

Human Resource Analytics: Perspective of Human Resource Employees

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Abstract

To survive in a highly competitive world, the corporate world is witnessing a paradigm shift from a traditional Human Resource Management approach to a Strategic Human Resource Management approach through the incorporation of various technology-based advancements such as Human Resource Analytics. This quantitative research aims to investigate the effects of Perceived Usefulness, Social Influence, and Facilitating Conditions on the adoption of Human Resource Analytics by employees working in HR departments of listed companies in Pakistan. Data was collected from 490 respondents working in the listed companies. The psychometric analysis and path analysis (to test hypothesized relationships) was conducted through Structural Equation Modeling. The results confirm that Perceived Usefulness, Social Influence, and Facilitating Conditions are positively associated with Intentions to adopt Human Resource Analytics and intentions are positively related with actual adoption of Human Resource Analytics from the perspective of employees working in Human Resource Departments. The findings of this research contribute to our understanding of the behavior of Human Resource employees for the adoption of novice approaches in Strategic Human Resource Management.

Keywords: *Adoption, Facilitating Conditions, Human Resource Analytics, Intentions, Perceived Usefulness, Social Influence, Theory of Planned Behaviors.*

Introduction

The corporate world is leveraging technology to gain a competitive advantage for meeting the challenges posed by the present-day business dynamics. Technology has radically changed the business processes affecting basic organizational operations and major strategic decisions equally. Human Resource Management is one such core business operation that has witnessed giant strides as a direct impact of technology. HRA is a technological innovation involving the incorporation of AI applications in Human Resource Management aimed at automating HR functions so that not only problem areas can be identified but timely and targeted strategies may also be adopted by organizations (Jain & Jain, 2020). The adoption of Human Resource Analytics by organizations is an offshoot of technology by which organizations can get realistic, logical, and data-driven forecasts about HR (Qamar & Samad, 2022). The strategic interventions based on these forecasts are being used by organizations as a source of competitive advantage (Qamar & Samad, 2022).

Investigating the behaviors of HR employees towards the adoption of HR Analytics with the resultant potential effects on organizations in today's highly competitive corporate world is inevitable (Ameer & Garg, 2022). Furthermore, these behaviors are also crucial for the successful incorporation of technology in the operations of an organization. The evolution of these favorable employee behaviors originates from a combination of cognitive and non-cognitive factors such as an employee's intellect, intrinsic & extrinsic motivation, social interactions, values and norms. This calls for investigating the perceptions of employees about adoption of HRA and the mechanism underlying this adoption process. This study will address this issue using TPB framework and attempt to investigate the impact of perceived usefulness, facilitating conditions and social influence on the adoption of HRA. The results of this study will assist corporate sector of Pakistan in an effective implementation of HRA by identifying the core factors which can affect behavior of employees for instigating this major change.

Literature Review

This research is conducted in the milieu of technology adoption to study the significance of behaviors of employees for the successful implementation of Human Resource Analytics by organizations. According to Vassakis, Petrakis, & Kopanakis (2018), the major hurdles in the adoption of HRA by organizations stem from managerial and cultural aspects that shape the behaviors of employees towards the adoption or rejection of a technology. People & management have been identified as two main obstructions to the adoption of HRA by organizations (Fernandez & Gallardo-Gallardo, 2021). Adoption of HRA allows organizations to leverage Human Resources to enhance return on investment, facing competition, and for enhancing the efficiency of their business processes (Hamilton & Sodeman, 2020). Informed decision-making by organizations based on data is an important factor in inculcating an innovative culture in an organization (Yu, Wong, Chavez, & Jacobs, 2021). An opinion survey from senior management position holders from manufacturing industries of China revealed that the use of data-driven technologies e.g. HRA has got a much wider scope than anticipated by affording better chances of working capital and liquidity management (Yu, Wong, Chavez, & Jacobs, 2021). An employee's individual characteristics and technology characteristics have been found to shape the adoption of HRA in European and Asian organizations (Muhammad, Siddiqui, Rasheed, Shabbir, & Sher, 2023). Some specific cognitive-behavioral factors such as social influence have also been found to have significant effects on the actual adoption of HRA by employees (Muhammad, Siddiqui, Rasheed, Shabbir, & Sher, 2023).

