Effects of the Use of Electronic Human Resource Management (E-HRM) Within Human Resource Management (HRM) Functions at Universities

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Abstract: This study set out to examine the effect of e-hrm systems in assisting human resource practitioners to execute their duties and responsibilities. In comparison to developed economies of the world, information technology adoption in sub-Saharan Africa has not been without certain glitches. Some of the factors that are responsible for these include poor need identification, sustainable funding, and insufficient skills. Besides these factors, there is also the issue of change management and users sticking to what they already know. Although, the above factors seem negative, there is strong evidence that information systems such as electronic human resource management present benefits to an organization. To achieve this, a dual research approach was utilized. Literature assisted immensely in both the development of the conceptual framework upon which the study hinged as well as in the development of the questionnaire items. The study also made use of an interview checklist to guide the participants. The findings reveal a mix of responses that indicate that while there are gains in adopting e-hrm systems, it is wiser to consider supporting resources as well as articulate the needs of the university better before any investment is made.

Keywords: onboarding; e-hrm adoption; hris utilization; information security; universities; organizational productivity

1. Introduction and Purpose

Over the past years, human resource (HR) functions have systematically transformed from traditional to strategic and from the paper type method to the electronic type of conducting functions. Previously, HR functions included mere

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back-office support functions such as legislation requirements, payroll, and personnel data maintenance. Generally, nowadays computers are used to maintain different human resource management functions, and also to increase administrative efficiency (Lengnick-Hall & Moritz, 2003). During the past few years, HR practitioners in universities have embraced the use of electronic human resource management (E-HRM) in order to automate, capture, track data, and help in supplying information needs for human resources functions (Heathfield, 2011). By way of definition, E-HRM is a web-based tool, which is used to automate and support human resource processes (Biesalski, 2003; Ruel, Bondarouk & Looise, 2004).

Notwithstanding, there are associated challenges for universities. These include the costly introduction of technological advancement, globalization, economic restructuring and new employment patterns. Due to the effect of global changes in organizations, the way that human resources employees and their work are managed have been influenced (Shane, 2009). This has led HR professionals to change and increase their role and functions from basic personnel activities to an operational role that gives strategic direction to universities (Jones & Arnold, 2003). This means exploiting technology to facilitate dynamic and strategic way of managing resources.

Besides these challenges, E-HRM holds some benefits for users in spite of its relative novelty (Narendra & Bhor, 2014; Strohmeier, 2014) in developing countries (Ruel & Bondarouk, 2014). These include speeding up information retrieval, thus saving time and so on. While several studies (for e.g. Heathfield, 2011; Iwu & Benedict, 2013) agree with these, the actual presence of these benefits and the attendant challenges inherent in the use of E-HRM are yet to be confirmed using any empirical methods, especially within universities in sub-Saharan Africa.

1.1. Aim of the Research

This study aimed to examine the effects of the use of electronic human resource management (E-HRM) within human resource management (HRM) functions at universities in order to discover the benefits of using E-HRM system in the human resource management functions of the universities. This was premised on the need to investigate the value adding benefits of E-HRM at universities as well as uncover its salient challenges especially within sub-Saharan African universities.

To pursue the above mentioned aim, we asked the following question:

In what ways can the effective utilization of E-HRM assist universities human resource management departments in terms of optimizing the value of their functions to their communities/clients?

This study contributes to an understanding of the intricacies in the use of E-RHM for HR functions in universities, while suggesting ways of adding value to their human resource functions. The study also highlights some of the understated challenges of adopting innovative systems.

2. Literature Review

2.1. Decoding E-HRM

E-HRM has been defined by many authors in different ways, these include being „an umbrella term covering all possible integration mechanisms and contents between HRM and information technologies aiming at creating value within and across organisations for targeted employees and management" (Bondarouk & Ruel, 2009). E-HRM is also characterized as the planning, implementation and application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities (Strohmeier, 2007). According to Voermans and Van Veldhoven (2007), E-HRM is defined as the administrative support of the human resource management functions in universities by using Internet technology. It is clear from these definitions that E-HRM facilitates the utilization of information technology for HRM purposes.

The use of E-HRM is aimed at offering an adequate, comprehensive and on-going information system about people and jobs at a reasonable cost; in order to provide support for future planning and to formulate human resource management policies. E-HRM comprises a decisive step towards a paperless office and processing of data; increased access to HR data and higher speed of data retrieval. It also includes the collection of information as the basis for improving the strategic orientation of HRM; more consistent and higher accuracy of information and so on. Furthermore, E-HRM permeates into every function of HR (resource management, compensation and reward management, performance management, training and development, employee relations and others) (Wright & Dyer, 2000).

