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Assessment of the Readiness of Academic Staff of a Tertiary Institution for Performance Evaluation using a Dynamic Human Resource Information System

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ABSTRACT
In this study, we assessed the readiness of academic staff of Kampala International University (KIU), Uganda for the application of a dynamic Human Resource Information System (HRIS) framework in the performance evaluation of staff members. This dynamic framework is being proposed to address the challenges faced by the Human Resources Department of the University in using the current static system. Problems of the current system include delays and frequent misplacement and loss of documents, often resulting in career stagnation on the part of staff members. The Technology Organization Environment (TOE) theory was used to investigate the factors for evaluating the performance of KIU academic staff and examining the role of a dynamic HRIS in performance evaluation. The focus of this paper is to determine the readiness of academic staff to adopt HRIS and the most important factors for its successful implementation. The use of questionnaires was employed in this study in order to gather first hand data and findings right from the respondents on the field. Data was analysed using SPSS 16.0 for windows. The findings show that unavailability of Information and Communication Technology (ICT) services, poor ICT skills, irregularities of the system and absence of organizational competition are the most significant TOE factors that could militate against the effective application and usage of the HRIS if adopted. It was also found that, if properly implemented with attention paid to the probable adverse factors, the dynamic HRIS is capable of a faster, fairer and more accurate operation than the paper-based assessment system.

Keywords: *HRIS, performance evaluation, technological factors, organizational factors, environmental factors.*

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I. INTRODUCTION

With the advent of Information Technology (IT), digital possibilities have been replacing the old ways of carrying out activities, one of which is the Human Resource Management (HRM) service delivery [1]. The very high cost of acquiring, implementing, and maintaining a robust and reliable Information Technology infrastructure has made many universities in the developing world to lag behind in the development of ICT infrastructure, compared to those in developed countries [2]. In addition, the performance evaluation carried out by Human Resources in organizations these days is becoming strongly dependent on a dynamic system for immediate data collection, analysis and evaluation for better productivity [3]. Few studies on human resource information system (HRIS) have been conducted in developing countries such as Uganda, Swaziland, Kenya and Nigeria while a lot of studies have been carried out in developed countries [4]. Studies carried out in developing countries indicate that there is the need to adopt a dynamic human resources information system. This HRIS will improve on the current paper-based systems being used in most universities across the African continent, seeing that performance evaluation of staff constitute a major challenge to the Human Resources departments of many tertiary institutions. Usage of the paper-based static system has the disadvantages of time wastage, loss of valuable information as papers sometimes get misplaced, and the danger of career stagnation. For example, [5] states that "Career stagnation among the academic staff of Ugandan universities can be linked to the universities appraisal/evaluation systems". More so, these disadvantages of time wastage, loss of valuable information and the danger of career stagnation have been affecting the general performance of the institution in general.

Human resource simply refers to the resource that resides in the knowledge, skills and motivation of people [6]. Performance evaluation is very important to the growth and development of any organization because it greatly affects the disposition of the staff in contributing to the attainment of the organizations goals and objectives [7].
Performance evaluation (which is also known as performance measurement) is described as the formal determination of an individual's job-related actions and their outcomes within a particular position or setting. The focus of this paper is to determine the readiness of academic staff to adopt HRIS and the most important factors for its successful implementation. It is also aimed at checking whether his or her achievement was above or below the organization's norms. It is an evaluation carried out on an employee's job performance over a particular period of time, an equivalent of a report card of an employee and how the employee's manager rated the performance over the prior year [8].

There are different opinions on why performance evaluations are done. Some organizations do it because they feel compelled to do it; at times, because other organizations do it [9]. On the other hand, some organizations evaluate performance in order to ensure that they have pieces of paper in the employee's file, should there be need to carry out corrective action. Nevertheless, successful organizations understand the necessity of incorporating several performance evaluation methods into their performance management process and strategy [8]. In most tertiary institutions in developing countries, the staff performance evaluation is done in order to identify and make recommendations on which performance category the staff member may be placed. This is done annually by the use of documents manually compiled by individual staff members. Considering the long hours it usually takes to carry out this activity annually, this study was borne out of the desire to improve the performance evaluation method and practices of KIU.

The Human Resources Information System (HRIS), also called the Human Resources Management System (HRMS), simply refers to a systematic procedure for collecting, storing, maintaining, retrieving, and validating data that is required by an organization about its human resources, personnel activities, and organizational unit characteristics [10]. Sadhu [11] also corroborates the above definition by explaining that human resources information systems help human resources professionals achieve human resources objectives adequately and at the stipulated time. For example, Human Resources Information Systems provide businesses with rapid data access, information exchange, and strategic advantage. HRIS was also able to enhance organizational effectiveness and contains swift information processing, boost communication among staffs, decreases HR expenses and increase efficiency and output [12, 13, 14].
Today's HRMS applications have solutions tailored for companies of any size and also support all types of HR staffing models. This is unlike the earlier HR systems that are a paper-centric function, which have been in use in most universities in developing countries. In these universities, partially automated Human Resources

Systems would only be found in payroll departments, with green-screen technology and mainframe computing. These systems are known mainly to generate basic printed reports such as the employee lists [15].

The human resource management in an organization cannot work smoothly if HRIS is not properly considered [6]. Businesses, governments, and non-profit organizations all around the world mostly depend on Human Resource Information Systems (HRIS) to aid information sharing as well as facilitate downsizing and reengineering efforts [16]. The benefits of HRIS, mostly seen in organizations and institutions where the system is in use, can also be enjoyed at KIU, if properly adopted.
Also, in the present economy, organizational success largely depends on the efficiency of human resources (HR) of the organization and it is also believed that information technology plays a major role in Human Resource Management (HRM) domain [1][17]. Similarly, it has been found that organizations gain competitive advantages not merely with IT, but with its usage along with its components, to complement resources [18]. It has also been stated that one of the most successful ways to run businesses in the world today is by using appropriate IT applications in all HRM processes [19]. All these indicate the major essence of HRIS as examined by different researchers.