Pakistan cannot dissociate itself from the rapid technological advancements. Technology adoption can earn millions of dollars by virtue of improved efficiency leading to greater returns on investment. Data shows that our country is showing rapid progress in the ICT field. E-commerce is one such field, emanating from ICT, where Pakistani e-commerce startups have attracted huge investments. In fact, some startups have been very successful. Airlift raised \$85 million in Series B funding, Bazaar raised \$36.5, Cheetay and Swyft, raised \$18.5 million in Series B funding, Bookme.pk raised \$7.5 million in Series A funding (Airlift Technologies Website, n.d.; Forbes Website, n.d.; The Business Tribune Website, 2021; Blogs: Bookme.pk, 2021). Pakistan has got enormous potential for reaping benefits by adoption and integration of various evolving technologies by improving different functions of organizations through them. Presently marketing and finance sections of organizations in Pakistan are actively adopting such a technological integration involving data analytics, AI, and Statistics for increasing their profitability (Yasmin, Tatoglu, Kilic, Zaim, & Delen, 2020). However, the HR functions of an organization can be drastically improved by the adoption and utilization of various novice technologies involving a merger of ICT with other scientific domains (Bibi, 2019). A single or combination of sub-domains of ICT such as Artificial Intelligence, Data Science, Machine Learning, etc. are used to develop various applications that can radically change organizational processes and functions such as HRA (Yasmin, Tatoglu, Kilic, Zaim, & Delen, 2020).

The main stakeholders for the adoption of technology are employees working in their HR departments. In the context of Pakistan's corporate sector, these employees have a decisive role as the adoption of HRA is

still in the early stages (Muhammad, Siddiqui, Rasheed, Shabbir, & Sher, 2023). The behaviors of employees working in HR departments of organizations are a critical domain in which the adoption of technology can have numerous benefits. It can save resources of organizations through resource optimization and resultant customized strategy development. Slow implementation and adoption of HRA tools across HR functions by organizations need an explanation from a theoretical perspective (Margherita, 2022). As the adoption of HRA by the corporate sector of Pakistan is in the evolution phase, only a few studies are available focusing on the behaviors of employees involved in its implementation. Based on the literature review, this study aimed to answer the following research questions with the following objectives:

Underpinning Theory, constructs & hypothesis development

The personality of employees cast a significant effect on the efficient and widespread adoption of a technology by organizations and their preferences, likings, and dislikes are key determinants for the adoption of a technology (Sun, Lee, Law, & Zhong, 2020). Various theorists have explained the adoption of novice technology as a natural outcome of behaviors (Shet, Poddar, Samuel, & Dwivedi, 2021). The development of behaviors has been explained by two theorists that is Ajzen (1985), Ajzen (1991), and Fishbein (1980) in the “Theory of Planned Behavior (TPB)” and “Theory of Reasoned Action (TRA)” (TM, Kaur, Ferraris, & Dhir, 2021). Attitude and subjective norms are the causes that lead to certain behaviors (Fishbein, 1980). According to TRA intent specifies the inspiration of an individual to engage in certain behavior (TM, Kaur, Ferraris, & Dhir, 2021). TPB is basically a supplement to TRA and it includes perceived behavioral control in order to further explain the expression of a behavior (TM, Kaur, Ferraris, & Dhir, 2021). TPB can be used as an underpinning theory to comprehend and investigate HRA as a technological novelty in HR functions (Shet, Poddar, Samuel, & Dwivedi, 2021). The objective of this research is to investigate the adoption of HRA by the employees working in HR departments and in decision-making positions of organizations. TPB can be used to explain the complexities of behavior by studying the role of various novel antecedents and moderators (Bosnjak, Ajzen, & Schmidt, 2020). TPB should also be used to elucidate behaviors in multiple unexplored domains (Bosnjak, Ajzen, & Schmidt, 2020).

TPB postulates that intentions are caused by three types of beliefs that is behavioral beliefs, normative beliefs, and control beliefs (Yuriev, Dahmen, Paillé, Boiral, & Guillaumie, 2020). Behavioral Beliefs are supposed to affect attitudes towards behaviors particularly the perceptions about benefits expected from adopting a behavior (Ajzen, 1989; Ajzen, 2012; Yuriev, Dahmen, Paillé, Boiral, & Guillaumie, 2020). Thus perceived usefulness is an attitude that can shape intentions and resultant behaviors that is the adoption of HRA. Normative beliefs denote an individual's biasness for executing a certain behavior due to the inspiration of some influencer who is directed towards a particular behavior; this is a principal phenomenon of subjective norms (Ajzen, 1989; Ajzen, 2012; Yuriev, Dahmen, Paillé, Boiral, & Guillaumie, 2020). Thus social influence is the subjective norm that can shape the adoption of HRA. Control Beliefs are associated with different elements that may obstruct or ease out performance of a particular behavior (Ajzen, 2012; Yuriev, Dahmen, Paillé, Boiral, & Guillaumie, 2020). Thus facilitating conditions are the elements that can shape the perceptions of HR employees about help extended by organizations in the adoption of HRA. This triad of beliefs acts as an inspirational element for the arousal of intentions. These intentions basically specify the intensity of struggle that an individual can exert to adopt a certain behavior (Ajzen, 2012).

