"Influence of e-HRM in decision making in selected tertiary institutions in South Africa"

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SECTION 2. Management in firms and organizations

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Abstract

The study aims to explore the influence of electronic human resource management (E-HRM) systems in decision-making specifically to uncover the benefits and challenges of using E-HRM systems in the human resource management (HRM) functions of South African tertiary institutions. By examining the influence of E-HRM systems on HRM functions, this research should enable the HR managers to improve their HR functions. For credible results, a combination of both qualitative and quantitative research methods is employed. This research design enables researchers to have a better understanding of a study from a subjective and objective point of view since it involves the use of in-depth interviews, and well formulated questionnaires. The data collected are analyzed by using the statistical package for the social sciences (SPSS). The study finds a majority appreciation of the benefits of E-HRM, albeit certain challenges are experienced in its utilization. Based on the findings, some recommendations are made.

Introduction and background

The aim of this study was to explore the influence of Electronic Human Resource Management (E-HRM) systems in decision-making principally to uncover the benefits and challenges of using E-HRM systems in the human resource management (HRM) functions of the South African tertiary institutions.

Previously, HRM was limited to recruiting job candidates and administering salaries. At those initial times, the administrative functions of HRM were bureaucratic until public servants discovered that these functions were ineffective, discriminatory and inefficient (James, 2006; South Africa, 1997). In 2001 the South African ministries of Education and Labor jointly decided to launch the human resources strategy for South Africa (James, 2006). This was to maximize the potential of South African employees through the attainment of knowledge and skills to compete, and to introduce a new operational plan for human resources (HR) employees (South Africa, 2005). E-HRM system was introduced into South Africa as an IT support system for human resource practitioners during the nineties (Hendrickson, 2003). E-HRM is supported by Human Resource Information Systems (HRIS), which in turn supports HR managers in performing their HR functions. A challenge for South African tertiary institutions' management is for HR practitioners to embrace technology, as this will improve their job performance (Doughty, 2010). A survey, which was conducted at the Roffey Park Institute, suggests that

HR departments at South African tertiary institutions lack credibility and foresight of E-HRM system. It is true that about 75% of South African companies intend to improve E-HRM capabilities within a period of two years (Wyatt, 2002). However, many HR employees at South African tertiary institutions continue to misuse E-HRM system, since they are unsure of the benefits that it offers (Wyatt, 2002). In addition, South African tertiary institutions' managements have reported low usage of the E-HRM system by some HR staff because they feel that the system is not effective in helping them to achieve their organizational goals while others believe that the system is indeed effective.

Decision-making is the process of selecting an alternative course of action that will solve a problem (Lussier, 2011). Lussier's definition presupposes that HRM employees can explore E-HRM in the provision of services to their clients. This essentially suggests that E-HRM can serve as a decision support system. Decision-making therefore requires the skills to understand abstract ideas and the selection of alternatives to solve problems (Lussier, 2011). Decision-making within the context of this paper refers to HRM functions of recruitment, selection, placement, induction, performance management, training and development, compensation and so on.

1. Utilization of E-HRM as a decision-making tool in organizations

Internationally, different organizations have increased the use of technology within their human resource management function (Torres-Coronas & Arias-oliva, 2009). In Europe seventy percent of

organizations, including tertiary institutions, use the internet or intranet to deliver human resource services to their employees. This enhances their E-HRM capabilities (Wyatt, 2002). In any organization that introduces technology, the benefits that this technology come with may vary. Ngai and Wat (2006) noted that organizations need to know the benefits of E-HRM system before implementing or utilizing it, hence, Shrivastava and Shaw (2003) proposed a transformational impact of technology by redefining the scope of the HR function which encourages more strategic activities. These strategic activities have led to the increase in the demand for accurate and detailed information about an organization's human resources (Ball, 2005). E-HRM system enables such information to be made possible at the press of a button and this has led to efficiency of information, reduction in costs and time, and for analytical decision-making.

Parry (2009) cited in Torres-Coronas and Arias-oliva (2009, p. 110), listed some areas of HR functions that E-HRM systems have been used as a decision-making tool. The first is the recording and management of absence. HR staff utilize E-HRM system for the purpose of increasing the effectiveness of recording and managing absence across the organization by introducing a system that records the starting and finishing time of the employees. Secondly, the introduction of an e-recruitment system enables the applicants to enter their own details; this makes the process of recruitment more efficient and effective; by enabling HR managers to respond automatically to the applicants thereby speeding up the commu-nication process. Thirdly, E-HRM system helps the HR managers in reviewing forms directly; reviewing employee salary; bonus ratings and recording of employee absence. This information enters directly into the system instead of submitting paper-based forms to the HR department. Finally, HR professionals can make good strategic planning for the department. E-HRM system can also be used for HR appraisals and compensation planning.