1.1 Statement of the Problem

Recently in Uganda it has been realized that, to some extent, performance evaluation and management systems are mostly implemented in the health sector; even so, there exist some loopholes in their implementations [20]. There are inadequacies in setting performance targets and performance management planning is hardly done. Although many health care workers had job descriptions, the performance indicators and standards were not clearly defined and known to all workers and managers. Additionally, the schedules for performance assessments were not always followed. There were limited prospects for career progression, inadequate performance feedback and poor rewarding mechanisms [20]. However, all these challenges are traceable to the manual performance evaluation being carried out in the health sector. Apart from the health sector, it was found that there exists a significant relationship between the method of evaluating the performance of staff and the career development of the staff members in the Uganda academic institutions [5]. Therefore, the career stagnation among academic staff in Ugandan universities has been linked to the universities' evaluation systems which have similar loopholes as that of the health sector [5].

1.2 Aim and Objectives of the Study

In view of the problems associated with the current static and manual system of assessing the performances of the academic staff of Ugandan universities, the implementation of an IT-driven dynamic system to overcome these problems should be given serious consideration. Successful implementation of such a system, however, depends to a large extent on the preparedness of the staff being assessed.

It is, thus, the aim of this study to assess the readiness of academic staff for the application of a dynamic framework of Human Resource Information System (HRIS) by the Human Resource Directorate of the Kampala International University.
The objectives are to:

i. identify the core factors that needed to be considered in order to have an effective HRIS for the performance evaluation of academic staff of Ugandan universities;
ii. analyze and document the requirements for a dynamic system's framework; and
iii. investigate the possible impacts of using a dynamic framework in performance evaluation.

The rest of the paper is organized as follows: Review of related literature, theoretical frameworks for HRIS and comparison of models are presented in Section 2. The methodology of assessing the readiness of staff, data collection method and the analysis of the collected data is presented in Section 3. Results and reliability of the variables and validity testing of the data and the impacts of using the framework are presented in Section 4. Discussion is presented in Section 5 and concluding remarks are made in Section 6.

II. REVIEW OF RELATED LITERATURE

With current developments in technology, it is possible to create a real-time information-based, self-service, and interactive work environment [21]. Employee Information Systems have developed from the automated employee record keeping in the 1960s into more complex reporting and decision systems [22]. The last decade, specifically from 2006 up to date, registered a distinct increase in the number of organizations acquiring, storing, analyzing and using human resources data with the help of Human Resource Information Systems (HRIS) [21]. Given the relevance of accessing relevant information for decision making, Human Resources (HR) respond more quickly to changes than at any time before. This recent emergence of HRIS automates and works out regular administrative and

compliance functions that were formerly carried out manually by the HR departments [21].

Several authors have studied the application of HRIS, the challenges of implementing it, its benefits and other key features. These authors have individual opinions about the system and its application but most of their opinions have similarities. For example, [23] put forward that HRIS is a system that is used to acquire, store, manipulate, analyze, retrieve and distribute pertinent information about an organization's human resource while [24] sees HRIS as a socio–technical (integrated) system whose purpose is to gather, store and analyze information regarding an organization's human resources department, comprising of computer hardware and applications as well as people, policies, procedures and data required to manage the Human Resources function. Table 1 gives a brief summary of several authors' reviews of HRIS.

2.1 Theoretical Frameworks for Human Resource Information Systems

The existing literatures on HRIS suggest that different models have different impacts on HR across various organizations but provide little explanation for this variation. Early surveys also suggested that HRIS was used mainly to automate routine tasks and "to replace filing cabinets" [33]. Some of the theories known to support the organizational use of Human Resource Information system (HRIS) are further explained; the most suitable among them is chosen.

The Theory of Reasoned Action (TRA), which was originally introduced by Fishbein in 1967, was reviewed and tested in 1975 by Fishbein and Ajzen. The reviewed theory defined relationships among intentions, norms, attitudes and behavior. This theory postulated that an individual's use of a particular information resource in preference to others is mostly governed by such individual's method of performing the said behavior. This model is a generalized one that explains the reasons why people perform or do not perform a particular behavior, what governs individual's choice making and how external factors affect decision making [34].

The TOE (Technological, Organization and Environmental) framework was developed in 1990 [35]. It identifies three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context. Its technological context describes both the internal and external technologies relevant to the organization. This includes current practices and equipment internal to the firm, as well as the set of available technologies external to the firm [36, 37]. The organizational context refers to descriptive measures about the organization such as scope, size, and managerial structure, while environmental context is the arena in which an organization conducts its business - its industry, competitors, and dealings with the government [35].

Another known model related to technology acceptance and its use is the Technology Acceptance Model (TAM), which was originally proposed by Davis in 1986. TAM, a theoretical model helps to explain and predict users' behavior towards Information Technology [38]. TAM is considered an influential extension of the Theory of Reasoned Action (TRA). [39] proposed TAM to explain why a user accepts or rejects Information Technology by adapting TRA. TAM gives a basis with which one traces how external variables influence attitude, belief and intentions of use. Two significant beliefs as postulated by TAM are: perceived usefulness and perceived ease of use. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system.

Another theory whose factors affect decision making in Information Technology is the Unified Theory of Acceptance and Use of Technology (UTAUT) model. This model was formulated by Venkatesh and others to explain user intentions to use an information system and subsequent usage behavior. In this theory, several independent variables are a restatement of the original Theory of Reasoned Action (TRA) and (TAM) in predicting technology acceptance [40].

However, [41] have asserted that several extensions and integrations of the entire model or part of the model have been developed to reclaim its generalizability, which include the extensions that analyzed UTAUT in new technological settings, new user populations and new cultural environments. These extensions and replications of the model have worthwhile relevance in expanding the understanding of technology acceptance and the theoretical boundaries of the UTAUT model. Nevertheless, despite the fact that this model gives a better understanding for technology acceptance and application, the initial UTAUT model only focused on large organizations. Additionally, these experts also show that the scales used in this model are still new, and the relevancy of these scales needs to be further tested and verified.

The strengths and weaknesses of the theories reviewed above were compared in order to be able to consider and choose the theory that best supports the application of HRIS.