This research investigated perceived usefulness, social influence, and facilitating conditions as a milieu for decision-making to adopt HRA by the employees working in HR departments of listed companies of Pakistan. The proposed research will study the mediating role of intentions in the conversion of perceived usefulness, social influence, and facilitating conditions for actual adoption of HRA.

Relationship Between Perceived Usefulness, Social Influence, Facilitating Conditions and Adoption of HRA

Perceived usefulness has been explained as the perception of prospective user about the technology with respect to its utility by virtue of which it can facilitate the user (Wang, Wang, Wang, Wei, & Wang, 2020). It has been found to cast a profound effect on Intentions (Wang, Wang, Wang, Wei, & Wang, 2020, Mallat, Rossi, Tuunainen, & Öörni, 2009). Increased performance, efficiency and potential to make job less tedious are some of the elements which builds perceived usefulness (Gunawan, Ali, & Nugroho, 2019). It markedly shapes a person's attitude for adopting a new innovation because the person can do his job more effectively by adopting it which leads to an increased performance and career growth opportunities, in addition to other benefits (Gunawan, Ali, & Nugroho, 2019). In the context of HRA, perceived usefulness denotes the degree to which an employee working in HR department believes that adoption of HRA would help in making decisions and strategies more realistic, focused and result oriented. It will shape this attitude to intention which will lead to adoption of HRA. While studies are available on the role of Perceived Usefulness on intentions but only few studies have studied this relationship in the backdrop of HRA. Based on above evidence from literature, following hypothesis is proposed: -

H1: Perceived Usefulness will be positively and significantly related to Intentions of HR Employees to adopt HRA

Social Influence is the perceived reaction from one's social circle as a consequence of embracing a novel technology such as HRA (Park, Ahn, Thavisay, & Ren, 2019). According to Venkatesh, Thong & Xu (2012) it is perception of users about their social circle's pressure that they should adopt the technology. It plays a crucial role in persuading a potential user to evaluate and adopt the innovation so that contradiction with social circle's expectations may be avoided (Park, Ahn, Thavisay, & Ren, 2019). Potential users often engage with their social circle for removing their apprehensions before adopting a technology (Karahanna, Straub, & Chervany, 1999). It is possible that social influence of HR professional's circle can be a motivating factor for HRA adoption. This can shape his intentions which would lead to adoption of HRA. *Pakistan is categorized as having a collectivist culture* (Hofstede Insights). In collectivist cultures like Pakistan, organizations can transform employee behaviors for adopting AI dependent tools and applications by creating societal awareness about its potential benefits (Khan, Hameed, Khan, Khan, & Khan, 2022). This societal awareness can influence for conversion of HR professional from potential user to actual user of HRA. While studies are available on the role of Social Influence on intentions but only few studies have studied this relationship in the backdrop of HRA. Based on above rationale, following hypothesis is proposed: -

H2: Social Influence will be positively and significantly related to Intentions of HR Employees to adopt HRA

Facilitating conditions have been explained as availability of requisite assistance to the potential adopter of novel technology (Kamal, Shafiq, & Kakria, 2020). These are one of the potential factors of perceived behavioral control, which can affect development of intention in a positive or negative fashion (Fishbein & Ajzen, 2010; Taylor & Todd, 1995). Availability of facilitating environments aids in adoption of various applications (Walrave, Waeterloos, & Ponnet, 2021) derived from AI such as HRA. Availability of facilitating conditions such as training opportunities and infrastructure can contribute in the development intentions that would ultimately lead to adoption of HRA. A lot of literature is available on facilitating conditions for shaping intentions related to adoption of technology but only few studies have explored facilitating conditions for the adoption of HRA. From Pakistan, only few such studies with the background of HRA adoption are available. Based on above rationale, following hypothesis is proposed: -

H3: Facilitating Conditions will be positively and significantly related to Intentions of HR Employees to adopt HRA.

