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THE EFFECT OF HUMAN RESOURCE INFORMATION SYSTEM APPLICATION ON EMPLOYEE SATISFACTION AND TURNOVER INTENTION

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Abstract. This paper aims to elucidate the effects of Human Resource Information System (HRIS) implementation on turnover intention and employee satisfaction. In the current research, a comprehensive case of e-Recruiting system implementation was investigated, to study unintended consequences based on the perception level of employees, during HRIS use. For this purpose, a conceptual model was used; developed and tested, which combines the attitude and belief factor of technology adoption with job-related outcomes. The data was collected from 167 HR employees working in a global firm, which implemented a novel HRIS for its hiring department. The results of the present study revealed that, employee satisfaction mediates the indirect effect of perception towards applying HRIS on turnover intention. The findings of the present study provide additional information on systems use and technology acceptance, by proposing work-related consequences, as significant extra success variables.

Keywords: employee satisfaction; Human Resource Information System (HRIS); turnover intention; e-Recruiting system

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1. Introduction

In recent years there has been a rapid improvement in management and technology, which has led to enhanced commercial processes, however the professionalization of HR development has largely been ignored. Although human capital is a crucial factor in firm success, HR development like other support procedures, are often not suitably aligned and lack Information Systems (ISs) support. Therefore, HR development is incapable of identifying the strategic potential that is concealed in Human Resources Management (HRM). A fundamental method towards understanding it's potential, is to move from human resource management to e-HRM, by applying HRISs. Similar to enterprise resource planning (ERP) systems implemented in various fields, an HRIS

has the ability to systematize HR events in the HR sector (Marler & Fisher, 2013; Parry, 2011; Parry & Tyson, 2011; Shahreki, 2019a), and deliver well-organized HR facilities for the whole company. (Paauwe, 2004), which would subsequently help the HR department play a strategic role in the organization (Shahreki & Nakanishi, 2016; Strohmeier, 2009). During this HR change from administrative professionals to strategic allies (Bamberger, Biron, & Meshoulam, 2014), the HR employees' work routines, tasks, competencies, and capabilities, would also undergo a transformation. Subsequently, two important questions are raised; whether the HR workforce would agree to these changes, (Marler & Fisher, 2013) and whether these changes could have potentially unanticipated consequences. Although the organization level outcomes of this strategic transformation are well documented, HR employees are often significantly affected in unintended ways. Therefore, this research aims to elucidate the influence of strategic HRIS application on satisfaction of workers and turnover intention. Based on the review of TAM (technology acceptance model) as well as examining the literature on technology implementation and its effect on work-related issues, hypotheses were formed, based on how human resource information systems and job-related attributes and attitude affect HR employees' turnover.

2. Literature review and hypotheses development

Wixom and Todd (2005) carried out several studies to elucidate the value of HRIS implementation on workers or potential system operators. Their technology acceptance study offers effective models and theories to describe a person's approval of an information technology (IT) modernization. The Technology Acceptance Model (TAM) has been frequently applied (Davis, 1989; Venkatesh & Davis, 2000; Wu & Chen, 2017) to provide practical evidence to explore individual's beliefs and attitudes toward IT, and consequently the individual usage behavior (Venkatesh, Morris, Davis, & Davis, 2003; Venkatesh, Thong, & Xu, 2016; Prodani, Bushati, & Andersons, 2019), which has been discussed and evaluated in detail, in several investigations (Daghfous, Belkhodja, & Ahmad, 2018; Riemenschneider, Harrison, & Mykytyn Jr, 2003). The assumption of the current study is that, there is an association between attitudes towards a newly applied IT, and work-related consequences like, turnover intention and employee satisfaction. This would help understand the outcomes of IT perception and the general attitude toward using it. This postulation is in line with the earlier explained phenomenon that, the HRIS application also involves individual-level based values. In addition, this assumption is based on results of Holden and Karsh (2010) and Brown, Massey, Montoya-Weiss, and Burkman (2002), who propose that, turnover intention should be investigated following application of the new system. Therefore, in an attempt to address the specific objectives of the current study, a specific research model was developed to elucidate the influence of HRIS use in companies, on workers' satisfaction as well as the turnover intention. The particular developed model was founded on IT implementation studies (Davis, 1993; Taylor & Todd, 1995; Venkatesh & Davis, 2000) and research on work-related outcomes (Van Aken & Berends, 2018).

2.1. Attitudes towards HRIS

When an organization applies a new technology into their system, it is evaluated by the employees based on factors such as, usefulness and ease of use (Goodhue & Thompson, 1995; Shahreki, 2019a). For HRIS employees, the required skills for using the new technology, is an essential success factor (Shahreki & Nakanishi, 2016; Strohmeier, 2007), since the majority of HR workers do not possess the knowledge and skills to operate the system (Johnson, Lukaszewski, & Stone, 2016; Shahreki, 2019b). Consequently, the HR workers will not be able to take full advantage of the HRIS capacity, which as a result would cause them to evaluate the system negatively. On the other hand, HR employees who are knowledgeable on how the system operates and subsequently know how the system can ease their work, view the HRIS more positively. Therefore, there are some significant conceptual beliefs associated with HR employee understanding, to demonstrate the usefulness of an HRIS, which include, the extent to which a person considers that employing a specific system would aid in making their job execution better (Venkatesh et al., 2003). Furthermore, the more an employee believes that, an IT is easy to use, the higher the likelihood that they will believe in the usefulness of the system (Davis, 1989, 1993; Goodhue & Thompson, 1995; Venkatesh & Davis, 2000; Venkatesh et al., 2003; Venkatesh, Thong, & Xu, 2012). Review of

previous studies, the theoretical depiction of perceived ease of use of HRIS, and the identification of apparent usefulness, led to the development of the following hypothesis:

H1. There is a positive relationship between perceived usefulness and ease of use of implemented HRIS.

