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The Influence of Human Resource Information System on Organizational Performance in Tanzania; A case of ZanzibarPorts Corporation

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ABSTRACT: In today's knowledge-based economy, Technology is playing a key role in shaping every area of our life. The Advances in technology brings innovative techniques and methods of doing business in the world of competitive corporate. Technological innovation in every business function has significant impact on performance of organizations and it helps to improve the competitiveness of the firms and thus increasing the company's value. This study was conducted at Zanzibar Ports Corporation in Tanzania. The purpose of the study is to assess the influence of human resource information system (HRIS) on organizational performance at Zanzibar Ports Corporation. The study adopted a case study research design with quantitative and qualitative research approaches. A Sample size of 226 respondents was selected using simple random and purposive sampling techniques. The sampled respondents were given questionnaires and data was analyzed using IBM SPSS version 20 and content analysis was used to present data obtained from interviews. The study findings revealed that HRIS has a positive influence on organizational performance. This was reflected by high mean of 3.85916 and standard deviation of 1.044994 respectively. The study concluded that human resource information system has a positive influence on organizational performance through among others helping in supporting strategic decision-making operation, program and policy assessment or daily operational matters; providing information regarding employment and retention strategies facilitate quality information to management to make informed decisions; enhancing competitiveness through developing and increasing HR operations; speeding up information dissemination and facilitate changes and reduction of administrative workload by minimizing the boring, repetitive and routine tasks.

Key words: Human resource information system, organizational performance.

I. INTRODUCTION

In the 21st century era of information, communication & technology, organization management has been transformed in the present setup known as the “digital era” whereby most of the human resource (HR) functions have rapidly been changing by involving information technologies (Maditheti, 2017). Today HR has new segment of HR processes and practices such as, e-recruitment, e-performance, e-learning, e-selection and other areas to replace the old versions (Nawaz & Gomes, 2012). It is from this paradigm shift that a large number of organizations are leaving the tradition personnel management function and moving towards modern approaches of human resource information systems (HRIS) (Brien, 2008).

In today's knowledge-based economy, Technology is playing a key role in shaping every area of our life. The Advances in technology brings innovative techniques and methods of doing business in the world of competitive corporates. Technological innovation in every business function has significant impact on performance of organizations and it helps to improve the competitiveness of the firms and thus increasing the company's value, (Khashman et al., 2016).

HRIS has increasingly transformed since it was first introduced at the General Electric in the 1950s in USA. It is believed that future economic and strategic competitive advantage will rest with the organizations that can most effectively attract, develop, and retain diverse group of the best and the brightest human talent in the market place (Kavanagh et al., 2012). HRIS provide Human Resource Management (HRM) with the opportunity to become a more efficient and strategic function by standardizing the majority of the organizations human resource processes, improving the quality and speed of available information and improving services to employees (Ball, 2011). If HRIS is designed well, it will manage employee data in line with how the

organization is managed; hence the need for a multinational organization to implement a global HRIS in order to improve the organizational performance (Troshani et al., 2011).

Organizational performance and associated concepts such as effectiveness, efficiency and productivity have received wider application recognition in the world over (Meyer, 2010). Almost all the organizations operating on the international, global and domestic fronts in each of the continents have adopted effective and efficient programs with greater zeal and enthusiasm to improve their organizational performance (Hassan, 2011). Improved performance through effective and efficiency programs empowered by HRIS is now the norms in Europe, America, Africa, Asia and North American with all the countries. Additionally, all the industries, multinational companies, national companies and domestic firms and enterprises in all the states and countries have institutionalized effective and efficient practices to improve their organizational performance with varied degrees of success (Owino, 2010).