H4: Facilitating Conditions will be positively and significantly related to HR Employees adoption of HRA.

Mediating Role of Intentions Between Perceived Usefulness, Social Influence, Facilitating Conditions and Adoption of HRA

Intentions has been defined as “what one intends to do” (Merriam-Webster, n.d.). Theorists have divided intentions into two types that is present focused and future focused (Cohen & Levesque, 1990). Present Focused intentions have got a causative role in generating a specific behavior (Searle & Willis, 1983) while future focused intentions are related to preparations for some event by excluding other intentions (Bratman, 1987). Social Behaviors are formed as a result of premeditated thinking process that is intentions (Ajzen, 1985). Essentially intentions lead to actual acts nonetheless it may not be the case that is at times intentions may fizzle out or they may be reviewed to match the fluctuating situations (Ajzen, 1985). In the context of HRA, intentions would mean present focused plans of employees working in HR department or at decision making positions of organizations to adopt HRA. Based on above rationale, following hypothesis is proposed

H5: Intentions to use HRA will be positively and significantly related to adoption of HRA by HR Employees

H6: The direct relationship between Facilitating Conditions and Adoption of HRA by HR Employees is mediated by Intentions. In the process Facilitating Conditions will be positively and significantly related to Intentions & Intentions will be will be positively and significantly related to Adoption of HRA.

We have employed research framework from Theory of Planned Behavior for studying its validity in the context of Pakistan’s corporate sector (Figure – 1). Based on the framework, hypotheses were developed as explained in later sections.

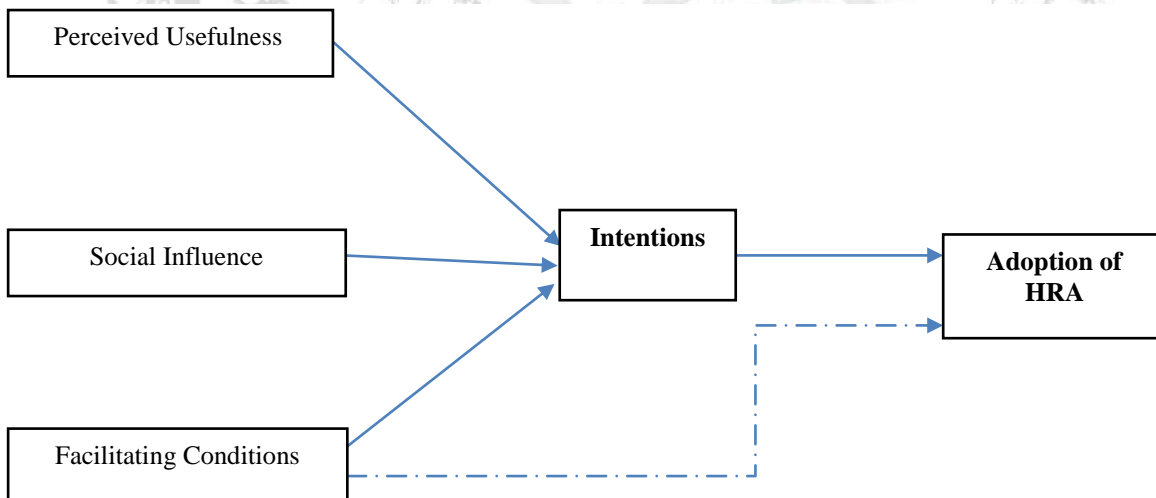


Figure 1: Theoretical Framework

Research Methodology

The target population was employees working in HR departments of companies listed on Pakistan Stock Exchange. Deductive reasoning approach to be extracted from hypotheses would be used in this research. This study involves developing hypotheses based on Theory of Planned Behavior and subsequently a defined plan of action would be followed for assessing the hypotheses (Wilson, 2010).

A quantitative approach would be followed as the purpose of this research is to develop generalized conclusions and is not context-specific. It has been described as a “researcher detachment” research method (Denscombe, 1998). Quantitative research has some benefits which suit this type of research, these advantages include the utilization of scientific processes, replicability, maintaining objectivity, and lesser or no interference from the researcher (Muijs, 2004; Lichtman, 2006; Bryman, 2012; Creswell, 2009; Eyisi, 2016). For correlational studies, the quantitative method is more appropriate for studying the relationship between independent and dependent variables (Bryman, 2016).