According to Abodohoui (2011), E-HRM is a new field of research that involves both HRM and Management Information Systems (MIS). The benefits of E-HRM

within human resource management functions in universities are numerous. E-HRM enables HR managers to access information, conduct analysis, make decisions, and communicate with other employees. HR staff members can also control their personal data (information) through the use of E-HRM (Lengnick-Hall & Moritz, 2003). E-HRM enables HR staff members to improve the efficiency and effectiveness of their job by reducing the manual workload of administrative activities (Ball, 2005). It also achieves this by allowing HR managers and employees to make better and timelier decisions with the use of E-HRM (Lengnick-Hall & Moritz, 2003). By so doing, communication with other staff members within the institution is quicker (Abodohoui, 2011). On the basis of this, one can argue that E-HRM assists HR practitioners to reduce administrative costs, track HR actions and contribute to the availability of information and knowledge (Ruel et al, 2008).

The above literature justifies the ensuing conceptual framework which captures the different effects of the use of E-HRM within HRM functions at universities.
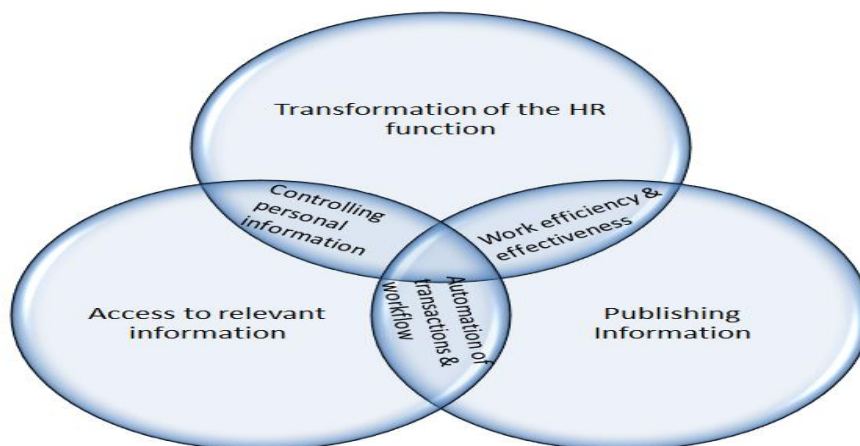

Figura 1. Effects of the use of E-HRM within HRM functions at universities

Source: Authors' configuration

In summary, HR managers at universities are able to access relevant information, which speeds up their duties thereby reducing the cycle time for processing paperwork, and increasing data accuracy.

However it is important to point out that information systems do not work themselves. They require well-trained and skilled HR. Besides this, there are associated challenges. These include insufficient financial support and difficulty in

capturing a lot of paperwork that has been done in the past (Ngai & Wat, 2006). In addition, the high cost of setting up and maintaining the system; lack of funds; lack of knowledge of HR; and lack of application for HR users (Beckers & Bsat, 2002). Other challenges that are associated with managing E-HRM include lack of staff; lack of budget; and lack of information technology support.

2.2. Emerging Issues in the Adoption of e-HRM in Africa

For many years technology has impacted the way work is carried out in several sectors around the globe, especially in developed economies. In Africa, E-HRM is fairly new. Because it is fairly new, its introduction and adoption in organizations are fraught with challenges. The universities, despite its status as the producer of critical skills, are perhaps the worst hit. This is attributable to a number of factors namely funding, management, and poor integration of users. Ngai and Wat (2006) implicate insufficient financial support and difficulty in capturing a lot of paperwork that has been done in the past as typical issues with E-HRM adoption in universities. These issues can be found at the door step of the cost of setting up and maintaining the system (the demand for skilled personnel, etc); and lack of application for HR users (Beckers & Bsat, 2002), as well as lack of information technology support (Net et al., 2008). Beyond these immediate issues, there are also concerns over change management and technology acceptance by HR practitioners at South African universities (Martin et al., 2006). It is true that humans are slow in adjusting to new ways of doing things. In fact reports suggest that most HR practitioners experience difficulties with the use of E-HRM system essentially because they are used to the traditional offline system. As a result, there are complains that new technologies are time-consuming and complicated. Considering this traditional mind set, Ruta (2004) warned against the negative effects of a poor change management system with regard to the introduction and adoption.