Globally, there is an increasing realization in the recent times that the success of a business enterprise in a complex and changing environment lies in efficient management of its Human Resources (Aswathappa, 2007). Information Technology has changed the way of doing business and the face of HRM around the world. Because HR affects the entire workforce whereby everyone who works for the company must be hired, trained, and paid, usually through HR, here comes the importance of HRIS (Shinde, Abhilasha&Ramakumar, 2017). Shinde et al. further noted that companies automate all sorts of activities like payroll, records, benefits information including recruiting, screening, and pretest applications online before hiring them as well as to train and promote employees once they've been hired. Therefore, HRIS can be a potent weapon for lowering administrative costs, increasing productivity, speeding up response times, and improving decision making and customer service.

In Tanzania, Zanzibaris identified to be among early adopters of several Open Source Software (OSS) such as District Health Information Software version 2 (DHIS), Human Resource Information System (HRIS) and Open medical record system (MRS). This software helps the government to run different operations in different ministries such as; the DHIS 2 has been used by the Ministry of Health to collect routine data related to diseases and health services provision. DHIS 2 collects aggregated statistics from small health facilities and hospitals. To widen its reach in data collection and use the Ministry adopted two more software; Human Resource Information System (HRIS) that is used to manage its staff and Open MRS, a medical record system for hospital inpatient departments. However, the major challenge of running these break-up systems is the availability of common data system where the ministry can rely on rather than duplicates from each system (Bakar, Sheikh & Sultan, 2012).

Furthermore, a survey on the Usage and Challenges of Human Resources Information System in the Tanzanian Public Organizations show that HRIS has been useful in HRM in Tanzania particularly in recruitment and selection, updating and maintenance of employee data, generating HR reports, employees' deductions, direct deposit distributions, career planning; and training, and development. Despite the relevance and promising contributions of HRIS to effective HRM and organizational performance in public organizations like Zanzibar Ports Corporation (ZPC), several challenges associated with the usage of HRIS were identified to be unsteady financial capacity to acquire, update and maintain the HRIS; inadequate ICT and HRIS expertise among the HRM workforce; inadequate coordination of government machinery in the performance of their statutory responsibilities; instability of internet connectivity and inadequate top management support (Matimbwa&Masue, 2019). Therefore, this study intended to assess the influence of HRIS on organization performance in Zanzibar Ports Corporation.

This study intended to assess the influence of human resource information system on organizational performance at Zanzibar Ports Corporation in Tanzania.

Despite the efforts of the revolutionary government of Zanzibar to promote the use of HRIS in its strategic development plans such as the Strategy for Growth and Reduction of Poverty (ZSGRP II), a number of challenges still exist (Revolutionary Government of Zanzibar [RGoZ], 2011). Among other challenges, poor application of HRIS has been identified to cause ineffective current performance appraisal in public service. This is due to the fact that tradition methods of evaluation are still in practice, lack of enough officials, clear system of evaluating employees, lack of performance appraisal policy and feedback provision after evaluation process among other factors stand as challenges facing the application of HRIS (Ishijima et al., 2015).

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II. LITERATURE REVIEW

Empirical review

Kaygusuz, Akgemci, and Yilmaz (2016) established that HRIS influences organizational performance through information and qualified human resources and related information which are recognized as fundamental and strategic production factors for businesses and organizations in the Big Data age are obtained, produced, arranged, shared and used in strategic management processes through information technologies. Additionally, the study indicated that HRIS contribute positively to organizational efficiency and hence to employee performance. Another study by Sergio et al. (2010) observed that when HR functions are loaded into computers within a HRIS, more rapid decision-making is achieved in development, planning and management of HR because it makes much easier storing, updating, classifying and analysing of the data.

Khera and Karishma (2012) argued that HRIS has a significant positive influence on organization performance because it is increasingly used in strategic decision-making process of the HR. Strategic decisions of any organization pose a long-term impact of the given organization, so when such decisions are used in HRIS by organizations, long-term performance of the given organization will also be affected. Another study by Sadiq et al (2012) show that in practice, as long as the institutions are not convinced about the benefits offered by HRIS, they hesitate to practically use this system. However, Sadiq et al adds that advanced accuracy, timely and rapid access to information, and cost-saving are some of the most common benefits of HRIS.