A self-administered questionnaire comprising 19 questions was used and cross-sectional data was collected. Non-probability purposive sampling will be used in this research. This technique does not depend on the accessibility of accurate and comprehensive data that is this technique holds good when the exact population is not known (Creswell & Creswell, 2017). Thus non-probability purposive sampling would be used for this research because the exact number of personnel working in HR departments of listed companies in Pakistan is not known exactly.

Table 1: Details of variables used

Variable	Number of Items	Author
Perceived Usefulness	6	Moore & Benbasat, 1991
Social Influence	3	Venkatesh, Thong, & Xu, 2012
Facilitating Conditions	4	Venkatesh, Thong, & Xu, 2012
Behavioral Intention	3	Venkatesh, Thong, & Xu, 2012
Adoption of HRA	3	Almaiah, M. A., Alamri, M. M., & Al-Rahmi, W. (2019)

A self-administered questionnaire was developed on Google Forms and its link was shared through emails and WhatsApp messages. The respondents rated the questions on a five-point Likert scale from Strongly Agree to Strongly Disagree (Chyung et al., 2017). The survey questionnaire items were adopted from previous studies. Details of items are given in Table 1. A total of 491 responses were received. A five-point Likert scale ranging from “strongly agree” to “strongly disagree” was employed, as it has been recommended by researchers to reduce the frustration level of respondents and increase response rate and response quality (Sachdev & Verma, 2004; Ahmed, et al., 2021) as depicted in Table 2.

Data Analysis and Results

SPSS and Structural equation modeling (SEM) using Smart partial least squares (PLS) were used in this study. SPSS was used to analyze demographic data. SEM and Smart PLS were used because according to Henseler, Ringle, & Sinkovics, 2009, the reliability of individual items, internal consistency and content, and convergent & discriminant validity should be measured. According to Hair., Ringle, & Sarstedt (2016), if the average variance extracted is greater than 0.4 and composite reliability is higher than 0.6, the convergent validity of the construct is still acceptable (Fornell & Larcker, 1981; Haider & Kayani, 2021; Lam, 2012).

Table 2: Descriptive statistics of the study variables

Constructs	N	Min	Max	Mean	Std. Dev	Skewness		Kurtosis	
						Stat	S.E	Stat	S.E
Perceived Usefulness	490	1.00	5.00	1.59	.529	2.57	.110	9.79	.220
Social Influence	490	1.00	4.67	2.15	.974	1.06	.110	-.07	.220
Behavioral Intentions	490	1.00	5.00	1.75	.587	2.20	.110	7.98	.220
Facilitating Conditions	490	1.00	4.75	1.78	.544	1.59	.110	4.29	.220
Adoption of HRA	490	1.00	5.00	1.86	.878	1.64	.110	2.83	.220

Table 3: Results of outer loadings, CR, and AVE

Construct	Items	Loadings	AVE	CR
Perceived Usefulness	PU1	.655	.499	.857
	PU2	.705		
	PU3	.742		
	PU4	.723		
	PU5	.700		
	PU6	.714		
Social Influence	SI1	.847	.65	.846
	SI2	.905		
	SI3	.644		
Facilitating Conditions	FC1	.616	.417	.741
	FC2	.655		
	FC3	.687		
	FC4	.623		
Intentions	BI1	.714	.492	.743
	BI2	.754		
	BI3	.632		
Adoption Behavior	AD1	.905	.772	.91
	AD2	.890		
	AD3	.840		

Thus as depicted in Table 3, the Average Variance Extracted (AVE) values are more than 0.40 while the Composite Reliability (CR) values are also more than 0.7 which confirms the requirements of internal consistency and convergent validity. The discriminant validity of the variables was checked through the Fornell-Larcker Criterion. The discriminant validity was assessed by comparing the square roots of the AVE with the correlation of another construct. The results of discriminant validity are shown in Table 4 with values of AVE which are greater than the other values in the table which confirmed discriminant validity.