According to Lengnick-Hall and Moritz (2003), an improved decision support system (DSS) will benefit HR staff of different tertiary institutions in that the human resource functions will be liberated from administrative fetters and they will be able to focus on developing intellectual capital, social capital, and managing knowledge to improve their organization's competitive advantage. Decision support systems improve the decision-making of human resource managers and other employees in the tertiary institutions (Boyett & Boyett, 2001 cited in Lengnick-Hall & Moritz, 2003, p. 374). The decision support system no doubt will provide a 'predictor algorithm' that will enable HR managers to forecast potential problems in the organization such as turnover, recruitment, compensation, and labor relations.

By examining the influence of E-HRM systems on HRM functions, this research should enable those responsible for HR functions to improve their offerings.

2. Research objectives

The research objectives of the study are:

♦ to find out how the utilization of E-HRM system has enabled the HR managers in decision-making in the HR functions of the selected institutions;

♦ to investigate the value adding benefits of E-HRM to the human resource functions of the selected South African tertiary institutions; and

♦ to assess the effect and efficiency of information and decision-support tools of decision-making for the HR managers in the South African tertiary institutions.

3. Research questions

Next, the research questions are depicted below:

♦ How has the utilization of E-HRM system enabled the HR staff in their decision-making?

♦ What benefits accrue to HR staff from the utilization of E-HRM system in decision-making?

♦ How do the information and decision-support tools provided by E-HRM affect the efficiency/ timeousness of decision-making of the HR staff?

4. Literature review

This section will discuss how E-HRM impacts HRM functions at South African universities. Issues of leadership decision making will also be explored.

4.1. Use of E-HRM on HRM functions at South African universities. E-HRM is changing the way that HR practitioners perform their duties (Mongelli, 2000, p. 10). E-HRM originates from HR departments across the world (James, 2006). 'E' stands for '*enabling*', '*empowering*' and '*extending*' HR functions (James, 2006). E-HRM ties and integrates HR activities into other corporate processes such as finance, supply chain and customer service (Doughty, 2010; Karakanian, 2000). In tertiary institutions, E-HRM can be put to several uses including E-planning, E-recruitment and selection, E-commerce, and E-training and development.

4.2. Electronic planning (E-planning). E-planning enables HR practitioners in South African tertiary institutions to estimate future labor supply and demand electronically (Swanepoel et al., 2007). E-HRM is a way of implementing HR strategies, policies, and practices in organizations through the

use of web-technology-based channels. E-HRM is supported by HRIS; an integrated system, consisting of hardware, software, and databases that are designed to provide information that can be used in HR decision making, HR analytics and metrics. It improves administrative and operational HR functions by ensuring the availability, compilation and management of HR data for effective strategic HR planning (DPSA, 2008).

E-HRM planning helps the HR departments to update employees' information, post job specifications, change policies and procedures, and arrange training for staff members (Panayotopoulou, et al., 2007). E-HRM also enables HR practitioners to estimate future human resources management needs by analyzing current job occupation, turn-over, transfers, promotions, retirements and employee skill levels (Werner, 2003, p. 577).

4.3. Electronic recruitment (E-recruitment). Recruitment is an HR function, which was done manually, and was characterized by cumbersome and time consuming tasks (Stone & Dulebohn, 2013). Automated HR functions were introduced during the 1970s when online recruitment began (Kavanagh, Gueutal & Tannenbaum, 1990 cited in Koch & Van Brakel, 2012, p. 8). Recently, online recruitment has developed into electronic recruitment. The importance of utilizing electronic recruitment at South African tertiary institutions is increasing (Smith, 2007) because it is cost-effective, easy to use, and a fast means of reaching thousands of potentially suitable candidates (Swanepoel et al., 2008). The recruitment process has often been affected by challenges such as an increasing need for flexibility and responsiveness (Girard & Bernard, 2009), thus E-recruitment paves a new way to attract, recruit and select candidates by HR practitioners in South African tertiary institutions and this has contributed to organizational effectiveness (Erdogmus & Esen, 2011). E-recruitment no doubt uncovers individuals who have unique talents and skills and also attracts greater numbers of candidates than other sources (Chapman & Webster, 2003; Galanaki, 2002).