In another study, Teotia (2012) indicated reasons that make HRIS positively influence organizational performance. In his study Teotia show the reasons to be enhancing competitiveness through developing and increasing HR operations; producing more comprehensive HRM reports; shifting HRM's role to Strategic Human Resources Management; redesigning the whole HRM department of the organization; and the opportunity to use HRIS in supporting strategic decision-making operation, program and policy assessment or daily operational matters. These reasons are direct proof that if applied any organization will prosper and have a high level of performance.

Theoretical literature review

The study adopted Adaptive Structuration Theory (AST). It was inspired by Anthony Giddens's concept of structuration. AST was developed by M. Scott Poole based on the work of Giddens, Robert McPhee, and David Seibold. Poole took a critical approach to the linear models of communication and determined that group dynamics are too complicated to be reduced a few propositions or a predictable chain of events. Poole believes that group members affect outcomes and calls his theory adaptive because he thinks that group members intentionally adapt rules and resources to accomplish goals. AST is an approach for studying the role of advanced information technologies in organizational change (Poole & DeSanctis, 1990). The theory seeks to understand the types of structures that are provided by advanced technologies and the structures that actually emerge in human action as people interact with these technologies (Poole, 2000).

Social structures provided by advanced information technology have two parts. First, structural features are specific types of rules and resources, or capabilities, offered by the system. Second, spirit is the general intent with regard to values and goals underlying a given set of structural features. Spirit helps users understand and interpret the meaning of technology. Examples of dimensions that characterize the spirit of a social structure include: decision process, leadership, efficiency, conflict management, and atmosphere (DeSanctis & Poole, 1994).

AST is quite relevant to the study because HRIS system functioning within an organization highly depend on the operations of the group of HR officers whose decisions will directly affect the performance of the organization.

III. RESEARCH METHODOLOGY

The study employed a case study design due to the fact that it is robust in terms of saving time as well studying an aspect completely in depth and accurately using minimal resources (Wario & Khalfan, 2015). The study also involved the use of quantitative and qualitative techniques. The target population of the study involved 577 employees of Zanzibar Ports Corporation. From this target population, the study used a total number of 226 respondents who were determined using Krejcie and Morgan (1970) formula for determining sample size. simple random sample was to reduce the potential for human bias in the selection of cases to be included in the sample, for non-probability sampling technique, this study employed purposive sampling to get relevant information from the key informant for interviews from among the workers who were heads of departments.

Data collection methods

The study used closed ended questionnaire to collect data pertaining the influence of HRIS on organizational performance. This instrument was adopted it is cost-effective, simple and quick way to gather data that comes straight from the sources. Data were analyzed descriptively with the aid of IBM SPSS Statistics

software whereby descriptive statistics like mean and standard deviation was used to measure the influence of HRIS on organizational performance at ZPC. Qualitatively, data were analyzed by using contents analysis.

IV. FINDING AND DISCUSSION

Response rate

Out of all the 266 questionnaires distributed, 206 were collected and accepted yielding 77% response rate. On collecting the filled instruments from the respondents, the researcher and his assistants checked to ensure that all items in a returned questionnaire were responded to. Where omissions were noted a concerned respondent was requested to fill the missing responses. However, 60 (23%) questionnaires were either not returned or had errors that could not qualify for analysis. All 206 questionnaires that were returned and considered for analysis met 100% of the study's selected sample. The researcher met the minimum requirement of response rate which was above 60% as suggested by Fincham (2008) whereby this response rate helps researchers to avoid non-response bias in generalization of research findings.

The influence of human resource information system on organization performance in Tanzania with a case of Zanzibar Ports Corporation was assessed whereby the respondents were requested to rate the items provided in each objective basing on the scale provided. A five-point Likert scale was provided ranging from 1.00 to 5.00 as illustrated below.