Generally, workers assess HRIS as helpful when they possess sufficient knowledge and skills, to use it with considerable ease (Ball, 2001; Johnson et al., 2016; Marler & Fisher, 2013). Under circumstances when it is challenging to use an HRIS, workers of the HR department demonstrate a negative perception towards applying the new technology (Beckers & Bsai, 2002; Kavanagh & Johnson, 2017). Thus, it is necessary that, HR workers are trained sufficiently so they assess the HRIS more favorably. Consequently, the following hypothesis is proposed while taking TAM into consideration (Al-Dmour, Masa'deh, & Obeidat, 2017; Davis, Bagozzi, & Warshaw, 1989; Venkatesh & Davis, 2000).

H2. There is a positive relationship between perceived ease of use and the attitude towards applying the system.

An employee acquires either a negative or a positive attitude towards implementing an HRIS, based on their assessment of its usefulness as well as the ease of use (Taylor & Todd, 1995). The employees balance their experiences related to HRIS application against their needs. They expect an HRIS to improve the efficacy of HR processes, regarding its usefulness (Dery, Grant, & Wiblen, 2009; Kavanagh & Johnson, 2017; Kovach & Cathcart, 1999; Ngai & Wat, 2006), contribution in various HR management decisions (Bratton & Gold, 2017), and automate administrative HR procedures (Marler & Fisher, 2013), so that implementing the HRIS improves HR employees' position within the organization and provides further career opportunities in the company (Hussain, Wallace, & Cornelius, 2007; Kovach & Cathcart, 1999; Noe, Hollenbeck, Gerhart, & Wright, 2017; Ruel, Bondarouk, & Van der Velde, 2007). However, new workflows, changing tasks, and additional responsibilities required by implementation of a new HRIS, might lead to a negative assessment (Ball, 2001; Dery et al., 2009; Noutsu, Kamdjoug, & Wamba, 2017). The review of previous studies, the theoretical description of the perceived usefulness of an HRIS, and the identification of the attitude regarding using the system, led to the development of the following hypothesis:

H3. There is a positive relationship between perceived usefulness and the attitude towards applying the system.

2.2. *Influence of attitudes towards HRIS and work-related consequences*

In general, the results of several studies have demonstrated an adverse association between worker satisfaction and turnover intention (Egan, Yang, & Bartlett, 2004; Yi, Natarajan, & Gong, 2011), so if an employees' job satisfaction decreases, the desire to quit their job rises, and vice versa. Though during the first couple of months of their jobs, employee's satisfaction is quite stable (Moura, Orgambidez-Ramos, & Gonçalves, 2014), this eventually changes during the course of time, as they start to experience anxiety and stress (Avey, Luthans, & Jensen, 2009). These two variables are essential in a work-related context, in order to understand employee reactions and behavior, following changes (Egan et al., 2004). Turnover intentions are affected by an employee's ability in managing change, as well as their commitment to change (Freund, 2005). If an employee perceives a change as a threat and negatively, their intention to quit their job increases. Furthermore, an employees' job satisfaction decreases when a change is perceived as a threat, as it is displeasing for an employee to work in an unpleasant environment (Freund, 2005). Therefore, the perception and attitude toward changes in the organization, impacts job satisfaction, and subsequently turnover intention as well as voluntary turnover. Implementation of an HRIS in an organization is a real change, as opposed to a hypothetical change introduced in an organization, which affects work-related consequences. Consequently, the focus of the current research will be on both of these work-related consequences, and we will make an assumption that, an individual's attitude and perception towards the HRIS, has an effect on these variables. There are various complex reasons that demonstrate that, employees' satisfaction might alter during application of HRIS. For instance, the lack of or

inadequate communication concerning the reasons behind the change, could impart a different message altogether to the employees than what was intended, employees may assume that, the reason for applying the HRIS is to save on costs instead of easing the work of employees (Parry, 2011). This belief is in agreement with a study by (Joseph, Ng, Koh, & Ang, 2007), who proposed that, workers favor firms that place more importance on human capital, than organizations that are profit- and task-oriented. Additionally, if an HRIS is challenging to operate, workers satisfaction declines (Beckers & Bsath, 2002), which could be attributed to a lack of work motivation (Barrick, Thurgood, Smith, & Courtright, 2015; Grant, 2007). Furthermore, employees may need to alter their work practices and adapt to a novel routine (Dery et al., 2009; Kumarapeli & Peiris, 2018). The current study assumes that, a change in job situation that is viewed in a positive light, will result in enhanced employee job satisfaction, whereas one that is viewed negatively will lead to reduced employee satisfaction. In summary, stressful tasks and changing work tasks influence employee satisfaction, when a new HRIS is implemented. In light of previous studies, the perceived attitude theoretical description of an HRIS implementation, and identification of employee satisfaction, has led to the following hypothesis:

H4. There is a positive relationship between attitude towards using an implemented HRIS, and employee satisfaction.