Table 2 is a tabular listing of the strengths and weaknesses of the theories considered.

2.1.1 Comparison of the Models

The models discussed above are compared on the basis of the following factors for HRIS application, namely: perceived usefulness, patronage factor, compatibility, relative advantage of the system in use, complexity, management support and communication processes.

No - Indicates that the stated variable is not present in a given Technology Model while, Yes -Indicates that the stated variable is present in the given HRIS Model.

Based on the comparisons in Table 3, we adopted the TOE model of [35] for this study of HRIS application in performance evaluation of KIU staff, since it features all the essential organizational, environmental and technology factors, and also considers HR professionalism and structure, management support and other factors that facilitate better performance of the human resource with HRIS.

2.1.2 The TOE Model

i) Technological factors

[35] and [4] found out that an organization with an effective and efficient human resources i.e. good education will have better capability in technological innovation.

Technological factors focus on the manner in which technology characteristics can influence adoption [46]. These technological factors involve the use of IT infrastructures that entail a set of physical devices and software applications which are necessary to drive the whole enterprise. In HRIS development, Information system plays an important function in planning and computerization of human resource information. Even though HRIS established independence from corporate management information system (MIS), yet HRIS is not well established to be an autonomous entity within the personnel area in a large number of firms. To attain optimum HRIS efficiency, computer-skills training are crucial for relevant personnel. [47] found that inadequate personnel technical training and skills in information management is a possible drawback in HRIS management. [48] and [26] mentioned that for an effective HRIS, suitable training must be given to every human resource personnel, line managers and also other staff members. The availability of personnel with prior understanding and skills necessary for HRIS is a major factor in effective HRIS adoption.

ii) Organizational factors

Organizational factors are factors that represent organizational characteristics which influence adoption of HRIS [46]. A number of studies have found that the demographic characteristics of organizations (organization size, a firm's experience with technology, the type of business, and organizational ownership) are important factors in organizational IT adoption [49].

Employee Structure and Education Levels which positively influence HRIS adoption, particularly in human resource management (HRM) are also core organizational factors.

Experience in IT and understanding of electronic tools enable the adoption of e-HRM since both are associated with readiness and competence of end users to operate the system [50][30]. Current research has established that education structure does not facilitate or hamper the adoption of e-HRM, due to constant propagation of essential IT knowledge in many demographic segments [31].

Lack of commitment on the part of HR management is considered to be important enough to impede HRIS implementation. Human Resources units are of paramount importance in maintaining organizations committed to HRIS. Therefore, Human Resources units should emphasize the importance of HRIS to management [51]. In some organisations, top-ranking HR executives tend to be pessimistic about HRIS probably because of power-shift caused by the system [52]. This attitude is capable of impeding successful HRIS implementation.

iii) Environmental factors

Environmental factors describe the area where organizations conduct their business; they include industry characteristics, government regulations, and supporting infrastructure [3, 53]. External environmental factors have been extensively studied in previous research and have been found to have substantial influence in IT adoption. Diffusion theorist state that of all the external factors influencing IT adoption, Internet adoption, challenges from contenders, users or providers, government position, associate partnerships, technological

structure, technology specialist and expectancies of consumers are usually common. External factors are usually regarded as less significant compared to internal factors. However, few studies have been carried out on the relative importance of internal and external factors [54]. Organizations make use of HRIS to assist in making up-to-date decisions, utilize their staffs effectively, rationalize HR activities and adequately distribute HR resources. Therefore, the urge to be competitive in every enterprise will in turn lead to HRIS adoption and implementation.

III. METHODOLOGY

3.1 Data Collection Method

The primary collection of data was through the use of questionnaires. Questionnaires were used for the selected respondents from each school/college in the university. The aim of distributing these questionnaires to these respondents was to gather data directly from respondents on the field.

The questionnaire had two sections, the first containing demographic information like the respondent's age, gender, highest qualification, and school/college. The second section sought to measure the independent and dependent variables of the study, which are the technological, organizational and environmental factors with their respective performance evaluations.

The technological factors comprise the following elements:

i. Power shortage, available ICT facilities, and unstable internet.
ii. Poor ICT skills and lack of trust in the functionality of the system
iii. Compatibility

The organizational factors include the following:

i. Management support
ii. HR professionalism and structure
iii. Communication processes
iv. Trainings
v. Financial support

The environmental factors include the following elements:

i. Publicity
ii. Competition
iii. Policies

3.2 Conceptual Framework of HRIS for Performance Evaluation in KIU

Figure 1 shows the conceptual framework that was adapted in this work for the detailed proposed dynamic HRIS framework.

As shown in figure 1, the independent variables are the Technological, Organizational and Environmental Characteristics. These independent variables are the factors investigated (as stated in the specific objective) and considered in evaluating the academic staff performance. The Dependent Variable (DV) is the performance evaluation of KIU academic staff which can be improved upon by the use of the dynamic HRIS. When compared to the existing gap in the Human Resources Directorate of KIU, based on the direct effects of the independent variables, application of dynamic HRIS by the directorate should result in a faster and more efficient performance evaluation.

The detailed framework in figure 2 is the proposed model obtained from the findings of this study. It is preceded by the preparation of the evaluation instruments to be used in carrying out the performance evaluation. These include the factors against which the performance will be evaluated, like the number of publications, the frequency of the relevant certifications obtained, years of relevant work experience and attendance at meetings. This study revealed that majority of the respondents agrees that the frequency of the relevant certifications obtained should be of primary importance among the evaluation instruments to be used. These evaluation instruments are, however, subject to periodic reviews for better evaluation.

Once the evaluation instruments are uploaded into the system, they get administered to the academic staff members either through the use of a digital or mobile application (which is easily accessible to all).

The dynamic nature of the proposed framework is seen in the real-time evaluation of the input data uploaded by the academic staff members, such that the data gets analyzed against the evaluation factors (technological, environmental and organizational factors) immediately it is uploaded into the system. The output is collected at the web-based system of the college or university. One of the advantages of this real time system is that the individual staff performance can be viewed as frequently as desired like weekly or fortnightly for necessary amendments to be made as soon as there is need for it.