4.4. Electronic selection (E-selection). HR practitioners use the E-selection process to identify the best job candidates with the right knowledge, skills and abilities for a particular job (Johnson & Gueutal, 2011). The E-selection system enables HR employees to manage the selection process more actively and to provide more evidence of the effectiveness of the chosen selection method. The E-selection system enables the sustainability of the organization and evolves the system to satisfy the changing requirements of selection (Kehoe, Dickter, Russell & Sacco, 2005). The E-selection method

enables HR practitioners to reduce the time and other resources, which are required to manage the selection process. In addition, they can conduct tests through web-based versions of testing for a job instead of applicants visiting a centre for the test. HRIS helps HR practitioners to use longitudinal performance data to assess the effectiveness of selection tests (Johnson & Gueutal, 2011).

4.5. Electronic performance management. According to Shane (2009), technology has an impact on the administrative burden of performance management in organizations by helping to conduct performance appraisals online through the intranet. Cardy and Miller (2005) add that E-HRM enables HR managers at tertiary institutions in South Africa to facilitate or measure employees' performance levels beyond their task performance. The E-performance management system is used mainly by HR managers, and allows them to retrieve data from the employee's position description, and transfer the information into the evaluation (People Admin, 2006). The E-performance management system is also used as an archive, which stores past evaluations and permits comparisons between evaluations to be done over time. Kavanagh and Thite (2008) insist that E-performance management system allows HR practitioners to access data from any computer that has Internet and at any time making it easier and faster for HR practitioners to generate accurate HR related reports, while Walker (2001) is of the opinion that HR employees also use the E-performance management system to manage their own personal performance goals based on their performance appraisal results. It is obvious from the foregoing that E-performance management system is helpful for collecting performance data and monitoring employees' performance.

4.6. Electronic compensation. Compensation and reward systems are crucial to attract, motivate and retain employees in any organization (Wright & Dyer, 2000). HR practitioners at South African tertiary institutions use e-HRM to effectively manage compensation and rewards for employees. HR employees can make their own decisions by electronically selecting their preferred benefits and rewards. HR managers can then use the E-compensation system to make decisions regarding salary administration or changes, bonuses and rewards for both employees and leaders (Panayotopoulou et al., 2007). Compensation and reward systems have given institutions a competitive advantage in search for and to retain talented employees (Wright & Dyer, 2000). The E-compensation system also enables HR employees to make concrete decisions about their life insurance, health, disability and other benefits (Walker, 2001).

4.7. Electronic communication. The use of electronic communication in human resource management functions at South African tertiary institutions include sending and receiving messages electronically through computer systems or the Internet such as email, voicemail, cell phone and others (Shane, 2009). Electronic communication systems facilitate the effective and efficient conduct of HR functions. It gives HR practitioners access to the Internet and assists them to perform their jobs (EFFT, 2001).

Intranet and e-forums have been highlighted as a fast, effective and easy way to transmit information to employees (Panayotopoulou et al., 2007). Furthermore, HR practitioners use Internet blogs to support communication. Pratheepan and Arulrajah (2012) list some uses of E-HRM in communication, which include: web-based on-line suggestion schemes to drive employees to greater levels of creative thinking; web-based information sharing facilities; an open-door management approach, which is enabled through various electronic communication channels with the workforce; and team briefing through intra-mail systems.

4.8. Electronic training and development. E-HRM has enabled employee training to be conducted on-line via the intranet and Internet by using multimedia such as video downloads, video conferencing and links to resources (Sambrook, 2003). E-learning facilities and modules have been made available for HR practitioners via the Internet (Pratheepan & Arulrajah, 2012). Hence, web-based training opportunities have been made available for HR practitioners at branch level (Hirschman, 2001). Again, HR practitioners can organize E-conference training, especially for HR staff members at the branches. Also, a post-training tracking system allows team members to assess post training or learning knowledge retention (Wright & Dyer, 2000). E-HRM has allowed on-line training record books for trainees in order to monitor and evaluate their progress. They can also have web-based special individual development plans (Pratheepan & Arulrajah, 2012). The benefits of using E-HRM for training and development purposes are cost reduction by eliminating the costs of travel, time away from work, training material and refresher courses. Again, e-learning promotes better, more effective learning, as there are no time limitations (Ensher et al., 2002).