Table - 4: Discriminant validity

	PU	SI	FC	BI	AD
PU	0.707				
SI	0.269**	0.806			
FC	0.604**	0.209**	0.645		
BI	0.661**	0.243**	0.616**	0.701	
AD	0.382**	0.159**	0.472**	0.412**	0.878

Note: Square root of AVE are bold in the diagonals, PU=Perceived Usefulness, SI=Social Influence, FC=Facilitating Conditions, BI= Intentions, SE=Self-Efficacy, AD=Adoption of HRA

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

Relevance of Model

Table 4 and Table 5 presents the results to test the quality of the model. As per accordance with the results, the R-squared value obtained is 0.250, which is weak, thus, reflecting that all the independent variables together explained the variance of 25%. The results of effect size (f^2) showed that facilitating conditions and behavioral intentions have large effects while social influence has almost no effects on the adoption of HRA among employees of listed companies in Pakistan. Moreover, the tested model has predictive relevance as it has shown the Q2 value as greater than zero (i.e. 0.227). Lastly, the table shows that there is no multicollinearity among the independent variables as all of them have VIF values less than 3.

Table 5

Variables	R-Squared (R ²)	Adj. R-Squared	Q ² Predictive Validity	VIF
PU				2.08
SI				1.08
FC				1.85
BI	0.518	0.515	0.510	2.05
AD	0.250	0.247	0.227	

Table 6

F-Square (f ² Matrix)					
Variables	AD	BI	FC	PU	SI
AD					
BI	0.035				
FC	0.098	0.149			
PU		0.246			
SI		0.009			

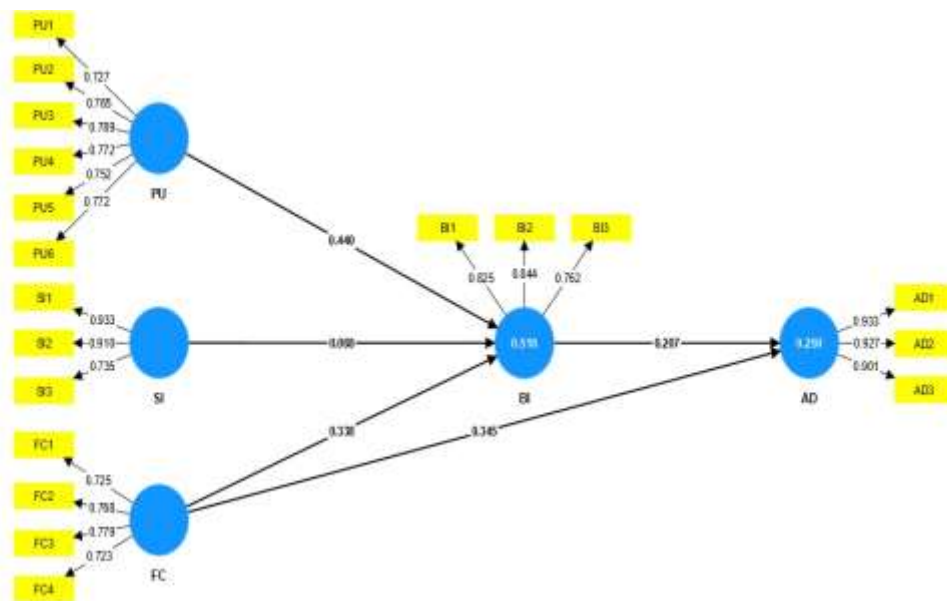


Figure 2

Testing of Hypothesis

To test the hypothesis, the bootstrapping technique was applied (Kock, 2016) which shows the significant and non-significant relationship between the variables (Table 6). Hypothesis I: Perceived Usefulness (PU) has a significant impact on Behavioral Intentions (BI) among HR Professionals is supported, Hypothesis II: Social Influence (SI) has a significant impact on Behavioral Intentions (BI) among HR Professionals is also not supported, Hypothesis III: Facilitating Conditions (FC) has a significant impact on the Behavioral Intentions (BI) among HR Professionals is also supported, Hypothesis IV: Facilitating Conditions (FC) has a significant impact on the Adoption (AD) among HR Professionals is also supported and Hypothesis V: Behavioral Intentions (BI) has a significant impact on the Adoption (AD) among HR Professionals is also supported.