3.3 Data Analysis

After the data collection process, the data was processed and prepared for analysis. The data processing stages involved data editing, data categorization/coding, data entry into the computer and summarizing the entered data. This was followed by the analysis of the processed data using correlation and regression analysis which was achieved using Statistical Packages for Social Scientists (SPSS version 16). Analysis was further done to compare the technological, organizational and environmental factors with the performance evaluation factors in the KIU Main Campus using descriptive statistical tools, which include mean and standard deviation.

IV. RESULTS

4.1 Reliability Testing

Reliability is a measure of the degree to which research instruments yield consistent results after repeated trials. It involves checking if the instrument consistently measures what it is intended to measure. In this work, the internal consistency was measured using Cronbach's Alpha and results are presented in tables 4a, 4b and 4c.

Cronbach's alpha is the most common measure of internal consistency ("reliability"). It is normally used when multiple Likert questions are used in a questionnaire and such questions form a scale whose reliability is to be determined. However, if the focus of this study was more concerned with inter-rater reliability, a Cohen's (k) kappa might be used; but since the focus is more on reliability testing, the Cronbach's alpha for reliability was used.
One problem with the split-half method is that the reliability estimate obtained using any random split of the items is likely to differ from that obtained using another. One solution to this problem is to compute the Spearman-Brown corrected split-half reliability coefficient for every one of the possible split-halves and then find the mean of those coefficients. This is the motivation for Cronbach's alpha. It is, thus, superior to the Kuder and Richardson Formula 20 since it can be used with continuous and non-dichotomous data. In particular, it can be used for testing with partial credit and for questionnaires using a Likert scale as in this study.

Cronbach's alpha formula can be defined as shown below:

Given variables $\mathbf{x}_1, \ldots, \mathbf{x}_k$ and $\mathbf{x}_0 = \sum_{j=1}^{k} x_k$, the Cronbach's **alpha** is defined to be

$$\frac{k}{k-1}\left(\frac{\sum_{i\neq j}^{k} cov(x_i, x_j)}{var(x_0)}\right) = \frac{k}{k-1}\left(1 - \frac{\sum_{j=1}^{k} var(x_j)}{var(x_0)}\right)$$

Property 1: Let $\mathbf{x}_j = \mathbf{t}_j + \mathbf{e}_j$ where each $\mathbf{e}_j$ is independent of $\mathbf{t}_j$ and all the $\mathbf{e}_j$ are independent of each other. Also let $\mathbf{x}_0 = \sum_{j=1}^{k} x_j$ and $\mathbf{t}_0 = \sum_{j=1}^{k} t_j$.
Then the reliability of $\mathbf{x}_0 \geq \boldsymbol{\alpha}$, where $\boldsymbol{\alpha}$ is Cronbach's alpha.

Here, $\mathbf{x}_j$ is viewed as the measured values, the $\mathbf{t}_j$ as the true values and the $\mathbf{e}_j$ as the measurement error values.
Cronbach's alpha provides a useful lower bound on reliability (as seen in Property 1). Cronbach's alpha will generally increase when the correlations between the items increase. For this reason, the coefficient measures the internal consistency of the test. Its maximum value is 1, and usually its minimum is 0, although it can also be negative. A commonly-accepted rule of thumb is that an alpha of 0.7 (some say 0.6) indicates acceptable reliability and 0.8 or higher indicates good reliability. Very high reliability (0.95 or higher) is not necessarily desirable, as this indicates that the items may be entirely redundant. These are only guidelines and the actual value of Cronbach's alpha will depend on many things, e.g., as the number of items increases, Cronbach's alpha also tends to increase even without any increase in internal consistency.

From table 4a, the Cronbach's alpha value in respect of the technological factors (power shortages, unavailable ICT services, poor ICT skills, Lack of trust in the functionality of the system, Irregularities of the system and unstable internet) was found to be 0.710. This indicates a high level of internal consistency for the scale in this study since the alpha value is expected to be at least 0.70 before it can be accepted to be reliable (Cronbach, 1971). Therefore, the result shows that the technological factors are reliable.

From table 4b, it can be seen that the Cronbach's alpha value in respect of the impacts (Improves staff motivation to work, Increases the number of students applying to the institution, Increases the productivity of the school, Gives the institution a competitive advantage, Encourages better innovative to work, Allows easy and faster evaluation of individual staff, Gives room for consistently monitored evaluation, Makes the staff members to be on their toes for the best performances and Serves as an effective and lasting documentation means) of using a dynamic framework in performance evaluation was found to be

0.774, which indicates a high level of internal consistency for the scale in this study since the alpha value is expected to be at least 0.70 before it can be accepted to be reliable (Cronbach, 1971). Therefore, the result shows that the Impacts of using a dynamic framework in performance evaluation are reliable.

From table 4c, the Cronbach's alpha value in respect of the requirements (Frequency of article publications in journals, Frequency of books written and published, Attained academic qualifications with certificates, Years of relevant work experience, Number of academic awards received, Relevant certifications obtained, Past academic posts/offices held with date, Number of attended lecturers per week with evidence, Response from taught students with evidence, Prompt submission of student's scores and results, Departmental meetings attendance and Application of other relevant skills possessed) for using a dynamic framework in performance evaluation was found to be 0.710. This indicates a high level of internal consistency for the scale in this study since the alpha value is expected to be at least 0.70 before it can be accepted to be reliable [55]. Therefore, the result shows that the Impacts of using a dynamic framework in performance evaluation are reliable.

4.2 Validity Testing

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform [56]. It is rare, if nearly impossible, that an instrument be 100% valid; so validity is generally measured in degrees. As a process, validation involves collecting and analyzing data to assess the accuracy of an instrument, [57] recommends values greater than 0.5 as acceptable. He gave the acceptable ranges as values between 0.5 and 0.7 to be mediocre, values between 0.7 and 0.8 to be good and values between 0.8 and 0.9 to be great values. The values of Kaiser-Meyer-Olkin (KMO) test were determined for this study and shown in tables 5a and 5b.

Data type validation is customarily carried out on one or more simple data fields.