Table1: Mean Score Interpretation

Description	Likert scale	Mean Range	Interpretation
Strongly Disagree	1	1.00 – 1.89	Very Low
Disagree	2	1.90 – 2.69	Low
Neutral	3	2.70 – 3.49	Moderate
Agree	4	3.50 – 4.29	High
Strongly Agree	5	4.30 – 5.00	Very High

Source: Primary data, (2020)

Table 1 above shows a five-point Likert scale that was used for measuring variables of the study. The scale ranged from 1 to 1.80 (very low mean score) indicates (strongly disagree), 1.90 - 2.69 (low mean score) indicates (disagree), 2.70 - 3.49 (Medium) indicates (Neutral), 3.50 - 4:29 (high mean) and finally, 4.30 – 5.00 (very high mean score) indicates strongly agree. Descriptive measures of central dispersion: mean and standard deviation were used for ease of interpretation and generalization of findings.

Table 2: The influence of HRIS on organizational performance at ZPC (N=206)

Items on the influence of HRIS	Mean	Std. Deviation	Interpretation
Does HRIS help in supporting strategic decision-making operation, program and policy assessment or daily operational matters?	3.961 2	1.00654	High
Does HRIS help in providing information regarding employment and retention strategies?	3.932 0	1.06622	High
Does HRIS facilitate quality information to management to make informed decisions?	3.912 6	1.00832	High
Does HRIS help in producing more comprehensive HRM reports?	3.893 2	1.05380	High
Does HRIS helps to enhance competitiveness through developing and increasing HR operations?	3.882 9	1.99309	High
Does HRIS help ZPC to speeding up information dissemination and facilitate changes?	3.873 8	1.03292	High
Does HRIS helps in the reduction of administrative workload by minimizing the boring, repetitive and routine tasks?	3.854 4	1.08567	High
Does HRIS help in applying HR functions effectively and efficiently which increase the financial and operational performance of	3.805 8	1.04586	High

organizations?			
Does HRIS enables shifting HRM's role to Strategic Human Resources Management?	3.757 3	1.00211	High
Does HRIS enables redesigning the whole HRM department of the organization?	3.718 4	1.15541	High
Total average score	3.85916	1.044994	High

Source: Primary data (2020)

Mean score from Table2 above indicate that the respondents rated high the question regarding “Does HRIS help in supporting strategic decision-making operation, program and policy assessment or daily operational matters?”. The majority of respondents agreed with the overall mean score of 3.9612 and standard deviation of 1.00654. This imply that for an organization to perform well, strategic decision-making operation, program and policy assessment or daily operational matters should be a priority of HRIS as indicated in this study findings. The findings correspond with Sergio et al. (2010) who observed that when HR functions are loaded into computers within a HRIS, more rapid decision-making is achieved in development, planning and management of HR because it makes much easier storing, updating, classifying and analyzing of the data.

Regarding the question “Does HRIS help in providing information regarding employment and retention strategies?”, the respondents rated high with overall mean score of 3.9320 and standard deviation of 1.06622. This imply that the most of respondents agreed and basing on the study findings the researcher observed that the organization performs when its employees are aware of their employment information and retention strategies which is all made possible by HRIS. The findings concur with Zafar (2013) who indicated that implementation of human resource information systems may be accomplished through the concepts of verification and validation, which is the process of checking that a product, service or system meets specifications and that it fulfils its intended purpose.

Concerning the question of “Does HRIS facilitate quality information to management to make informed decisions? the majority of respondents agreed high overall mean score of 3.9126 and standard deviation of 1.00832. This signify that for any organization to make an informed decision, HRIS is very important and it helps to boost organizational performance. The findings correspond with Khera and Karishma (2012) who argued that HRIS has a significant positive influence on organization performance because it is increasingly used in strategic decision-making process of the HR. Strategic decisions of any organization pose a long-term impact of the given organization, so when such decisions are used in HRIS by organizations, long-term performance of the given organization will also be affected.