Table - 7: Hypothesis Testing (direct effect & indirect effect)

Hypothesis	Path	β	F (df)	t	p	Result
H1	PU → BI	.247	171.19 (486)	11.00	.000	Supported
H2	SI → BI	.032	171.19 (486)	1.62	.104	Not Supported
H3	FC → BI	.272	171.19 (486)	8.46	.000	Supported
H4	FC → AD	.571	139.79 (488)	11.82	.000	Supported
H5a	BI → AD	.617	99.71 (488)	9.98	.000	Supported

*p < 0.05

Discussion

The primary aim of this study is to ascertain the effect of Facilitating Conditions, Social Influence, and Perceived Usefulness on the adoption of HRA by the personnel working in HR departments. The effective implementation of Human Resource Analytics (HRA) by HR professionals is of utmost importance in dealing with the challenges, opportunities, and threats posed by the fourth industrial revolution (Poma & Al Shawwa, 2022). This implementation requires a paradigm shift in HR management from conventional to informed & calculated strategic planning which requires reinforcement by pragmatic perceptions (Bikse, Grinevica, Rivza, & Rivza, 2022). Therefore, this paper studied the perceptions of HR employees and their influence on shaping the intentions to adopt HRA by replacing the traditional ways and means. This research contributes to the existing body of knowledge in a variety of ways. The primary contribution is that only a few studies from struggling economies but with huge growth potential have been conducted on the role of perceptions of HR employees in the actual adoption of HRA in the context of the Theory of Planned Behaviors. Results show that out of three factors responsible for shaping perceptions of employees, facilitating conditions and perceived usefulness play a significant role while social influence did not play a significant role in developing intentions to adopt HRA. This implies that if the organizations provide extensive awareness and training about the potential benefits of utilizing a new technology to its employees, then it would lead to effective and seamless adoption. The results of this study supported the conclusion of previous studies by Alazab, Alhyari, Awajan, & Abdallah (2021) and Barchielli, Marullo, Bonciani, & Vainieri (2021) that social influence did not have a substantial effect on intentions to adopt a new technology while perceived usefulness & facilitating conditions have a significant effect on intentions to adopt a new technology (Shbail, Jaradat, Jbarah, & Shbeil, 2022; Shaqrah & Almars, 2022).

Conclusion

This study presents empirical evidence for the application of the Theory of Planned Behavior concerning the adoption of HRA by HR employees working in listed companies in Pakistan. Results revealed that out of three factors that transform intentions to adoption, two factors i.e. perceived usefulness and facilitating conditions are responsible for transforming intentions to adoption while social influence does not influence developing intentions that may lead to the adoption of HRA. Facilitating conditions are every strong predictor that should be focused more while adopting HRA in pak organizations then others, keeping in view the create FC so that employess may esaliy intend to adoptt HRA. more imporant predictor of HRA adoption, after which PU is another predictor of HRA adoption

The research offers several theoretical and practical implications for future researchers and organizations by reconfirming the role of facilitating conditions and perceived usefulness for the effective implementation of HRA. The study evaluated the adoption of HRA by HR employees from the lens of the Theory of Planned Behavior in the context of listed companies in Pakistan. The conceptual framework of the study reconfirmed that the impact of two factors of the Theory of Planned Behavior i.e. facilitating conditions and perceived usefulness on the adoption of HRA holds good in Pakistan's context as well. This study evaluated the role of perceptions of HR employees on the adoption of HRA working in listed

companies in Pakistan which is a novelty in this domain. The findings of the study that social influence does not contribute towards the development of behavioral intentions which leads to adoption is also a novelty in the context of Pakistan. Previously all the studies conducted in Pakistan from the underpinning theory of the Theory of Planned Behaviors had concluded that social influence contributes significantly towards adoption, which is also a novel finding, requiring further longitudinal studies.

This study offers some practical implications by asserting that organizations have to develop strategies for a paradigm shift from conventional to technological-based HR management. For this shift, they would have to develop strategies for provisioning of facilitating conditions coupled with well-articulated awareness sessions for HR employees so that HRA can be implemented to its true potential. It is suggested that since HR employees are professional people, social influence may not play a role in developing their perceptions which is in line with the findings of Barchielli, Marullo, Bonciani, and Vainieri (2021). It is suggested that the organizations should provide all the necessary support in terms of software and hardware, extensive training on using HRA and they should arrange awareness sessions for HR employees to implement HRA effectively, which would lead to an increase in the organization's performance.

Future studies may explore the reasons for the non-significant role of social influence in shaping intentions. This aspect may be uncovered through qualitative studies. Longitudinal studies may be conducted to explore the phenomenon in detail. Differences in academic qualifications, gender, culture and age may also be explored for their potential role in this. Effects of Self-efficacy on this phenomenon may also be studied. Sector-specific studies may also be conducted in Pakistan to further test the theory. The major limitation of this study was that the actual number of employees working in HR departments of companies is not known. Future studies may be conducted in those companies where the actual number of HR employees is known.

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