No doubt therefore that the use of electronic human resource management requires different skills both from the HR practitioner and other stakeholders and often these can be quite overwhelming. According to Maatman (2006) and Gardner et al (2003), these skills are strategic thinking skills; IT skills; the ability to use web-based channels to deliver services, and ability to teach others how to use HR technology. Other skills include understanding of technological aspects to identify technology needs and managing technology vendors; and capabilities for using technology to collect data and transform it into strategic valuable information.

Despite the foregoing issues, there is enough empirical evidence to prove that the adoption of E-HRM in universities presents a number of rewards to all stakeholders. It is commonly argues that humans are the best competitive edge that an organization can have. If that is true, it then means that the utility of a technology that ensures the speedy and accurate delivery of services to clients of any organization is acknowledged.

3. Research Methodology

Principally, six universities – three in South Africa and three in Nigeria - participated in this study. Two types of research methods were used namely the qualitative (open-ended semi-structured interview questions) and quantitative (closed-ended questions) research methods. As indicated earlier, literature assisted in the development of the conceptual framework upon which the study hinged. But more importantly, the questionnaire items were developed using literature. The questionnaire targeted three different sets of respondents namely HR executives (directors and managers), other HR staff, and academic and non-academic staff. It was necessary to design different questionnaires given the objective of the study and the necessity to distil substantial data from members of the university community. Closed-ended questions consisting of 5 Likert scales (1= Strongly disagree, 2= Disagree, 3= Not applicable, 4= Agree and 5= Strongly agree) were used. The selection of participants relied on their position and involvement in data capture, usage and information security management purposes that their jobs required.

Permission was sought from the respective universities before the questionnaires were distributed via email and visitation to the universities. Questionnaires enabled the researchers to collect data from a large number of people. A total of 450 questionnaires were distributed while a total of 306 responses were returned. A major criterion for participation was that staff members must have been in employment with the university for at least twelve months. The assumption here was that a staff member would have had considerable experience regarding use of E-HRM and therefore could add value to the research.

With a view to further engage the participants in order to achieve deeper insight, we also made use of an interview checklist. Our target in this instance consisted of all HR executives, and a random sample of the university community (academic and non-academic staff). Altogether, seventeen members of the population were

interviewed. The discussions were recorded and have been transcribed in the data analysis and interpretation. This design suited the interpretivist nature of the study. The benefit of an interpretivist research strategy is couched most clearly by Vessey et al. (2002): "interpretive approach assists in adding greater richness to the interpretation of data".

3.1. Data Analysis

Data, on its own, cannot give answers to a research problem unless they are analysed and interpreted (Skilling & Sivia, 2006). Two data analysis methods were used namely statistical inferences and content analysis. Content analysis helped to bring meaning to responses obtained through interviews, while statistical inferences were used to analyze the quantitative data. The recorded data were grouped and reconstructed around the core concepts (refer to conceptual framework Fig. 1) (Quinlan, 2011).

Statistical techniques were applied by using the Statistical Package for the Social Sciences (SPSS). The coded responses were captured in a Microsoft Excel spreadsheet, which was later converted into an SPSS data sheet.

4. Results and Discussion

The results are presented using direct transcriptions and a pie-chart. These findings are simultaneously discussed under the headings: uses of E-HRM; and associated challenges of E-HRM adoption.

Uses of E-HRM

A mix of responses was obtained. The respondents stated that E-HRM is used for administration; storing database; reporting; and compliance. Others said that it is used to store the following staff data: staff biographical data; conditions of service, (including benefits and salaries); qualifications; skills set; leave; and medical aid, details. Also, the system is used for staff appointments and staff payments. It is used to compile reports on employment equity and targets, qualifications and to promote self-service.

Other respondents noted that they use E-HRM for payroll administration (E-Payment) and E-learning (E-Training). It is also used for record keeping, capturing of personal data and E-recruitment. Most especially, it is used for automation of

HR transactions and workflow. In addition, it is used for publishing of information on the institution's policies and procedures.