In this study, the KMO test using the required variables of requirements for the HRIS and its impacts were carried out and the result was found to be above the expected value as, the researchers, thus, proceeded with the work.

4.2.1 TOE Factors that Affect the Application of A Dynamic System Framework for Performance Evaluation

The technological, organizational and environmental factors that affect the application of a dynamic system framework for performance evaluation were considered individually in order to see the individual effects of each of them in the application of the dynamic system. All the interpretations in this section were based on the mean ranges as indicated in table 6a, while table 6b shows only the technological factors that affect this application.

To calculate the mean range of the data, with reference to the Likert scale we used:

Very true=4, True=3, Rarely true=2, Not true=1

$$\text{Mean range} = \frac{n+1}{n}$$

where n is the number of the Likert scale used, which is 4.
Therefore, mean range = $\frac{4+1}{4} = \frac{5}{4} = 1.25$

The values in table 6b show that a majority (mean=3.88, Std =0.75) of the respondents were in agreement that unavailability of ICT services is the single most important factor that can affect the application of a dynamic system framework for performance evaluation. This implies that for the dynamic system to be effectively applied, ICT services must be made available for the users of the system. Otherwise, the efficiency and effectiveness of the system will not be realized. Nevertheless, other factors also reflected truly high and very truly high interpretations. This implies that all the six (6) factors under the technological factors can affect the application of the dynamic system's framework.

Table 6c shows that majority (mean=2.88, std =0.58) of the respondents were in agreement that lack of organizational competition was the highest factor that affected the application of a dynamic system for performance evaluation. This implies that for the dynamic system to be effectively applied from the environmental perspective, organizational competition should be considered. However, other factors measured in table 6c also reveal at least 'a true interpretation' which implies that they should also be put into consideration.

4.2.2 Performance Evaluation Factors among Academic Staff Members in Using the Dynamic Human Resource Information System

The application of the dynamic HRIS in carrying out performance evaluation has been found to have impacts on the output of the performance evaluation. The general perceptions of the supposed users of this dynamic system, the academic staff members of KIU Main Campus, were measured and the results are given in table 7a. Table 7b also shows the measured requirements to be considered for the performance evaluation. These will serve as the inputs to the dynamic HRIS.

According to table 7a, it was found that majority (mean = 3.88, Std = 0.95) of the respondents were in agreement that the dynamic human resource information system improves the standard of the institution. This implies that the major importance of the system as viewed by the respondents is that it will improve the standard of the institution. Nevertheless, other variables too showed the perceptions of the respondents since their interpretations were not low.

Furthermore, table 7b shows that majority (mean = 3.88, Std = 0.95) of the respondents were in agreement that the frequency of the academic awards received should be a high consideration for evaluation of the academic staff members. At the same time, all other variables too should be considered since none falls below the true level.

4.3 Demographic characteristics of respondents

The demographic characteristics of the respondents in this study include gender, age, highest level of qualification and the college or school respondent belongs.

The demographic characteristics are presented in Table 8a-1. Table 8a-1 shows mainly male respondents (62.1%), though a reasonable number of females (37.9%) participated in the study. Majority of the respondents were Master's degree holders (55.2%), followed by bachelors (24.1%), other qualifications (13.8%) and PGDE (6.9%). The college/school with the highest respondents was SEAS (31%), followed by CHSS (24.1%), SCIT and COEDL had the same number of respondents (13.8%), followed by SOL (10.3%) and the college with the least number of respondents was CEM with a percentage of 6.9. It was also shown in table 8a that majority of the respondents' ages are between 35-44years (41.4%), followed by the age group 25 – 34years (31%), 45 – 54years (17.2%), then below 25years of age (6.9%) and finally, the least number of respondents were those who belong to the age group of 55years and above with 3.4%.

Table 8a-2 shows the full meaning of the acronym used in table 8a-1 concerning the college/school within KIU.

Table 8b shows that an irregularity of the system and poor ICT Skills has 0.000 significant values. This implies that these two factors are the strongest technological factors that affect performance evaluation. This is because any value less than 0.05 as the significant value will result in significant effects, while any value greater than 0.05 will result in non-significant effects. Since the sigma value is 0.000, the effects would be significant.

The "Sig." column whose value is given as 0.004 in Table 8c indicates the exact significance level of the ANOVA. Since this value is less than the critical value of alpha which is 0.05, then the effect is said to be significant. Any value less than 0.05 will result in significant effects, while any value greater than 0.05 will not result in any significant effect. Since the value is 0.004, the effects would be statistically significant.

This implies that the organizational factors listed in Table 8d have great influence on performance evaluation

4.4 Discussion

For our first finding, the study revealed that majority of the respondents agreed that unavailability of ICT services is a technological factor that affects the application of a dynamic system for performance evaluation as presented in table 6b. Table 8b shows that irregularities of the system and poor ICT Skills have 0.000 significant values which imply that these two factors are the strongest technological factors that affect performance evaluation. The reason is that any value less than 0.05 as the sigma value will result in significant effects, while any value greater than 0.05 will result in non-significant effects. Since the sigma value is 0.000, the effects would be significant. All these support and explain the postulation in [58] that ICT skills is one of the main factors that affect teachers' use of information and communication technology.

Our second finding revealed that majority (mean = 2.88, Std = 0.58) of the respondents agreed that lack of organizational competition among the staff members is the main environmental factor that affects the application of a dynamic system for performance evaluation; this is shown on table 6c. This is in line with the statement that organizational performance is measured through different indicators, one of which is healthy competition among employees and this guarantees the continuity of the

organization to be competitive in a global marketplace [59].

Our third finding as shown on Table 7a is that a majority (mean = 3.88, Std = 0.95) of the respondents agreed that improving the standard of the institution was the main perception of the academic staff on the use of the dynamic management information system. This is also supported by [60] who say that technology plays a pivotal role in the daily operations of most business entities, organizations and institutions. Also, the advancement in technology and the use of automated equipment has also resulted in the faster, improved and more efficient accomplishment of tasks.