The influence of increasing turnover intention is strengthened, as a result of worker's experiencing increased levels of stress related to learning new skills (e.g., Johnson et al., 2016; Marler & Fisher, 2013), in order to reduce costs (e.g., Marler & Fisher, 2013; Parry, 2011), improving procedures (e.g., Ball, 2001; Strohmeier, 2009), and saving time (e.g., Parry & Tyson, 2011), in order to hire well-qualified recruits in a shorter period of time. According to Joseph et al. (2007), an HRIS that is task-focused, concentrated entirely on improving the short-term performance of an employee, creates increased turnover rates than configurations, which is centered around the employee. Implementation of an HRIS could cause the role of an employee to change (Dery et al., 2009; Qadir & Agrawal, 2017; Wiblen, Grant, & Dery, 2010), which could result in disappointment and dissatisfaction and even lead to the employee quitting their job. In summary, implementing an HRIS results in changes of an HR employees' role and work routine. If an employee dislikes these changes which they attribute to the newly implemented HRIS, they will perceive the HRIS negatively, yet if they like the changes they will evaluate the HRIS positively. Thus, in the first example an employee experiences a decline in employee satisfaction, and subsequently turnover intention increases, while in the second instance, the employee's job satisfaction increases, while their turnover intention decreases (e.g., Avey et al., 2009). Because employee satisfaction has a direct influence on turnover intention, the following hypothesis is proposed:

H5. There is a negative relationship between employee job satisfaction and turnover intention.

H6. There is a negative relationship between a person's attitude towards applying an implemented HRIS and turnover intention.

Using employee satisfaction as the basis, hypothesis number 6 proposes that, an employee's attitude towards applying an HRIS, influences turnover intention directly. However, if a proposed HRIS causes change to an employee's work, the perception towards the item that caused the change, also effects employee satisfaction, since employee satisfaction represents an overall attitude towards the job situation. Figure 1 is the research model developed in this study, which illustrates HRIS effects on employees' satisfaction as well as turnover intention. The current study assumes that, the perception of changes caused by HRIS implementation in an HR department, affects employees' satisfaction and turnover intention. Therefore, a model was proposed that includes two technology-related beliefs; perceived usefulness and ease of use, as well as the employees' attitude towards the newly implemented HRIS, from technology acceptance studies, in addition to employees' satisfaction as well as turnover intention, which represent the work-related outcomes. In the following paragraphs, the experimental data for the research model proposed in Figure 1, will be presented. In order to assess the proposed model, this study

explored a well-known organization which supplies electronic parts, while it implemented an e-Recruiting system. This target company employs 70,000 workers, in approximately 150 different regions across the world, with a revenue of some billion dollars, yearly.

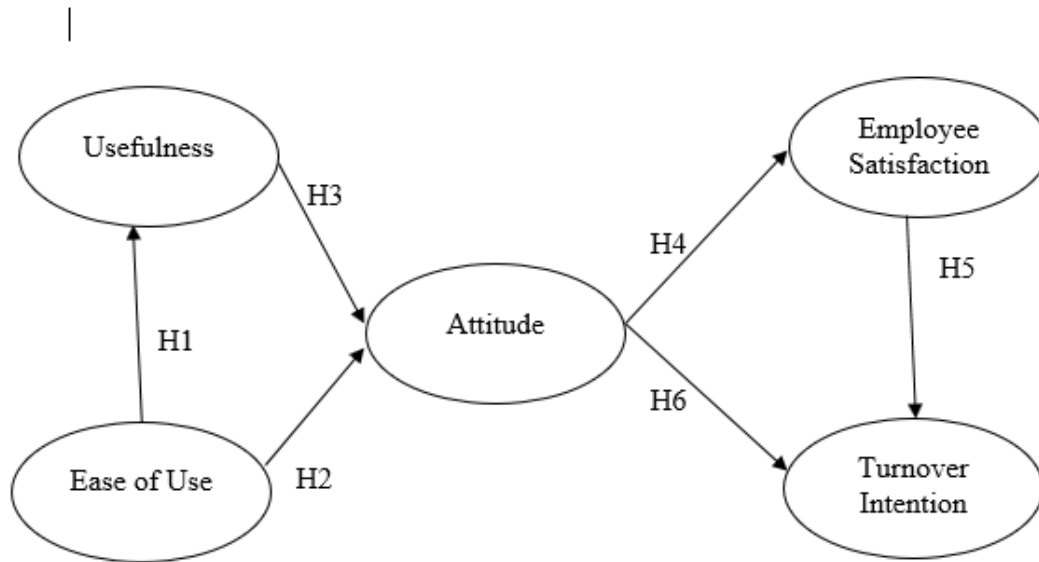


Figure 1. Conceptual model of an HRIS effect on employee satisfaction as well as turnover intentions of HR employees

3. e-Recruiting implementation

This target company proposed to use a novel e-Recruiting system from 2011. The novel e-Recruiting system was in the process of implementation during the early months of 2012 and was fully launched and functioning by June of 2012.

The target company is a multinational corporation and technology company, was founded on Jun 25, 1975. This target company employs 70,000 workers, in approximately 150 different regions across the world, with a revenue of nine billion dollars, yearly.

The key objectives for applying a new system, was to change the old outdated systems to something new, and to improve IT assistance in the course of recruiting. Previously, the old system was essentially a separate tool that could only support certain tasks that were involved in the course of recruiting and was mainly paper based. The Systems Applications and Products (SAP) E-Recruiting 6.0, Enhancement Package 6.0, was the new system implemented, which is a single organization-wide system, that has been implemented by all participants of the recruiting process. SAP is an Enterprise Resource Planning (ERP) software that supports daily work business. The SAP software plans logistics, financial, HR and several other business procedures. It is a software that is browser-based and employs a central database. The architecture of SAP is comparable to the recommended holistic design of an e-Recruiting system, (Holm, 2012). A novel recruiting procedure, consisting of six stages was developed, and entirely fixed inside the HRIS. The process begins with the department of on organization reporting a job vacancy, which is followed by them preparing an advertisement in print, on the company website, or at job portals for a job position. When the HR department receives an applicant's CVs, it in the HRIS database. In the next step,