5. Research methodology

Research is conducted to find answers for specific research problems, and involves acquiring scientific knowledge through various procedures and objecti-

ves. In order to examine the utilization of E-HRM system in the universities, a combination of both qualitative and quantitative research methods was employed. This research design enabled the researchers to have a better understanding of the study from a subjective and objective point of view since it involved the use of in-depth interviews, and questionnaires. A study of this kind that primarily intends to determine how E-HRM systems enable HR units perform decision-making functions will severely benefit from a mixed methods approach because firstly, mixed methods approach guarantees participants anonymity as well as a large number of participants (through use of questionnaires). The sensitive nature of the study would be better served when participants' identities are concealed so that they are free to interact with questionnaire items in their most comfortable state (Creswell & Clarke, 2007). Secondly, mixed methods approach also ensures that follow up questions (for clarity purposes) are possible (as in the case of an interview) (Blaikie, 2010). Basically, the mixed methods approach helps to guard against the likelihood of gaps in data collection especially where one research approach is considered inadequate (Creswell & Clarke, 2007).

The target population for this study comprised university staff members namely human resource directors and managers (HR Staff) and other university staff members who use the services of the human resource department. One university from the three different categories (comprehensive, traditional and technological) of universities in South Africa comprised the sample frame. The selected sample comprised all staff members that had at least one year work experience within the tertiary institutions. The sampling method that was used for this research is the probability sampling method because an effective sampling procedure ensures that those who are selected for a sample accurately resemble the parameters of the population they were selected from (Terre Blanche et al., 2006). Probability sampling consists of random, stratified, systematic, quota, cluster or multi-stage sampling (Singleton & Straits, 2005). In the case of this research, stratified sampling was employed. Altogether, a total of 450 questionnaires were distributed while a total of 306 responses were returned. For reliability and validity purposes, a pilot study was conducted with few staff members of the different institutions. This assisted in identifying necessary corrections that were made before the questionnaires were distributed.

A high ethical standard was maintained throughout the research. A consent letter was sent to the

universities to obtain permission, and to solicit their assistance with completion of the questionnaires. The data collected were used for the purpose of this research. The names of the respondents were not mentioned in the questionnaires to ensure confidentiality and anonymity. The respondents were advised to withdraw at any time that they wanted to.

6. Data analysis

Face-to-face in depth interviews were conducted and they were analyzed by using content analysis. Quantitative data were collected using close-ended structured questionnaires. The collected data were analyzed by using the statistical package for the social sciences (SPSS). The coded responses were captured firstly on a Microsoft Excel spread sheet, and thereafter were converted into an SPSS data sheet. Results are presented in tables and a bar chart (Histogram).

7. Findings

7.1. Participant's demographics. Out of the 306 subjects captured for this study, most of them were females (66.3%). The average age of the participants was between 30-44 years, while forty-nine percent of them were married. As can be expected, sixty-three percent of the subjects had various university qualifications and over eighty percent of them were full time staff.

7.2. Main results and discussion. The results are presented in accordance with the sets of questions and items in the interview schedule and questionnaire respectively.

Research objective 1: Utilization of E-HRM system for decision-making in the HR functions of the selected institutions.

The results that pertain to research objective 1 are presented below using some schedules of questions in the semi-structured interviews as well as the questionnaire items. Descriptive table is presented to validate the discussion.

7.3. Which areas do you normally apply E-HRM as a decision making tool in your workplace? With regard to the above, a range of functionalities emerged as benefiting from E-HRM. According to the respondents, leave administration, staff appointment, monitoring of employment equity matters – validation of headcount, approval of job grades and the analysis of information such as reporting capabilities.

Furthermore, the HR directors and managers stated that they apply E-HRM system as a decision making tool in promotions and confirmations, salary advancements, annual leave and so on. Again, E-HRM system is used as a decision-making tool in performance appraisal, posting, recruitment and capturing of personal data in their institutions.

7.4. How do the decision-support tools provided by E-HRM affect the quality of decision-making in your workplace? The HR directors and managers noted that there is stability and maturity in the HR processes and shift processes have been changed from transactional to strategic. E-HRM system helps them in the smooth process of auditing. Again, they noted that since data integrity is critical in decision-making, the reliability of the data influences decisions made in the HR department. Additionally, they mentioned that the turnaround time in the processing of documents is reduced. This claim is strengthened by the findings (please see Table 1) which indicate that majority of the participants received quick services from the HR staff members when they visited HR office. Evidence is in the sixty-eight percent of the respondents who answered in the affirmative.