The "Sig." column whose values are given as 0.001 and 0.002 in Table 8d indicate the exact significance level of the ANOVA. Since this value is less than the critical value of alpha which is 0.05, then the effect is said to be significant. Thus, with the values of 0.001 and 0.002, the effects are statistically significant. This means the listed organizational factors on table 8d have a great influence on performance evaluation.

Table 7b shows that a majority (mean = 3.88, Std = 0.95) of the respondents agreed that the frequency of academic awards received was the main general requirement to consider in evaluating academic staff members in using the dynamic human resource information system. According to [1], limited research, which affects the frequency of academic awards received, is seen as one of the challenges associated with successful HRIS implementation. This is why the response from taught students was the least perception of the academic staff on the use of academic management information system (mean = 4.13, Std = 0.03).

On the basis of this research carried out among the academic staff of KIU, it can be concluded that unavailability of ICT services, poor ICT skills and lack of organizational competition are the most significant challenges that can affect the implementation of HRIS in KIU, main campus.

V. CONCLUSION

From the research carried out, the human resource information system framework, which is a form of dynamic management information system framework, is worth adopting in KIU. This is because an organization that takes time to invest in a HRIS is investing in its future and in its success. It will be necessary to customize any HRIS to the unique needs of an organization so that the system can remain flexible and relevant throughout the life of the organization. However, for this to be effectively and efficiently achieved, it was realized from respondents' feedback through the questionnaires that there is need for ICT trainings. The provisions of ICT services, adequate training for the ease of use of the system, motivation of staff members encourages healthy organizational competition. These mentioned factors have been found to be the highest contributing technological and environmental factors affecting the application of the dynamic management information system framework in KIU.

Therefore, we can conclude that this study has made a contribution to existing knowledge in the area of HRIS framework application, which has been found to depend largely on ICT skills, trainings and organizational competition. Moreover, based on the specific objectives of this study, the following can be concluded from the study:

i The current system for evaluating academic staff performance in KIU was found to be a paper-based system, which largely focuses on paper evidences for performance evaluation;
ii The dynamic human resource information system has been shown to be capable of evaluating staff performances in a faster and more accurate manner than the paper-based system, if properly adopted.
iii For a faster, more satisfying and more efficient mode of performance evaluation, the dynamic framework is proposed for application by the human resource directorate of KIU, main campus.

It should be pointed out, however, that, if the information system is not properly utilized its impact on staff performance evaluation will be negative. Hence, for the effect of the third specific objective to be realized, the HR Directorate should ensure that this dynamic human resource information system framework is properly utilized.

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Table 1: Review of related works on HRIS

REFERENCE	DEFINITION OF HRIS
[26]	HRIS is a system that is used to acquire, store, manipulate, analyze, retrieve and distribute information about an organization's human resources
[25]	HRIS is a composite of databases, computer applications, hardware and software necessary to collect, record, store, manage, deliver, present and manipulate data for human resources.
[24]	It is a system used to acquire, store, manipulate, analyze, retrieve and distribute pertinent information about an organization's human resource.
[27]	Used the term virtual HR to describe a network based structure built on partnership and mediated by information technologies to help the organization to acquire, develop and deploy intellectual capital.
[28]	HRIS is any System that is used for "collecting, storing maintaining, retrieving and validating data needed by an organization about its human resources".
[24]	HRIS is a socio–technical (integrated) system whose purpose is to gather, store and analyze information regarding an organization's human resources department; it comprises of computer hardware and applications as well as people, policies, procedures and data required to manage the human resources function
[29]	HRIS is a way of implementing HRM strategies, policies, and practices in organizations through the conscious and direct support of and/or with the full use of channels based on web technologies.
[30]	HRIS is defined as the administrative support of the HR function in organizations by using Internet technology.
[31]	HRIS describes the activity of planning, implementing and applying Information Technology for both networking and supporting at least two individual or collective actors in their shared performance of HR activities.

Source: [32]

Table 2: Strengths and Weaknesses of the Technology Acceptance Models

Model	**Author and Year**	**Strength**	**Weakness**
TRA	[42]	It has performed extremely well in the prediction of situations of both voluntary and mandatory use.	It focuses on individual level behavior and ignores environmental, technological, organizational and social factors that might influence that behavior
TAM	[43]	Several studies have found out that perceived usefulness has high influence on behavioral intention to use a specific system and these studies provided a strong evidence to support TAM as a model for predicting systems usage behavior.	It does not reveal determinants of the perceived usefulness and perceived ease-of-use variables. This model also ignores patronage factor (training technical support and management support) which may be determinants of perceived usefulness
TOE	[35]	Existing literature has it that TOE framework demonstrates usefulness of understanding the diffusion of Information Systems (IS) innovation and, more importantly, it provides a much better explanation which addresses a firm's decision-making behaviors.	TOE concentrates more on organizational, environmental and technology factors which include compatibility, complexity, relative advantage of the system in use, HR professionalism and structure, management support, communication processes, degree of centralization, competitors, and government regulations.
Revised TAM	[44]	This model accounts for the numerous factors that influence HRIS system acceptance. It integrates two models, IDT and TAM. The findings by application of this model supported existing research that there is strong relationship between PEU and PU, as originally proposed by Davis et al. (1989). Therefore, it is suitable to be applied in different types of studies.	This model has a tendency of being redundant in the sense that some constructs carry same meaning, for instance the relative advantage construct in IDT is similar to the notion of the PU in TAM. This model also ignores patronage factor (training technical support and management support) which may be a determinant of perceived usefulness.
UTAUT	[40]	This model consolidates previous TAM related studies, defines and relates the following four constructs: performance expectancy, effort expectancy, social influence and facilitating conditions for the variables.	The scales used in UTAUT model are new, as they are a combination of a number of prior scales, and, therefore, the suitability of these scales needs to be further tested.
Extended UTAUT	[45]	It defines five constructs which include performance expectancy, effort expectancy, social influence, and a new construct of disturbance concerns.	It has been found to be less parsimonious than the previous Technology Acceptance Model and TAM2 because its high resistance is only achieved when moderating key relationships have up to four variables.