The above responses are consistent with our conceptual framework (see Fig. 1) which depicts the different effects of the use of E-HRM in universities.
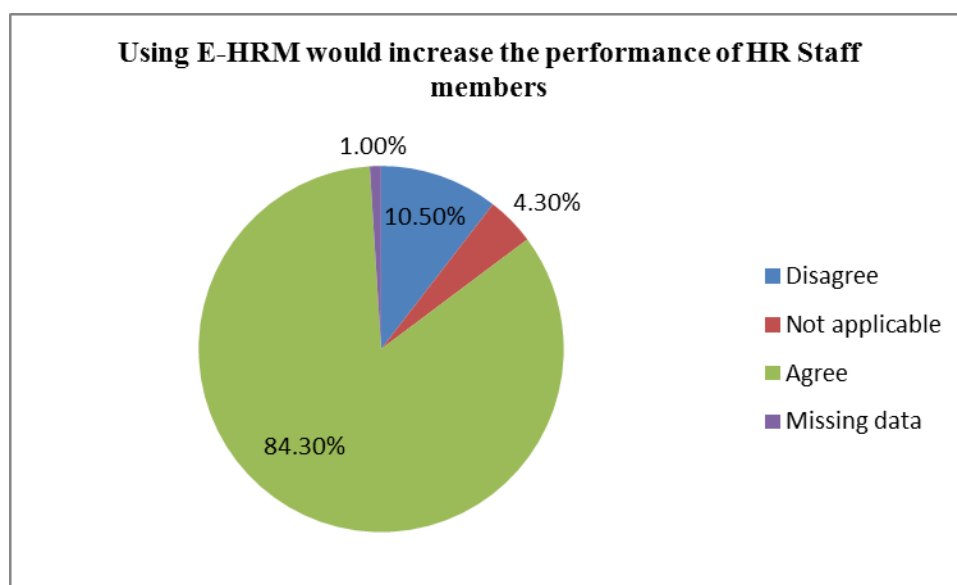

Figure 2. E-HRM and HR staff performance

There is an overwhelming affirmation (see Fig. 2) from the participants that E-RHM would improve their performance. This finding is consistent with Urien (2011) who found a substantial improvement in the performance of HR staff. In fact, way back in 2002, Snell, Stueber and Lepak found an almost similar result: there is a considerable improvement in HRM functions with regard to cost-efficiency and customer orientation.
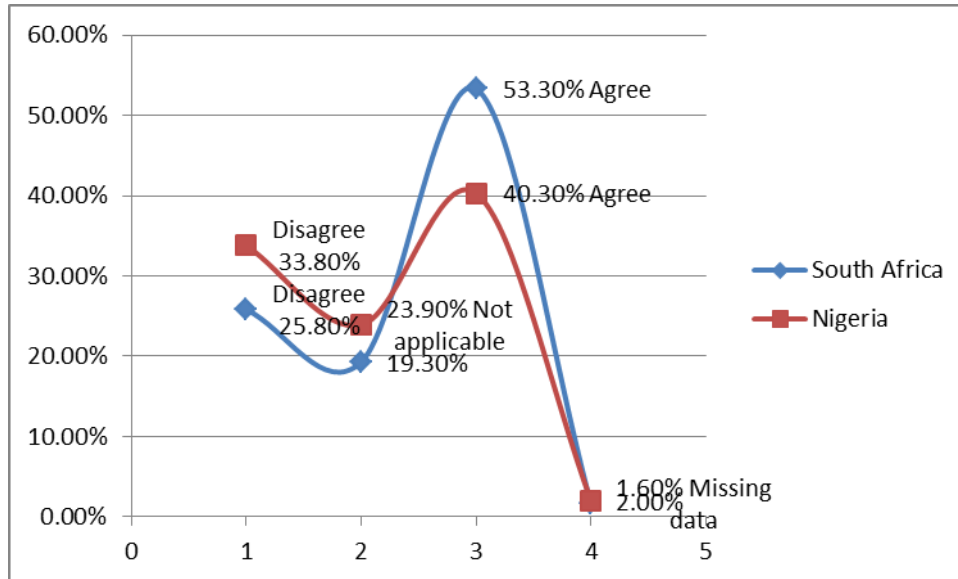
Figure 3. Booking training/facilitating course information

Among the benefits that the electronic human resource management (E-HRM) system offers employees in the workplace, is allowing employees to book training courses and to record course information online. The researchers wanted to gauge if this statement was true or false. It was interesting to note that a total of 53.3% of the respondents agreed that E-HRM has enabled them to book training courses online and record course information online in their workplace.

On the basis of the findings above, we are able to affirm that the use of E-HRM increases the work performance of HR staff members by helping them make quick/strategic decisions, and improve the quality of their work functions amongst others. This finding thus contributes to the literature on E-HRM and organisational productivity.

In an interview with some HR executives in the universities, we learnt that the use of E-HRM has greatly impacted on the performance of the HR staff members of the universities. One executive said "The performance of the HR practitioners has improved, as there is increased workflow, and outputs can be monitored with ease". Another executive added "The HR staff members are able to deliver their jobs faster".