through the use of the HRIS, the HR employees choose applicants and send their CV's and applications to the relevant HR manager in charge. Finally, the recruiter and HR manager collaborate in selecting an applicant for the job. By implementing the new HRIS, the organization has facilitated in the reduction of administrative tasks and helped transform the recruiting department's role as a strategic partner of the company, and to facilitate employees in achieving their full potential in terms of commitment and competency. The main aim of the organization for applying the new system, was to modify the recruiting department's role. Previously, the former procedure was structured in a different way, at different sectors of the company, so neither the recruiting management nor the central HR administration, could develop key performance indicators, and was unable to acquire a general idea of the recruiting condition within the organization. Thus, the old system did not allow for sufficient monitoring of the process, neither could efficacy, effectivity or quality be assured. However, with the implementation of the new HRIS, the complete process can be managed and monitored by the organization, and key performance indicators can be measured. For instance, the organization can evaluate the usefulness of job advertisements in various channels, as well as monitor and manage the costs and time of hiring new employees. This would facilitate in improving the recruiting process and measure, continuously. Furthermore, previously each branch of an organization was in charge of finding recruits for their job openings, no coordination between the different branches existed, when recruiting qualified personnel. However, upon implementation of the novel system, every application received, is entered into the system, and collected into one large unified talent pool, which every recruiter of the organization has access to. Moreover, following the implementation of the novel system, a new position of the HR employee has also been developed, the "task manager". The duties of the talent managers are, to detect vital vacancies, as well as to identify vacancies with high talent insufficiency, and to develop lasting action to fill them up. The additional tasks of the talent manager include, supporting local branches in situations whereby a high talent insufficiency vacancy has to be filled, since they are the main operators of the combined talent pool. They are also in charge of examining external sources like, databases of job boards as well as databases like LinkedIn, or other social media sites. Therefore, through the implementation of the novel system, the company has optimized, computerized, and combined the various phases of the process of recruitment, and providing the HR department with a more strategic orientation in the company. The HR employee's position within the organization has transformed from that of only administrative support, to that of business consultant. With the time saved due to the new system, they are able to accomplish new tasks.

4. Research methodology

In order to collect experimental data for the research model that has been developed in the current study, a survey was designed to support the assumptions. This survey was conducted during the HRIS implementation process within the target organization, and HR employees' perceptions toward the implemented system, were evaluated, and the resultant work-related outcomes were recorded. The implementation settings will be described in the following sub-section, and the survey instrument will be introduced in the subsequent section.

4.1. Data collection and sampling

The current empirical study was conducted in 2018, in order to collect data on the opinions of employees towards the implemented e-Recruiting system. That research surveyed 500 HR workers at the implementation phase, who were all power users of the newly implemented HRIS. The inclusion criteria were that, the individuals must employ the system on a regular basis, every day in order to complete their work tasks. The employees were questioned on their beliefs and attitudes towards the ease of use as well as the usefulness of the HRIS, and they were also asked about their level of satisfaction as well as their turnover intentions. This questionnaire was online for a total of four weeks, and a total of 183 (36.6%) completed questionnaires were received, out of which 16 were incomplete, so only 167 were usable. The top managers as well as project managers supported the survey, they requested all workers of the HR department to take part in the questionnaire and allowed for the 500 workers involved to be directly approached, throughout their coaching periods as well as for individual interviews. The

survey was carried out anonymously, and the respondent's identities were not disclosed. In an attempt to reduce the chances of social desirability, data on employee satisfaction as well as turnover intention, were not disclosed to the managers of the organization, which was clearly mentioned in the guidelines of the survey. Analysis of collected data from participant's questionnaires revealed that, 83.2% ($n=139$) of the participants were men, and 16.8% ($n=28$) were women, so the majority of participants were male. In addition, 73 participants (43.7%) were aged between 36 to 45 years, 93.4% were married, and 83.8% of participants possessed a bachelor's degree. The work experience of 56.9% of participants was between 12 – 17 years.

4.2. The Survey instrument

The questionnaire comprised of five major categories namely, ease of use, usefulness, attitude, employee satisfaction, and turnover intention, which are discussed below.

4.2.1. Ease of use

The measurement items that were employed to assess ease of use, were adapted from Davis et al. (1989) study. A total of four items were established, to calculate the ease of use of the implemented HRIS. For example, one item is: "My interaction with the new e-Recruiting system would be clear and understandable".

4.2.2. Usefulness

The measurement items that were used to evaluate usefulness, were adapted from Davis et al. (1989) study. A total of four items were established, to evaluate the usefulness features of the implemented HRIS. For example, one item is: "Using the new e-Recruiting system increases my productivity".

4.2.3. Attitude

An employee's attitude was measured using the method adapted from Taylor and Todd (1995). A sum of three items was established to measure the attitude factor towards using an HRIS. For example, one item is: "Using the new e-Recruiting system is a good idea".

4.2.4. Employee satisfaction

The measurement items used to explore employee's job satisfaction, were adapted from Thatcher, Stepina, and Boyle (2002). A sum of three items were proposed to measure the employee's satisfaction at the work place. For example, one item is: "Overall, I am satisfied with my job".

4.2.5. Turnover intention

The measurement items used to evaluate turnover intention, were adapted from Thatcher et al. (2002). A sum of three items were proposed, to calculate an individual's intention to leave their job voluntarily. For example, one item is: "I think often about quitting my job at my current employer". A seven-point Likert scale was used (1='strongly disagree' to 7='strongly agree') to measure the items for all five constructs, (appendix A).