Table 3: The Models Compared against Identified factors of HRIS application

Models						
Factors	**UTAUT [40]**	**EXTENDED UTAUT** [45]	**TRA [42]**	**TAM D [39]**	**REVISED TAM [44]**	**TOE [35]**
Perceived usefulness	Yes	Yes	No	Yes	Yes	Yes
Patronage factor	No	No	No	No	No	Yes
Compatibility	No	No	No	No	Yes	Yes
Relative advantage	Yes	Yes	No	No	Yes	Yes
Complexity	No	No	No	No	No	Yes
Management support	Yes	Yes	No	No	No	Yes
Communication processes	Yes	Yes	No	No	Yes	Yes

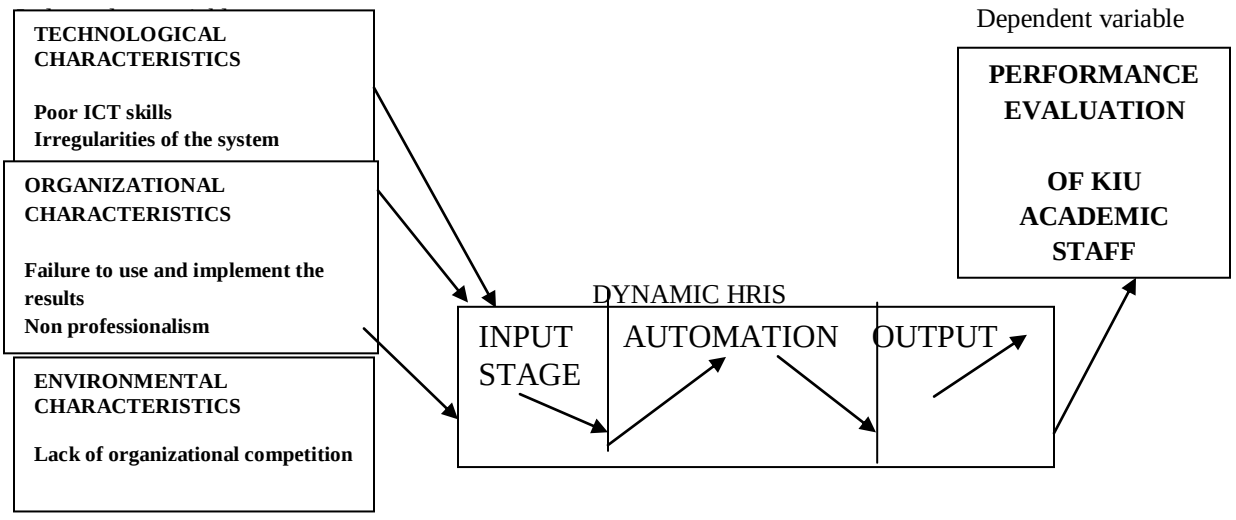

Figure 1: Proposed Conceptual Framework (Adapted from [3])

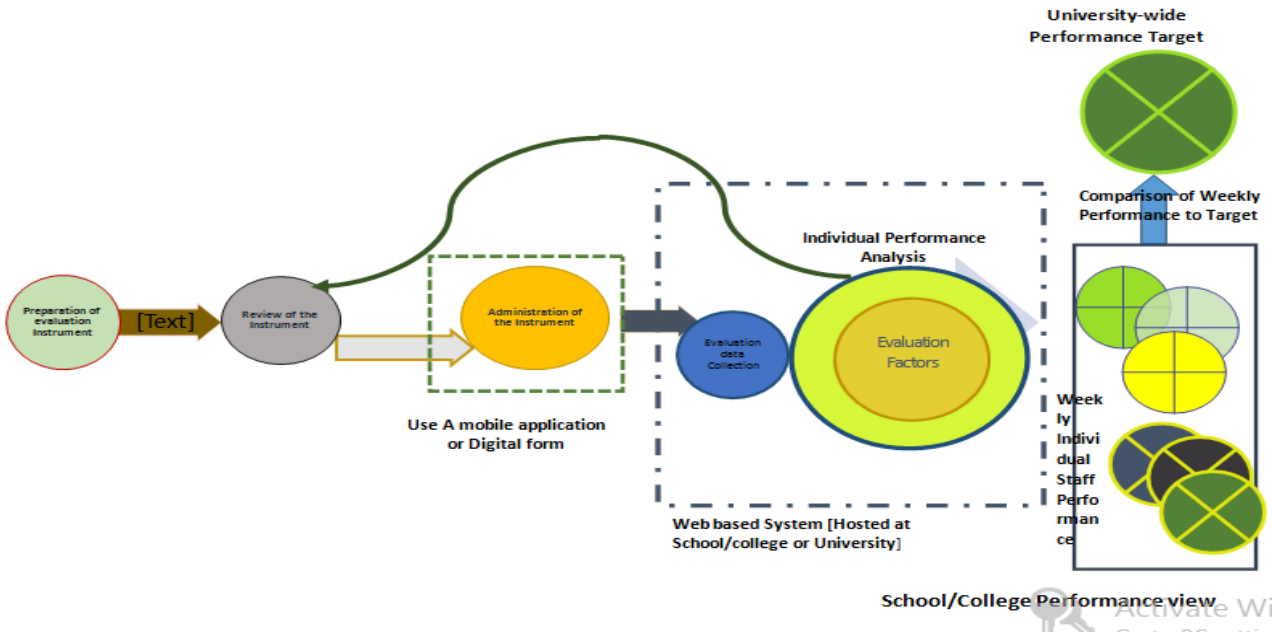

Figure 2: Dynamic Management Information System model for Performance Evaluation at KIU

Table 4a: Cronbach's analysis for Technological factors

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.577	0.710	6

Table 4b: Impacts of using a dynamic framework in performance evaluation

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.531	0.774	9

Table 4c: Requirements for the dynamic system's framework

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.520	0.710	12

Table 5a: Testing the validity of the data for the dynamic system's framework

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.610
Barletts Test of Approximation Chi-Square sphericity	15.101
Degree of Freedom(DF)	12
Significance	0.600