Associated challenges of E-HRM adoption

A rather interesting, but somewhat worrying disclosure was made by one of the HR executives. We learnt that E-HRM has a negative impact on HR staff ability to carry out their duties. An HR manager said "since the system is limited to functionality, it can frustrate HR practitioners and negatively affect their service delivery". Firstly, this response validates our earlier submission that information systems do not work themselves, but require trained personnel. When we probed further, the HR manager said "it takes a while for staff to familiarize themselves with the systems". Our interpretation is that the danger in "it takes a while…" is that users and in fact recipients will be unhappy if their request for information is not treated accurately and on time. This interpretation is backed by the concerns of the University of California (2013) who warned that HR records should be delivered accurately and on time. There is also a major implication with regard to the South African Protection of Personal Information Act (POIPA), Act No. 4 of 2013. The Act not only requires that organizations treat information with due diligence, it also expects those handling personal information of employees to be mindful of how employees' information is disseminated. Should someone fail to deliver accurate HR records on time, it may have implications for staff performance management.

As though confirming the previous respondent, another HR director said that E-performance management component of their E-HRM was inefficiently used. In justification, the respondent added *"This is because this university lacks IT specialists who can train HR practitioners on how to use E-HRM to conduct employee performance management"*. Overall, our impression is that the utilization of E-performance management has greatly impacted on the performance of HR staff members at the universities despite the associated challenges. One of these challenges relates to a lack of support infrastructure that E-HRM requires in order to become fully functional. For instance, a participant said the following with respect to Nigeria regarding irregular power supply, *"it often takes a long time to process simple HR duties such as approving travel… we are left with no choice than to resort to longhand approvals"*.
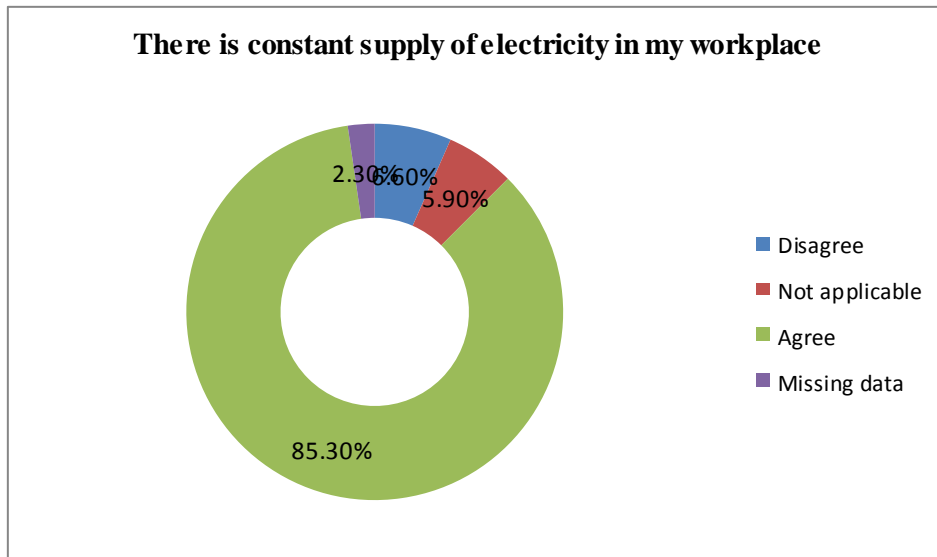
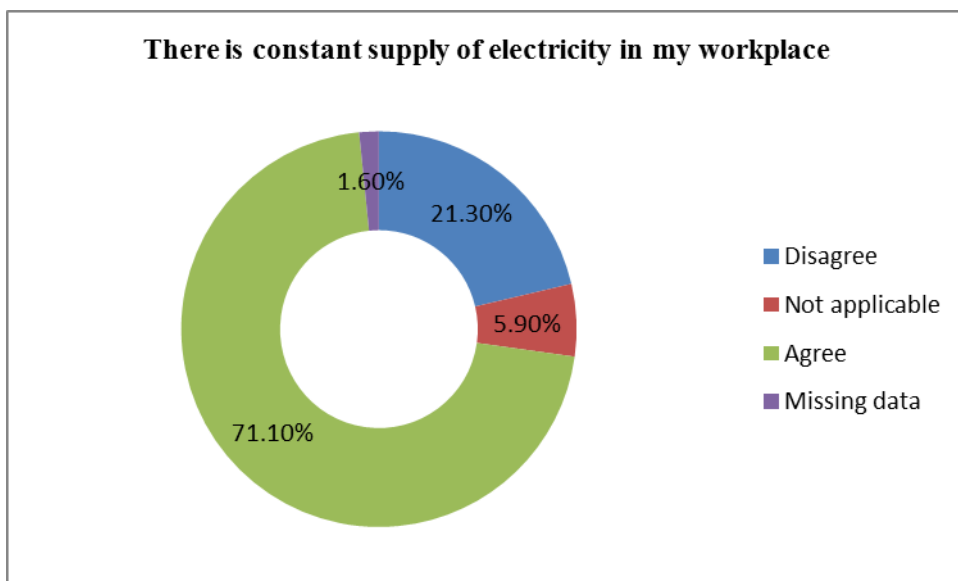**Figure 4. South Africa: Power supply regularity**

