

Management Information System Design on Human Resource Management of Kampala International University: Design and Implementation.

Achola A.* Rose School postgraduate and Research Box 20000, Kampala, Uganda

The study designed, developed, implemented and determined the effectiveness of the human resource management of KIU, identifies the profile of the respondents in terms of age, gender, and highest educational attainments, number of years in present position and designation, Assessed the existing human resource management systems (EHRMS) at KIU in terms of usability and applicability by academic and non academic staffs, established significant difference in the level of assessment on the EHRMS, between the male and female users, distinguished significant differences in the perceived characteristics of a designed and implemented HRMIS, determined assessment of the users on the Designed human resource management information system (DHRMIS), established significant difference in the level of assessment of the Designed human resource management information system (DHRMIS) between male and female users, distinguished significant difference in the assessment before and after the implementation of the Human resource management information system (HRMIS).

Quasi-experimental method was applied Utilizing Sloven's formula and the sample size of 350 and Purposive sampling technique was employed; data were collected from KIU's 360 academic staffs, 198 non academic staffs, 177 administrators and 5 users of HRMS. Data were analyzed using descriptive statistics and inferential statistics.

The EHRMIS was perceived as being poor (1.85) which implied that there was a room for improvement. Since the Academic; non academic and administrative Staff do not directly interact with the system, their perception did not differ from that of the Users

The Designed system was evaluated as satisfactory (2.86) as compared to (2.84) a significant change in the HRMIS.

The study recommends that, the KIU management requires to put in place new software for DHRMIS to facilitate HR department to effectively manage human resource information and records.

1. Introduction

Human Resource Management Information System (HRMIS) is a concept concerning the utilization of Information Technology (IT) development and characteristics for effective managing of the Human Resource (HR) functions and applications. HRMIS is a systematic procedure for collecting, storing, maintaining, and recovering data required by the organizations about their human resources (HR) personnel activities and organizational characteristics (Kovach *et al.*, 2002). Kovach and Cathcart (1999) argue that HRIS vary among organizations in relation to their size and functions; they can be informal as the payroll records and time cards in a small organization

In the context of Kampala International University, HRMIS and the types of IT and their practitioners use have largely been a concern. Human resource department use filling system to manage all human resource activities, while office applications are used in handling all their work for example, the HR department use Microsoft word to process word documents, Microsoft Excel to prepare staff payments, without any centralized system that can be used to handle all records and other related activities, the existing system does not allow KIU employees to interact with HR department online by the help of the world wide Web. Because of these factors mentioned, the application of HRIS in Kampala International University confronts many challenges as it is applied recently such as lack efficient and effective delivery of services to the employees and total lack of employee and HR department interaction within the system. Thus this study will bridge the gap by designing and developing a human resource management information system for KIU (Human Resource 2010) Kampala International University.

1.2 Review of related literature

A Management information system is not just a technical artifact but a conception referring to a collection of interdependent components such as human beings (including their actions and behavior), organizational structures, work procedures, communication lines, computers, databases, and so on (Laudon, & Laudon, 2010). Being an organizational system and an organisation being a social system, an information system cannot completely be formalized. We all know that, for example, the flow of communication between two human beings does not only depend on the communication line or technical interface they share but also on the degree of sympathy and respect they pay to each other. Any attempt to formalize (and thus determine) this part of their

communication has to fail since it would affect the fundamental human attitude of behaving autonomously and being constrained only by personal responsibilities.

On the other view (O'Brien, 2008) asserts that the most characteristic aspect of the Actor- model is the interaction. The model precisely, examines the role of the various actors in it, the nature of the information they act upon, what they exchange when interacting and what characterizes the systems assisting in acquiring and disseminating information. A quick reaction to these aspects is: that action is undertaken on the basis of some special knowledge - called information; that the latter is shared out by a special process of interaction - called communication; in the course of which (often symbolic) messages are exchanged - called sign carriers or representations, and that the set-up of the world under consideration and its information providing arrangements may be viewed as displaying a special form of cohesion - called system

1.3 HUMAN RESORCE MANAGEMENT INFORMATION SYSTEM

Human Resource Information System (HRIS), is the systems and processes at the intersection between human resource management (HRM) and information technology. It merges as a discipline and in particular it's basic HR activities and processes with the Information technology field such as financial software, Human resource software. Reh et al (2007)

Susan. (2009), defines Human Resources Information System, as a system that lets you keep track of all your employees and information about them. It is usually done in a database or, more often, in a series of inter-related databases, he further states that, human resource information system (HRIS) is a systematic procedure for gathering, storing, maintaining, retrieving, and revising human resource data

1.4 Null Hypotheses

There is no significant difference in the level of assessment of the designed and implemented management information system between male and female users.