5. Data analysis

The above-mentioned measurements were applied in order to assess the proposed research model of the current study, experimentally. In order to support the hypotheses, the developed research model was transferred to a structural equation model (Kline, 2015). The Partial Least Squares-Structural Equation Modelling (PLS-SEM) and Smart PLS, were employed in the current study (Hair, Hult, Ringle, & Sarstedt, 2016), since they are suitable for small samples (Hair, Sarstedt, Ringle, & Mena, 2012). However, the collected data was analyzed prior to presenting the results, to verify whether it was influenced by common method bias.

5.1 Measurement model assessment

In order to evaluate the common method variance, the Harman’s one-factor test was used. The findings revealed that, the biggest factor identified was, 36.3% which was smaller than 50% of the variance. Essentially, the problem of a single factor, which is a main factor, is that it does not exist. Therefore, there is no significant problem related to the common method variance bias (Malhotra, Kim, & Patil, 2006). The indicator reliability indicates that, the variance degree of an indicator is extracted from the latent variables. Every rate has to be 0.7 or greater, to justify from the latent variance a minimum of 50% of the variance, through the indicators (Nunnally & Bernstein, 1994), which was fulfilled. Furthermore, the significance degree of the complete loadings is at least 0.10, which is substantially significant, which was verified by carrying out the bootstrap method with 5000 samples. At the construct degree, The Average Variance Extracted (AVE) and Composite Reliability (CR), concepts were used to verify quality (Fornell & Larcker, 1981). As shown, the AVE is more than 0.5 while the CR is more than 0.7 (Table 1), hence the proposed research model satisfies two of the benchmarks.

Table 1. Loadings, Validity, AVE, CR, α .

First-order constructs	Items	Loadings	AVE	CR	α
Ease of Use (EU) <i>Scale type: Reflective</i>	EU1	0.77	0.63	0.88	0.85
	EU2	0.81			
	EU3	0.83			
	EU4	0.81			
Usefulness (UF) <i>Scale type: Reflective</i>	UF1	0.76	0.62	0.88	0.84
	UF2	0.85			
	UF3	0.84			
	UF4	0.82			
Attitude (AT) <i>Scale type: Reflective</i>	AT1	0.71	0.63	0.89	0.87
	AT2	0.72			
	AT3	0.81			
Employee Satisfaction (ES) <i>Scale type: Reflective</i>	ES1	0.85	0.69	0.92	0.88
	ES2	0.86			
	ES3	0.84			
Turnover Intention (TI) <i>Scale type: Reflective</i>	TI1	0.76	0.65	0.89	0.85
	TI2	0.83			
	TI3	0.85			

The discriminant validity explains the degree to which one measurement item differs from the other, so that the square root of AVE is involved on the diagonal of latent variable correlation (Table 2). Since the numbers of the square root are larger than the equivalent construct correlations (Fornell & Larcker, 1981; Schaupp, Carter, & Hobbs, 2009), it can be concluded that, this particular condition has been achieved, and subsequently supports the validity of the measurement model.

Table 2. Assessment of discriminant validity

	EU	UF	AT	ES	TI
EU	0.81				
UF	0.47	0.82			
AT	0.63	0.57	0.75		
ES	0.43	0.61	0.53	0.85	
TI	0.52	0.51	0.55	0.47	0.82

Notes: N=167; Diagonal measures (bold) are the square root of the average variance extracted (AVE) for every construct; EU= ease of use; UF= usefulness; AT= attitude; ES= employee satisfaction; TI= turnover intention.

5.2. Structural model

To be able to assess the structural model proposed in the present study, the coefficient of determination (R^2) and every path coefficient's significance degrees, were used (Hair et al., 2016). Figure 2 illustrates that, the TAM perceived ideas and attitude describe 36% of the variance of an employee's satisfaction. Furthermore, two attitudes towards IT and employee's satisfaction describe approximately 52% of the variation observed in turnover intention. The R^2 of supposed usefulness was, 55% and for attitude was, 57% (Fig. 2). Regarding the path coefficients, only one of the hypothesized paths was found to be non-significant. The particular sole path which was not significant in the current proposed research model, was the association between turnover intention and attitude. The data results of the tests used to validate the hypotheses are show in Table 3 and Figure. 2.

Table 3 Results of the hypotheses with PLS (Basic Model - bootstrap results)

Constructs	Hypotheses	Sign	Estimate	t-value	Remarks
EU → UF	H1	+	0.13 ^(*)	1.91	Supported
EU → AT	H2	+	0.26**	3.07	Supported
UF → AT	H3	+	0.16*	2.31	Supported
AT → ES	H4	+	0.29**	3.38	Supported
ES → TI	H5	-	0.15*	2.14	Supported
AT → TI	H6	-	0.05	0.71	Not supported

Notes: N = 167; **p < 0.01; *p < 0.05; (*) p < 0.10. EU= ease of use; UF= usefulness; AT= attitude; ES= employee satisfaction; TI= turnover intention.