Figure 5. Nigeria: Power supply regularity

A majority of respondents from the two country's universities agreed that electricity supply is relatively constant. This indicates that E-HRM in these universities will be fully functional if power supply is regular. Regular power

supply serve as an E-HRM enabling capacity for HRM functions in both South African and Nigerian universities. It is important to note that power supply in the Nigerian universities is by means of a generator/plant, which is usually switched off immediately after work from Monday to Friday. This means that it is not reliable, and the E-HRM system can develop problems at any time if the electricity is always switched off when it is busy. A constant supply of electricity encourages the use of IT facilities in the workplace.

5. Conclusion and Recommendations

This study aimed at examining the effects of the use of electronic human resource management (E-HRM) within human resource management (HRM) functions at universities in order to discover the benefits of using E-HRM system in the human resource management functions of the universities.

It is important to note that electronic human resource management (E-HRM) is an application of information technology for both networking and supporting human resource staff members in their shared performance of HR activities. It is, therefore, the responsibility of HR practitioners to carry out their functions effectively in order to achieve the university's goals. HR employees access these functions through the intranet or other web-technology channels. The utilization of E-HRM empowers HR practitioners to perform their functions by focusing more on the strategic aspect of HR and allowing them to lighten administrative loads.

The study found that E-HRM facilitates HR department's duties and responsibilities. This affirms Strohmeier's (2007) finding that the utilization of E-HRM empowers HR practitioners to perform their functions by focusing more on the strategic aspect of HR and allowing them to lighten administrative loads. This is similar to our findings in this research, which show that the use of E-HRM impacts on the performance of the university staff members as there is increased workflow, and outputs can be monitored with ease. Again, it improves performance, morale and user experience of the HR staff members. This research also deduced that the utilization of E-HRM has affected the administrative functions of the university such as storing, capturing, reporting, and compliance by helping the university staff members in capturing and storing their biographical data; conditions of service, leave, medical aid and so on. Finally, it is used for publishing information on the institutions' policies and procedures.

Considering the issue of familiarity with the universities' E-HRM systems, we recommend that the university management should create awareness of the effect of the use of E-HRM system and the value it brings to HR functions and the institution as a whole so that more staff can see the need for getting trained. This suggests therefore a need for continuous training of users of E-HRM systems. Also with respect to the aspect of irregular power supply (especially in the case of Nigeria), it is necessary for universities to consider wisely, supporting resources as well as articulate the needs of the university better before any investment is made in E-HRM.

Our assumption that those who had been with the institution for at least 12months would be useful to the study may have paled it. We refer to the US state of Indiana (2013), which suggested that organizations should spend as much as eighteen months "onboarding" a new recruit. According to Lagunas (2014), it is crucial to provide "new employees with ample opportunity to master the necessary skills and knowledge required for a long and successful career with the organization". Therefore those who had spent at least one year in the university may not have been well exposed to the information systems in the organization. Further research may consider excluding those with this characteristic.

In the form of concluding remarks, we assert that this study is justified in two parts namely the relative merit of the research effort. It is common knowledge that the value of any research effort depends in large part on the potential contribution it makes to the development of knowledge. No doubt our study adds to knowledge of E-HRM and organisational productivity. Contributing to knowledge is unavoidably located within the process of inquiry into previous studies (Welman et al., 2005). We have substantiated both our initial arguments (basis for the study) and our findings by using previous research findings. In short, we believe that the ability to conduct an inquiry into previous studies is the major foundation for securing an authentic and credible set of answers to a set of questions. In fact, this ability to undertake a review of previous studies is seen as an ability to present an interpretable discourse.

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