There is no significant difference in the level of assessment of system by the users before and after

1.5 Methodology

The quasi-experimental method was utilized especially before and after design or pretest (assessment of the existing human resource system) post test design (after the implementation of the proposed human resource management information system (DHRMIS). The quasi- experimental is one where the treatment variable is manipulated but the groups are not equated prior to manipulation of the independent variable. The quasi-experimental method has three distinct characteristics namely, manipulation, randomization, natural setting and single test group (experimental group) or area hence no control group is needed (Kothari, 2004). However this study went ahead to carry out field experiment in Kampala International University as the area of the study so that features of the experimental design are explored under the normal working situations.

1.6 Findings

Demographic Characteristics of the Academic and Administrative staff

N=180

| | Frequency | Percentage (%) |
|---|-----------|----------------|
| Age | | |
| 20-39 (Early adulthood) | 223 | 63.7 |
| 40-59 (Middle adulthood) | 126 | 36.0 |
| 60 and above (Late adulthood) | 1 | 3 |
| Total | 350 | 100 |
| Gender | | |
| Male | 224 | 64 |
| Female | 126 | 36 |
| Total | 104 | 100 |
| Highest Educational Qualifications | | |
| Certificate | 23 | 6.6 |
| Diploma | | |
| Bachelors | 111 | 31.7 |
| Masters | 205 | 58.6 |
| PhD | 11 | 3.1 |
| Total | 104 | 100 |
| Number of Years working in KIU | | |
| 1 | 11 | 3.1 |
| 2 | 100 | 28.6 |
| 3 | 122 | 34.9 |
| 4 | 37 | 10.6 |
| 5 | 26 | 7.4 |
| 6 | 42 | 12.0 |
| 7 and above | 12 | 3.4 |
| Total | 104 | 100 |
| Marital Status | | |
| Single | 144 | 41.1 |
| Married | 206 | 58.9 |
| Total | 350 | 100 |
| Designation | | |
| Laboratory attendant | 49 | 14.0 |
| lecturer | 157 | 44.9 |
| Head of department | 65 | 18.6 |
| administrator | 65 | 18.6 |
| Teaching Assistant | 10 | 6.4 |
| Total | 104 | 100 |

Table 3A shows majority of the academic and administrative as male (64%), most of who have master's degree (58.6%) and fall under the age bracket of early adulthood (63.7%). It also suggests that most academic and administrative staff are married (58.9%) and have worked for KIU for three (34.9) and two years (28.6). The

table further suggests that majority of academic and administrative staffs are of Ugandan origin (72.4) most of who are at the level of lecturer (44.9).

The results in Table 3A where majority of the respondents were male was attributed to the general tendency of their female counterparts to take up junior positions; still, most people struggle to have a Masters degree because a bachelors is considered 'cheap' and PhD is quite expensive.

1.7 Summary On Level of Assessment Human Resource System

| Indicator | Mean | Interpretation | Rank |
|--|------|----------------|------|
| users | | | |
| Utilizability | 2.83 | Satisfactory | 1 |
| Applicability | 2.78 | Satisfactory | 2 |
| Academic, non academic & administrative staff | | | |
| Utilizability | 1.90 | Poor | 3 |
| Applicability | 2.96 | Satisfactory | 4 |
| General Mean | 2.84 | Satisfactory | 5 |

1.8 Summary On Characteristics of the Existing Human Resource Management Information System

| Indicators | Mean | Interpretation | Rank |
|---------------|------|----------------|------|
| Utilizability | 1.90 | Poor | 1 |
| Applicability | 2.84 | Satisfactory | 3 |
| Total mean | 2.37 | Satisfactory | |

1.9 Summary On Level of Assessment of the Designed Human Resource Management Information System

| Indicator | Mean | Interpretation | Rank |
|----------------------|-------------|---------------------|------|
| Utilizability | 2.78 | Satisfactory | 1 |
| Applicability | 3.60 | Very satisfactory | 2 |
| Total mean | 2.86 | Satisfactory | 3 |

Significant Difference in the Level of Assessment on the Human Resource Management Information System 10 Designed Human Resource (DHRMIS) between Male and Female Users

| Variables | Gender | Mean | t-value | Sig Value | Interpretation of Difference | Decision on Ho |
|---------------|--------|--------|---------|-----------|------------------------------|----------------|
| Utilizability | male | 1.8682 | -1.406 | 0.161 | Significant difference | Rejected |
| | female | 1.9647 | | | | |
| Applicability | male | 2.4812 | 1.147 | 0.252 | Significant difference | Rejected |
| | female | 2.3857 | | | | |

10.1 Significant Difference In The Level Of Assessment Of The Proposed Human Resource Management System Before And After The Implementation Of The System By The Users

| Category | Mean | Computed t-value | Computed Sig value | Mean std Dev | Interpretation of Difference | Decision on Ho |
|------------------------------|------|------------------|--------------------|--------------|------------------------------|----------------|
| Level of Assessment On HRMIS | | 11.23 | 0.45 | 0.11 | Significant difference | Rejected |
| Before | | | | | | |
| After | | | | | | |

11 SYSTEM DESIGN AND IMPLEMENTATIONS

The proposed system was web based; it was designed with **Object-oriented analysis and design (OOAD)** is a software engineering approach that models a system as a group of interacting objects. Each object represents some entity of interest in the system being modeled, and is characterized by its class, its state (data elements), and its behavior.