Table 1. I received a quick service from the human resource employees on visit to their office

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Strongly disagree	10	3.3	3.3	3.3
	Disagree	30	9.8	9.8	13.1
	Not applicable	57	18.6	18.7	31.8
	Agree	167	54.6	54.8	86.6
	Strongly agree	41	13.4	13.4	100.0
	Total	305	99.7	100.0	
Missing	System	1	.3		
Total		306	100.0		

Note: $N = 306$.

Research objective 2: To investigate the value adding benefits of E-HRM to the human resource functions of the selected South African tertiary institutions. Again, the results that pertain to research objective 2 are presented below using some schedules of questions in the semi-structured interviews as well as the questionnaire items. The discussions are backed by a descriptive table as well as a histogram.

7.5. The value adding benefits of E-HRM to the human resource functions of the selected South African tertiary institutions. There are different ways by which an effective utilization of E-HRM system would assist the HRM department in optimizing the values of their functions to their communities/clients. According to the findings of this study, some examples are in the use of E-HRM systems to deliver quick, effective and efficient service.

E-HRM systems assist the HR department to deliver effective and efficient services to their colleagues, students and other stakeholders. During the interviews, some of the respondents indicated that the use of E-HRM system enables them in gathering data, analyzing capabilities and improving record keeping. In addition, they said it brought about accuracy and efficiency and encouraged faster decision-making. Furthermore, the use of E-HRM system brings about an improved and reliable source of information they said. The HR directors and managers also noted that the use of E-HRM system improves turnaround time, efficiency and immediacy of feedback to staff queries and decision making. In addition, they reported that the use of E-HRM system enables the HR managers in managing the workforce. Again, it makes work a lot easier and faster and exposes the HR employees to the modern technological advancement.

The data strongly suggest that the employees receive effective and efficient services from their HR staff members. This is reflected in Figure 1 below which points out that sixty-five percent of the respondents agreed that they normally receive effective and efficient service from the HR staff members.
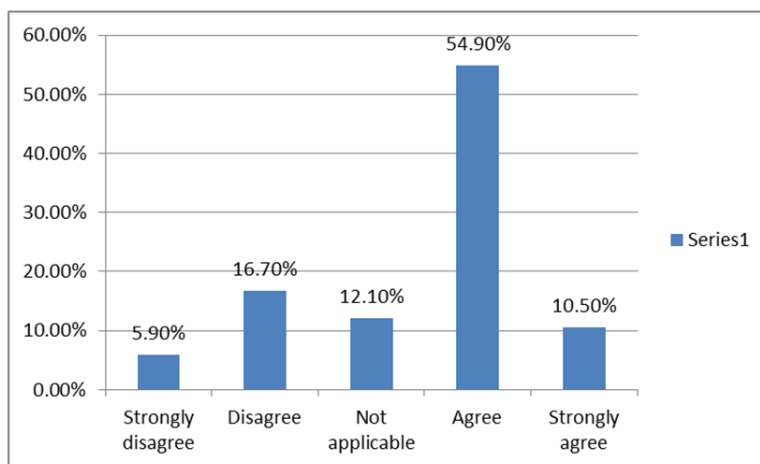

Fig. 1. I normally receive effective and efficient services from the HR staff members

Lengnick-Hall and Moritz (2003) stated that the use of E-HRM system enhances efficiency by reducing the cycle times for processing paper-work, increases data accuracy and reduces human resources workforce in the tertiary institutions. In addition, Al-Ibraheem and Ruel (2009) cited in Torres-Coronas and Arias-Oliva (2009, p. 93), stated that E-HRM application in the software programs offer a useful and easy-to-use electronic medium, through which the E-HRM goals are accomplished by performing different types of human resource management activities electronically to yield the desired outcome and benefits. The researchers are thus able to establish that the effective utilization of E-HRM system assists tertiary institutions' human resource management department in optimizing the value of their functions to their communities/clients by delivering accurate and efficient services.

Table 2. HR practitioners are able to provide adequate, accurate and fast information through the use of E-HRM in my workplace

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Strongly disagree	14	4.6	4.7	4.7
	Disagree	40	13.1	13.5	18.2
	Not applicable	87	28.4	29.4	47.6
	Agree	119	38.9	40.2	87.8
	Strongly agree	36	11.8	12.2	100.0
	Total	296	96.7	100.0	
Missing	System	10	3.3		
Total		306	100.0		

Note: N = 306.

