIS system							
I find the HRIS system easy to use							
Learning to operate an HRIS system is easy for me							
People who influence my behavior think I should use the HRIS system.							
People who are important to me think that I should use the HRIS system.							
The senior management of this organization has been helpful in the use of the HRIS system							
In general, the organization has supported the use of the HRIS system.							

Part C

Below are the statements regarding your level of HRIS symbolic adoption; here, symbolic adoption means one's mental acceptance of technology. Using a 1-7 scale, mark your agreement with each.

Items	Strongly Disagree 1	Disagree 2	Somewhat Disagree 3	Neutral 4	Somewhat Agree 5	Agree 6	Strongly Agree 7
I am excited that I can use HRIS							
I am always looking forward to using HRIS							
I view the use of HRIS with enthusiasm							
In my mind, I am convinced that HRIS is a vital technology							
I don't view HRIS as an essential concept							
The only way I will use HRIS is if it is mandated							
If I can choose what I use, I will not choose HRIS							
If I have a choice, I do not use HRIS							
Learning to use HRIS was worth the effort I put in							
My investment in learning HRIS was worthwhile							

Part D

Below are the statements regarding the quality of the information system's output, which can be from reports or online screens. Using 1-7 scales, mark each statement.

Items	Strongly Disagree 1	Disagree 2	Somewhat Disagree 3	Neutral 4	Somewhat Agree 5	Agree 6	Strongly Agree 7
HRIS provides accurate output information							
HRIS output information is available at a time suitable for its use							
HRIS output information is precisely what it purports to measure							
HRIS output information is consistent & dependable							
HRIS material design & layout display of the output is satisfactory							

Part E

Below are the statements regarding employee work engagement, i.e., individual's involvement, satisfaction and enthusiasm for work. Using a 0-6 scale, mark your agreement with each statement

	Never 0	Almost Never 1	Rarely 2	Someti mes 3	Often 4	Very Often 5	Always 6
Items							
At my work, I feel energetic							
At my job, I feel strong & vigorous.							
When I get up in the morning, I look forward to going to work							
My job inspires me							
I am enthusiastic about my job							
I am proud of the work that I do							
I feel happy when I am working intensely							
I am engrossed in my work							
Time flies when I am working							

Part F

Below are the statements regarding work-life When I reflect on my work and non-work activities (your regular activities outside of work such as family, friends, sports, study, etc.), over the past six months, I conclude that:

Items	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
I am currently able to balance the time at work and time for non –work activities I have difficulty balancing my work and non-work activities.					
I feel that the jobs and other non-work activities are currently balanced Overall, I believe that my Work and non-work life are balanced.					

Part G

How well do the following statements describe you?

Items	Not at all Characteristic 1	Slight Characteristic 2	Somewhat Characteristic 3	Moderate Characteristic 4	Very Much Characteristic 5
I suggest new ways to achieve goals or objectives					
I come up with new and practical ideas to improve performance					
I search out new technologies, processes, techniques, and product					

ideas					
I am a good source of creative ideas					
I develop adequate plans and schedules for the implementation of new ideas					
I often have new and innovative ideas					
I come up with creative solutions to problems					
I suggest new ways of performing work tasks					