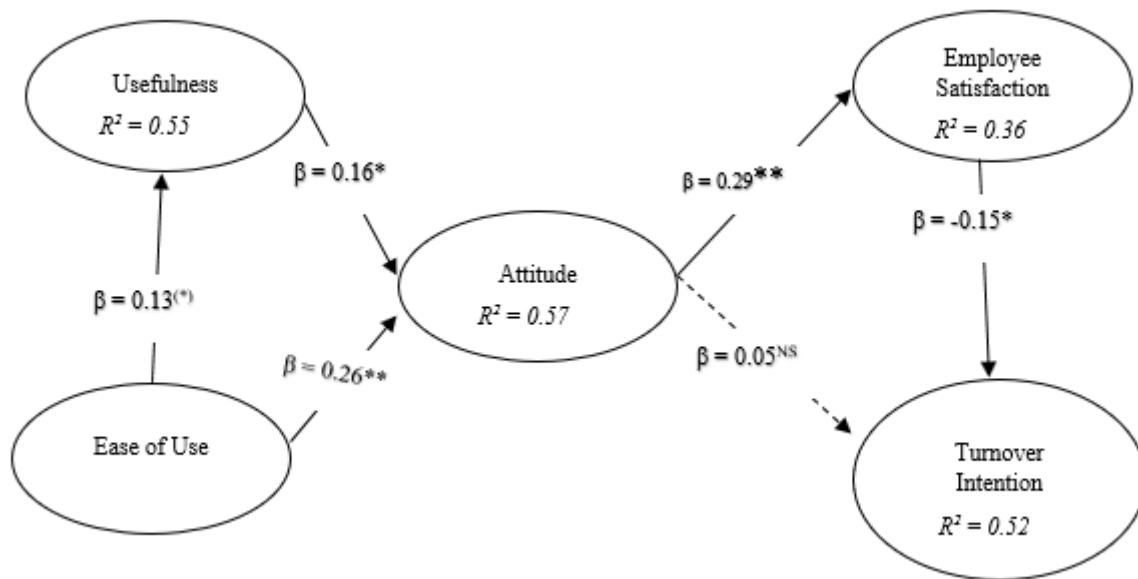


Figure. 2. Direct and indirect effects of HRIS on HR worker's satisfaction as well as turnover intentions

Notes:

1. ** p < 0.01; * p < 0.05; (*) p < 0.10; NS=Non-Significant

5.3. Mediating effects of employee satisfaction

In the current research, the three-step approach Baron and Kenny (1986), a bootstrapping method Preacher and Hayes (2008) and the Sobel test (Sobel, 1982) was used to examine if an individual's satisfaction facilitates the association among attitude towards an HRIS, and turnover intention. Baron and Kenny (1986) have proposed that, a mediating consequence exists, if the following three situations are met; the first condition is that, the independent variable should predict the mediator, the second condition is that, the dependent variable must predict the independent variable, and finally, the predictive power must be reduced, when the mediator is integrated into the association among dependent and independent variable. The model used in this study revealed that, the beliefs and outlooks regarding the HRIS had an effect that was significantly positive on the mediator employee satisfaction ($\beta = 0.27$; $p < 0.01$), with an effect that was negatively significant on the dependent variable turnover intention ($\beta = -0.17$; $p < 0.05$). The significant influence of beliefs on a worker's turnover intention ($\beta = 0.05$; $p > 0.4$) reduced, but the effect of employee's satisfaction on turnover intention ($\beta = -0.15$; $p < 0.05$), increased when employees' satisfaction was combined with the association between turnover intention and attitude. This implies that, worker's satisfaction completely mediates the effect of beliefs on turnover intention. Furthermore, the Sobel test (Sobel, 1982) was applied, as it is a moderate, meticulous, and affirmative technique, to assess mediation (Baron & Kenny, 1986). The data ($Z = -2.26$; $p < 0.01$) revealed that, the current model has an indirect influence. Lastly, a bootstrapping technique Preacher and Hayes (2008) was performed, and the results revealed that, the indirect influence of beliefs regarding HRIS on turnover intention, via workers satisfaction was -0.07, and the value ranging from -0.113 and -0.041 was for the related 95% bias-corrected confidence interval (1000 bootstrap resamples). The hypothesis was supported through this method, that an indirect mediating effect is present, since there is no zero in the bias-corrected interval.

6. Discussion and Conclusion

Investigating the unpremeditated outcomes of HRIS use in the office, is very important. Based on our current findings and from a negative viewpoint, any organization has to expect that a novel HRIS introduction can be considered as annoying and threatening by HR workers, which could result in decreased employee satisfaction, and subsequently increased turnover intentions. On the other hand, from a positive viewpoint and considering the results of this research, if the introduction of a novel HRIS is viewed in a positive way, employee satisfaction would increase, and consequently turnover intention would decrease. These conclusions based on the data obtained from the current single-point experimental study, have numerous consequences for technology adoption research as well as e-HRM, as follows:

6.1. Theoretical implications

The results of current research reveals that, aside from the strategic and economic influence for the organization, that has been discussed and intended, in previous research (Marler & Fisher, 2013; Parry, 2011; Ruel et al., 2007), an HRIS application, has work-related effects on every individual, who has to work with the system every day. This impact is noticeably evident in workers satisfaction as well as turnover intention. The findings of this study imply that, application of an HRIS, which is perceived positively by HR-personnel, as useful and easy to use, is the prerequisite of job satisfaction within the workplace, in situations where HRIS change is compulsory. This finding is in agreement with those of Bondarouk, Ruël, and van der Heijden (2009), who suggest considering specific HRIS stakeholders, namely, HR employees, (Parry, 2011), and who consider it crucial to determine HR employee's attitude towards the HRIS applying process. In addition, the results of the current research also demonstrate that, if HRIS use is viewed as threatening, it decreases employees' job satisfaction and increases turnover intention. Thus, if organizations do not achieve a positive perception towards the HRIS implementation, the HR employees would be dissatisfied. The drawback for organizations is that, negative incidents outweigh positive ones, over time (Ito, Larsen, Smith, & Cacioppo, 1998). For instance, the simplified work task of an employee may last for a short duration, but the negative consequences including a change in work routine, or HR