Table 2 above shows that fifty-one percent of the respondents agreed that HR practitioners are able to provide adequate, accurate and fast information through the use of E-HRM system in their workplace, while a meagre 17.7% of the respondents disagreed. It can be said therefore that utilization of E-HRM system improves the provision of quick services both to the HR practitioners and to their customers. It also helps the HR practitioners in capturing accurate and timely information.

The implication of the results above (Fig. 1 and Table 2) is that immense value awaits tertiary institutions that adapt E-HRM to their human resource functions.

Research objective 3: To assess the effect and efficiency of information and decision-support tools of decision-making for the HR managers in the South African tertiary institutions. We try to provide for the above research objective by using some schedules of questions in the semi-structured interviews as shown below.

7.6. What are the mediators that affect the relationships between E-HRM information tools and decision-making quality in your institution? Most respondents indicated that information not being imputed into the system can be a mediator that affects the relationship between E-HRM information tools and decision-making quality. More so, the interviewees noted that poor internet/network knowledge and availability of updated information and tools can be mediators that affect the relationship between E-HRM information tools and decision-making quality. Again, the interviewees mentioned that personal opinion of the employees at the management position and the overall objectives of the HR processes can affect the relationships between E-HRM information tools and decision-making quality in their institutions.

7.7. What are the challenges faced by the human resource management staff members in this institution with regard to the use of E-HRM system? The HR staff stated that there is a need for data analysis expertise in the HR departments of South African universities. The researchers therefore assume that there is inadequate knowledge of data integrity and technical expertise in the HR departments. There was also an indication that new staff members need to be trained on the use of E-HRM system to enable them have better staff performance in the use of E-HRM system. We were also told that the system is costly to maintain (upgrade issues). This finding especially validates the conclusion arrived at by Iwu and Benedict (2013) who were of the view that HR departments

may be under pressure to prove that their E-HRM systems are an investment that will pay off and not just an additional cost.

Limitations

The researchers had difficulty in getting access/permission into the tertiary institutions for the survey. Some units in the tertiary institutions were not allowed to participate because of the workload at hand at the time of the survey. We were also told that some other staff members were off sick at the time of the survey and some were on casual leave. There was also delay in returning the completed questionnaires as a result of some of the staff members trying to meet the deadline in completing their weekly/ monthly report. Furthermore, missing data were found after data collection as no response was given to those data. These limitations perhaps reflect a finding of this study which suggests poor utilization of E-HRM leading to work overload and subsequent absenteeism.

Future research

Future research can be done on the activities of staff members of different organizations in the implementation of E-HRM system in the different work functions. In addition, exploratory activities of employees using E-HRM system as a decision-making tool in improving their work performances can be researched.

Conclusion

This study aimed at exploring leadership decision-making in the utilization of electronic human resource management (E-HRM) systems in selected South African tertiary institutions in order to discover the benefits of using E-HRM system in the human resource management functions of the South African tertiary institutions. The study attempted to examine the effect and efficiency of information and decision-support tools of decision-making for the HR managers in the South African tertiary institutions. It also tried to find out how the utilization of E-HRM system has enabled the HR managers in decision-making in the HR functions of their institution. Lengnick-Hall and Moritz (2003) proposed that the use of E-HRM systems enhance efficiency by reducing the cycle times for processing paper-work, increases data accuracy and reduces the workforce in tertiary institutions. This is synonymous with our findings in this study, which reveal the agreement of HR staff that E-HRM would indeed improve the levels of efficiency and effectiveness in their institutions. Perhaps this testimony rests on another finding in this study which confirmed that staff in the selected institutions receive effective and efficient

services from their HR staff members. The researchers thus deduced that the utilization of E-HRM system by the HR managers has brought about faster turnaround time, efficiency and immediacy in feedback to staff queries and helping the HR managers in making good decisions. This no doubt answers the main research question in the affirmative.

In addition, the function of E-HRM system includes enabling the HR managers in recording and managing absenteeism. It also enables them to respond to their applicants speedily. However, it was clear from the analysis that not all HR managers in the South African tertiary institutions are optimally utilizing E-HRM system for decision-making in their HR functions. This was assumed to be as a result of lack of basic IT skills in the use of E-HRM system.

Recommendations

On the basis of the findings, the following recommendations are made:

♦ There is a need for management to support the use of E-HRM system as a decision-making tool in the South African tertiary institutions.

♦ The management of the South African tertiary institutions should invest in a state of the art system that is home grown, rather than software that is ill suited for their higher education environment. The use of E-HRM system should be improved in South African tertiary institutions so as to improve the work function of the HR managers and also to bring about quick service delivery.

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