12 CONCLUSION

The existing Human Resource management system was perceived as being poor which implied that a room of improvement suffices. Since the Academic; non academic and administrative Staff don't directly interact with the system, their perception does not differ from the Users, further suggesting more effort to be invested in improving the existing human resource management information system.

13 RECOMMENDATIONS

Based on the findings of the study, the following are recommended

Kampala international university management should adopt and implement the newly developed system, for effective and efficient human resource performance, this will further allow centralized record management systems for the employees at KIU.

Human resource management information system will be easily utilized and accessed by different users, since this system will be Web base, controlling all employees of KIU branch within the main campus in the university Database, the new systems will allow all employees will track their records at any time they want

14 References

- Amin, E. (2005). Social Science Research. Makerere University Printery, Kampala, Uganda
- Ball, Kirstie S. (2001). Knowledge Management. HRMagazine. 48(11), 107.
- The Use of Human Resource Information Systems: a Survey. *Personnel Review*. 30(6), 667- 693.
- Brown, David. (2002). eHR – Victim of Unrealistic Expectations. *Canadian HR Reporter*. 15(16), 1, 6.
- Bollinger, T. and McGowen. C. (1999). A Critical Look at Software Capability Evaluations.
- Delong, D. and Rockart J.F. (1992). Identifying the Attributes of Successful Executive Support System Implementation” in H. Watson, R. K. Rainer and G. Houdeshel “Executive Information Systems: Emergence, Development, and Impact.” Chichester: John Wiley and Sons.
- Gilb, T.(1999). What Is Level Six? *IEEE Software*. January
- Hopper, M.D. (2000). Rattling SABRE, New Ways to Compete on Information, *Harvard Business Review*.
- Pressman, R.S. (2001). Software Engineering: A practitioner's Approach. 5th Edition
- Pressman, R.S., and Herron .S.R (1999). *Software Shock*, Dorset House.
- Susan .M. (2000). Human Resource information Systems: User Group Implications. *Journal of Systems Management*. 41(1), 27-32.
- Geraldine Desanctis ,(1986). The Utility and Selection of an HRIS. *Advances in 5th Graduation*. (2010). Kampala International University. Kampala, Uganda
- Human Resource. (2010). Kampala International University. Kampala, Uganda
- Quality Assurance (2011). Kampala International University. Kampala, Uganda

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- Chrisanthi, A. and Tony, C. (1998). *Developing Information systems: Concepts, Issues and Practices*. Palgrave, Newyork.
- Colin,L. (1997) "Information systems frameworks and strategy", *Industrial Management and Data Systems*, Vol. 97 Iss: 3, pp.86 - 89
- Evernden, R. (1996). The information framework, *IBM Systems Journal*, v.35 n.1, p.37-68
- Fei, X. (2010). Implementation of an electronic resource assessment system in an academic library, *Program: electronic library and information systems*, Vol. 44 Iss: 4, pp.374 - 392
- Guoying, L. (2009). ERM system implementation in a consortium environment, *Library Management*, Vol. 30 Iss: 1/2, pp.35 – 43
- Jeongwook, K., Jintae K., Sooyong P. and Vijayan S. (2004). A multi-view approach for requirements analysis using goal and scenario, *Industrial Management and Data Systems*, Vol. 104 Iss: 9, pp.702 - 711
- Katz, R. L. (1999). Business/enterprise modeling, *IBM Systems Journal*, v.29 n.4, p.509-525
- Orlikowski, W. J. and Robey D. (2000). Information Technology and the Structuring of organizations." *Information Systems Research*. Vol. 2, pp. 143-169.
- Paul, G. R. (2007). MagneMotion's linear synchronous motor (LSM) driven assembly automation and material handling system designs, *Assembly Automation*, Vol. 27 Iss: 2, pp.97 – 102
- Tomas, E., Bo B. and Ove H. (2004). Reconstructing the history of the main Volvo Tuve plant: Some general trends, reasons and consequences for different assembly system designs", *International Journal of Operations and Production Management*, Vol. 24 Iss: 8, pp.820 - 839
- Tore,M and Uday .K. (2003). Integration of RAMS and risk analysis in product design and development work processes: A case study", *Journal of Quality in Maintenance Engineering*, Vol. 9 Iss: 4, pp.393 – 410
- Tzu-Chuan Chou. (2011). Exploring call center-enabled organizational mechanisms associated with combinative capabilities", *Management Decision*, Vol. 49 Iss: 6
- Watson,H and Frolick M.(1999). Determining Information Requirements for an EIS." *MIS Quarterly*, Vol. 17, No. 3.
- Yusuf, A. Ghassan A., Vian A. (2005). Requirements engineering for innovative Integrated ICT systems for the construction industry, *Construction Innovation: Information, Process, Management*, Vol. 5 Iss: 3, pp.179 200
- Zhelyu, V. (2011). Implementation of food safety management system in Bulgaria", *British Food Journal*, Vol. 113 Iss: 1, pp.50 – 65

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