characteristics, have ongoing consequences. Accordingly, these adverse experiences cause a decline in individual's satisfaction, and subsequently an increase in turnover intention. Furthermore, the findings of the current study imply that, employees' satisfaction as well as turnover intention, which are considered as work-related consequences, are both instances of unpremeditated individual-level outcomes following HRIS application. In the e-HRM outcomes setting, Parry (2011) states that, the previous studies lack a clear, unambiguous concept of e-HRM consequences. Furthermore, according to Parry and Tyson (2011), problem awareness is limited in both practice as well as research, concerning (un)intended consequences of HRIS use. Parry (2011) recognizes the positive outcomes of e-HRM include, speeding up processes, lessening costs, enhancing quality, and HR achieving a more strategic position within the firm, which can be classified under organizational outcomes. Moreover, Parry concluded that, undesired or unexpected consequences may also be observed, aside from the desired and expected consequences of e-HRM implementation, which has not been previously explored in earlier studies. Therefore, he suggests that more studies should be conducted to increase awareness concerning (un)intended consequences following the application of an HRIS. The current study intends to provide a direct answer to this suggestion, as this study aims to assess the individual-level consequences following the implementation of an HRIS. Not only does HRIS implementation have organizational consequences (providing HR with strategic position and process improvements), but it also affects individual level consequences including, employee satisfaction and turnover intention. Therefore, individual-level consequences should be incorporated as a new dimension of HRIS-consequences research, which is essential when examining success models of HRIS implementation (e.g., Beckers & Bsath, 2002; Kavanagh & Johnson, 2017). Kavanagh and Johnson (2017), state that an HRIS is considered successful when an old system is completely replaced by the new system, if it works effectively, and if it is accepted widely throughout the organization. However, it is questionable to classify an HRIS implementation as successful solely based on fulfilling the criteria above, if workers start to apply the HRIS, but their satisfaction goes on a decline and leads some to even leave the organization. Thus, based on our research findings, we suggest that the classification of the success of HRIS applications be extended to comprise individual-level outcomes as well, as an added factor to the measurement of success of an organization. Thus, we define the application of an HRIS as ineffective if it decreases employee satisfaction which subsequently increases turnover intention. Furthermore, this study suggests that, an HRIS implementation is defined as a satisfactory success, under circumstances when it does not have any influence on the satisfaction of HR personnel and subsequent turnover intention and is described as considerably successful when the satisfaction of employees increases and turnover intention declines. Thus, (un)intended consequences can be considered as an extra element of the success of application of HRIS (Hussain et al., 2007; Noe et al., 2017). The HRIS implementation intended consequences in the current study such as, automation of routine and operative tasks, allows HR personnel more time to pay attention to strategic tasks in HR. This progress provides HR employees with means to tasks which are more strategic and people-oriented; prior research reveals a change in HR identity from solely an administrative role to a strategic partner in a firm, or employee champion (Hussain et al., 2007; Noe et al., 2017). These changes also require changes in HR employees' work routines, tasks, capabilities, and competencies, and their individual approval of the various changes (Dery et al., 2009; Wiblen et al., 2010). Though, if HR employees perceive the HRIS implementation negatively, as key facilitators of the strategic HR role, it could be argued that there is a lack of acceptance of the new strategic role as employee job satisfaction decreases. A decrease in job satisfaction could be attributed to the fact that HR employees usually implement HRIS only for automated routinized responsibilities (Johnson et al., 2016; Marler & Fisher, 2013), and ignore its strategic potential. As a result, it is assumed that the HR employees role in the organization has not changed. It is therefore necessary that, the transformation from the administrative role of HRM to the role of a strategic e-HRM, involves an incorporation into the business organization, to make sure that employees are involved and confident, playing their role as advocates and agents of change (Kavanagh & Johnson, 2017; Ngai & Wat, 2006). The results of this study revealed that, the new HRIS implementation which allows for HRM transformation, can influence individual work-related outcomes, which is related to HR employees' identity. In this study, the HR management introduced the project to facilitate the HR employee champion and strategic partner role, and consequently the work-related identity of the HR employees of the organization, have changed.

The majority of HR employees appreciated the increase in automation of HR tasks, although the findings showed that, some were opposed to the new HR role.

However, HRIS application perception and the changing HR identity, are distinct factors for the degree of acceptance of an HRIS, which is significant for prospective studies, when examining the influence of a system on individual work-related outcomes, since approval of the novel position of the HR is an essential factor in the implementation of an HRIS. Moreover, the results of current study provide significant contributions to the literature on IT adoption, because the question posed by Brown et al. (2002) was answered concerning, factors affecting individual attitudes in obligatory settings. This study also provides support that, employee attitude towards an IS, has an influence on employee satisfaction and subsequent turnover intention. As employees in an obligatory setting, do not have the freedom to choose from another IS, nor the option to follow a routine that does not involve an IT system, it is via transforming the employees' satisfaction and subsequent turnover intention, that the system can be examined. The results can support that, beliefs and attitudes can potentially have a substantial effect on their view of the work setting and the company (Brown et al., 2002). The findings also revealed that, attitude concerning the IT has a direct influence on employee satisfaction in their condition in the workplace. The current study took a similar approach to Morris and Venkatesh (2010) and Konradt, Hertel, and Schmook (2003), by combining employee satisfaction and turnover intention into IT adoption studies, which allows us to take into account additional dependent variables, instead of concentrating solely on intention to employ an IT. Employees satisfaction and subsequent turnover intention are two possible dependent variables, that can be used in future investigations in obligatory usage settings. Satisfaction of workers and subsequent turnover intentions can be employed, if an individual is concerned in assessing single behavioral outcomes of using an HRIS (Morris and Venkatesh (2010), as an employee might implement the novel HRIS as required by the managers, which would subsequently influence their satisfaction and turnover intention in a good or bad way. According to the current findings, it is apparent that, there is a difference in employee satisfaction and turnover intention, which is noticeable during HRIS application, and can be predicted by an employees' approval of an IT. The results of this study has elucidated the attitude, behavior association of IT in the IT approval model, as (Venkatesh & Davis, 2000) proposed. In this study, we have incorporated two IT-independent attitudes namely; turnover intention and employee satisfaction, into the proposed model. We can therefore deduce that, assessment of an IT, has an influence on IT-independent beliefs specifically, employee satisfaction and turnover intention. Furthermore, results of the present research study, is also important for user resistance studies. Two additional types of user resistance aside from those already recognized (sabotage, resist, workaround), include the two unintended consequences of system implementation, namely declining employee satisfaction and increasing turnover intention (Ferneley & Sobreperez, 2006). In situations where an employee is forced to use an implemented HRIS by the management, but feels threatened by it, the noticeable consequences and behaviors include, declining employee satisfaction and rising turnover intention. Therefore, the desire to leave the job and the consequential intended turnover, is an additional instance of employee opposing attitudes, following implementation of the novel IS. Lastly, declining employee satisfaction, is another behavior, which are equally noticeable variables of user opposition.