Kaiser-Meyer-Olkin (KMO) measure of technological factors = 0.611, which is acceptable

Table 5b: Test of impacts of using a dynamic framework in performance evaluation

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.530
Barletts Test of Approximation Chi-Square sphericity	15.778
Degree of Freedom(DF)	10
Significance	0.602

Kaiser-Meyer-Olkin (KMO) measure of Impacts of using a dynamic framework in performance evaluation = 0.602 which is acceptable

Table 6a: Mean range and interpretation

Mean Range	**INTERPRETATION**
0 – 1.25	Not true
1.26-2.51	Rarely True
2.52-3.77	True
3.78-5.03	Very True

*Table 6b: Statistical measured response of the **technological** factors that affect the application of a dynamic system framework for performance evaluation*

S/N	Variables studied	Mean	Standard deviation	Coefficient of variation	Interpretation
1.	Power shortages	3.88	0.66	0.0170	Very true
2.	Unavailable ICT services	3.88	0.75	0.0194	Very true
3.	Poor ICT skills	3.93	0.35	0.0089	Very true
4.	Unstable internet	3.20	0.35	0.0109	True
5.	Irregularities of the system	3.50	0.12	0.0034	True
6.	Lack of trust in the functionality of the system	3.88	0.65	0.0168	Very True

*Table 6c: Statistical measured responses of the **environmental** factors that affect the application of a dynamic system for performance evaluation*

S/N	Variables studied	Mean	Standard deviation	Coefficient of variation	Interpretation
1.	Limited publicity for the dynamic system	3.88	0.12	0.0031	Very true
2.	Lack of organizational competition	2.88	0.58	0.0202	True
3.	Lack of encouraging policies supporting the use of the internet	3.88	0.50	0.0129	Very true
4.	Absence of performance evaluation policies from the university's' management	3.88	0.70	0.0181	Very true

Table 7a: Statistical measured response on the perception among the academic staff members on using the dynamic human resource information system framework

S/N	Variables studied	Mean	Std. Deviation	Coefficient of variation	Interpretation
1.	It is easy to use	3.38	0.81	0.0240	True
2.	It makes the necessary requirements for promotion easily available and accessible to all staff	3.88	0.17	0.0044	Very True
3.	It is a better way of evaluating staff members	3.88	0.84	0.0216	Very True
4.	It improves the standard of the institution	3.88	0.95	0.0245	Very True

Table 7b: Statistical measured response on the requirements the dynamic human resource information system framework should consider for evaluating the academic staff members

S/N	Variables studied	Mean	Std. Deviation	Coefficient of variation	Interpretation
1.	Frequency of article publications in journals	3.88	0.48	0.0124	Very True
2.	Frequency of books written and published	3.88	0.76	0.0196	Very True
3.	Attained academic qualifications with certificates	3.88	0.37	0.0095	Very True
4.	Years of relevant work experience	3.88	0.47	0.0121	Very True
5.	Number of academic awards received	3.88	0.95	0.0245	Very True
6.	Relevant certifications obtained	3.88	0.90	0.0232	Very True
7.	Past academic posts/offices held with date	3.88	0.65	0.0168	Very True
8.	Number of attended lecturers per week with evidence	3.88	0.85	0.0219	Very True
9.	Response from taught students with evidence	4.13	0.03	0.0007	Very True
10.	Prompt submission of student's scores and results	3.88	0.85	0.0219	Very True
11.	Departmental meetings attendance	3.88	0.65	0.0167	Very True
12.	Application of other relevant skills possessed	3.88	0.25	0.0064	Very True

Table 8a-1: Demographic Characteristics of the respondents

Variable	**Option**	**Percentage (%)**
Gender	Male	62.1
	Female	37.9
Age	Below 25years	6.9
	25 – 34years	31
	35 – 44years	41.4
	45 – 54years	17.2
	55years and above	3.4
Highest level of Qualification	Masters	55.2
	Bachelors	24.1
	PhD	6.9
	Others	13.8
College/School	SEAS	31
	CHSS	24.1
	SCIT	13.8
	COEDL	13.8
	SOL	10.3
	CEM	6.9

Table 8a-2

COLLEGE/SCHOOL	MEANING
SEAS	School of Engineering and Applied Sciences
CHSS	College of Humanities and Social Sciences
SCIT	School of Computing and Information Technology
COEDL	College of Education and Distant Learning
SOL	School of Law
CEM	College of Economics Management

Table 8b: Coefficients of technological factors and the dependent variable (performance evaluation)

Model	Unstandardized Coefficients	Unstandardized Coefficients	Unstandardized Coefficients	Unstandardized Coefficients	
	B	Std. Error	Beta	T	Sig.
constant	7.912	2.576		3.072	0.003
Power shortage	-0.270	0.391	-0.067	-0.691	0.491
Unavailable facilities	0.500	0.663	0.088	0.753	0.453
Poor ICT skills	3.769	0.603	-0.593	-5.873	0.00
Irregularities of the system	-3.929	0.702	-.565	-5.595	0.00
Lack of trust in the functionality of the system	0.393	0.541	0.065	0.727	0.469

Table 8c: Regression between independent variables of organizational factor and dependent variable(performance evaluation)

Model	Sum of Squares	DF	Mean Square	F	Sig.
Regression	462.445	6	77.074	3.399	0.004
Residual	2222.194	98	22.675		
Total	2684.638	104			

Table 8d: Coefficients of organizational factors and the dependent variable (performance evaluation)

Model	Unstandardized Coefficients	Unstandardized Coefficients	Unstandardized Coefficients	Unstandardized Coefficients	
	B	Std. Error	Beta	T	Sig.
constant	5.324	3.825		3.222	0.002
Lack of training on how to use the system	1.419	0.748	0210	1.896	0.061
Management support	0.495	0.817	0.057	0.606	0.546
Financial support	-0.515	0.756	-0.069	-0.682	0.497
Failure to use and implement the result	-3.636	1.132	-0.431	-3.211	0.002
Poor communication link within the organization	0.794	0.812	0.135	0.978	0.331
Non-professionalism	-1.616	0.492	-0.344	-3.286	0.001