6.2. Managerial implications

The research findings on HR identity, HRIS consequences, and technology adoption studies can also be applied in practice. The results reveal that, a company can impact satisfaction of workers and turnover intention positively, if they can ensure the usefulness of the system, as well as ease of use. For instance, in the target organization, there was decreasing satisfaction of employees, amongst workers who felt intimidated by the numerous clicks involved and thought that operating the system consumed too much time. Furthermore, several employees also evaluated the waiting time while opening attachments negatively, as they complained that it was troublesome for their work routines, particularly in those sub-departments that have to go through a great number of applications. An additional negatively perceived aspect was, entering applications that were on paper manually, mainly in sections promoting blue-collar positions, as such applications were received abundantly in those departments. In addition,

not all employees approved of the introduced quality control for the job ads publication. Therefore, the organization concentrated on the usefulness and ease of use of the newly implemented HRIS, to encourage approval in the phase following implementation. The findings of this study additionally revealed that, workers' turnover is not a immediate result of implementation of an HRIS, but rather mediated by employee satisfaction, and organizations are capable of reducing turnover intentions by making sure that, employee satisfaction remains high, with several measures such as, work-life balance and reward systems. The above-mentioned measures could balance the negative influences of the newly implemented system, and thus decrease turnover intention. Another implication of this study revealed that, project managers must persuade HR personnel of the usefulness and ease of use, and to furthermore assure that the employees, have a positive perception and attitude towards the altering HR identity. Under circumstances when workers are confident regarding these HRIS features, and approval for the altering HR identity can be achieved, employee satisfaction improves, and turnover intention declines. According to the analysis of the complete mediation influence of IT attitudes and beliefs on turnover intention, through employee satisfaction, no immediate turnover intention regarding IT application, was observed. Therefore, workers will stay in the company, even though their satisfaction might decline. Based on the qualitative data of the current study, only after a period of time, when perceptions toward the system becomes more negative then, turnover intentions occur. Organizations can take active measures to prevent decreasing employee satisfaction in the post-implementation stage, before intent develops into behavior, in order to keep turnover intention as low as possible.

6.3. Limitations of study and future research

The findings of this research cannot be generalized, because the experimental data was obtained from one firm and from the e-Recruiting system introduction in a single company, where all HR personnel originated from one country. Thus, national and organization characteristics must be investigated in prospective studies. Workers originating from other countries with different cultural backgrounds, could perceive the obligatory HRIS implementation in a different way. Furthermore, this study focused on unanticipated consequences, so we only concentrated on two independent variables namely; anticipated usefulness and anticipated ease of use. Though both variables are adequate for the objectives of this study, to elucidate employees' attitudes towards the implemented HRIS, and the influence of the new HRIS on employee satisfaction and turnover intentions, additional precursors of turnover intentions such as, commitment to the company or attitudes of perception including computer self-efficacy and subjective norm, should be included. For future studies on the success of HRIS implementation, work-related consequences should be included as another measurement of achievement of an HRIS application. Furthermore, studies on HRIS outcomes, ought to incorporate the individual-level consequences, which has been proposed, along with organizational consequences, to provide a more comprehensive portrayal of HRIS consequences. In addition, future studies should investigate how overall attitude towards the new HRIS implementation, impacts work-related outcomes over a period of time.

Appendix A. Measurement Scales

Ease of Use (EU):

EU1 “my interaction with the new e-recruiting system would be clear and understandable”.

EU2 “it would be easy for me to become skillful at using new e-recruiting system”.

EU3 “overall, I would find the new e-recruiting system easy to use”.

EU4 “learning to operate the new e-recruiting system is easy for me”.

Usefulness (UF) a

UF1 “overall, I would find the new e-recruiting system useful in my job”.

UF2 “using the new e-recruiting system enables me to accomplish tasks more quickly”.

UF3 “using the new e-recruiting system increases my productivity”.

UF4 “if I use the new e-recruiting system, I will increase my chances of getting a raise”.

Source: a Davis et al. (1989).

Attitude (AT) b

AT1 “using the new e-recruiting system is a good idea”.

AT2 “using the new e-recruiting system is a wise idea”.

AT3 “using the new e-recruiting system is pleasant”.

Source: b Taylor and Todd (1995).

Employee Satisfaction (ES) c

ES1 “overall, I am satisfied with my work”.

ES2 “I am satisfied with the way I work at the moment”.

ES3 “I am satisfied with the important aspects of my work”.

Turnover Intention (TI) c

TI1 “I think often about quitting my job at my current employer”.

TI2 “I intend to quit my actual job”.

TI3 “I think about leaving my actual employer”.

Source: Thatcher et al. (2002).

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