Moreover, Table 2 above singled out that the respondents rated high the question regarding “Does HRIS help in producing more comprehensive HRM reports?” with the overall mean score of 3.8932 and standard deviation of 1.05380. These signify that HRIS help HRs to produce comprehensive management report and through that high organization performance is guaranteed. This findings also related with Teotia (2012) who showed several reasons that make HRIS to positively influence organizational performance such as enhancing competitiveness through developing and increasing HR operations; producing more comprehensive HRM reports; shifting HRM's role to Strategic Human Resources Management; redesigning the whole HRM department of the organization; and the opportunity to use HRIS in supporting strategic decision-making operation, program and policy assessment or daily operational matters.

Regarding the question “Does HRIS helps to enhance competitiveness through developing and increasing HR operations?” the majority of respondents agreed with a high overall mean score of 3.8829 and standard deviation of 1.99309. This singled out that for any organization to compete in its HR operations at high level HRIS is mandatory. The findings concur with Teotia (2012) who established that, the reasons that make HRIS to positively influence organizational performance is among others enhancing competitiveness through developing and increasing HR operations.

On the question “Does HRIS help ZPC to speeding up information dissemination and facilitate changes?” respondents rated high win the overall mean score of 3.8738 and standard deviation of 1.03292. The findings deduce that the majority of respondents agreed and basing on the study findings, the researcher observed that when the information is disseminated with quickly, the organization performance improves because delays in implementation of organizational tasks will be avoided. The study findings are supportive to Kaygusuzet al. (2016)who established that HRIS influences organizational performance through information and qualified human resources and related information which are recognized as fundamental and strategic production factors for businesses and organizations in the Big Data age are obtained, produced, arranged, shared and used in strategic management processes through information technologies.

Regarding the question, “Does HRIS helps in the reduction of administrative workload by minimizing the boring, repetitive and routine tasks?” Table 4.2above; indicate that the respondents rated high with the overall mean score of 3.8544 and standard deviation of 1.08567. This suggests that, HRIS reduce the number of

employees as the administrative workload reduces; hence this led to high performance with minimal budget. The findings concur with Sadiq et al (2012) who disclosed that advanced accuracy, timely and rapid access to information, and cost-saving are some of the most common benefits of HRIS. Also, this study findings agree with Dileep et al. (2010) who found that argued that HRIS is a combination of human resource management (HRM) and information system (IS), as HRIS assists HR managers in performing HR functions more effectively and systematically through the use of technology. The use of HRIS would decrease costs by automating information and decreasing the number of HR employees, by helping employees to control their own personal information and by allowing managers to access relevant information and data.

Table 2 above respondents rated high the question regarding “Does HRIS help in applying HR functions effectively and efficiently which increase the financial and operational performance of organizations?” This implies that the majority respondents agreed with the overall mean score of 3.8058 and standard deviation of 1.04586. The researcher observed that apart from HRIS simplifying HR functions, it also facilitates the increase of financial and operational performance in an organization. The findings correspond with Sergio et al. (2010) who observed that when HR functions are loaded into computers within a HRIS, more rapid decision-making is achieved in development, planning and management of HR because it makes much easier storing, updating, classifying and analyzing of the data.

Table2 above also point forward that the respondents rated high the question “Does HRIS enables shifting HRM’s role to Strategic Human Resources Management?” which imply that the majority respondents agreed with the overall mean score of 3.7573 and standard deviation of 1.00211. According to the findings, the researcher observed that HRIS is of a great importance in organizational performance since it helps in strategic human resource management. The findings corresponded with Teotia (2012) who indicated that HRIS enables the shifting HRM’s role to Strategic Human Resources Management and redesigning the whole HRM department of the organization.

Regarding the question “Does HRIS enables redesigning the whole HRM department of the organization?” respondents rated high with the overall mean score of 3.7184 and standard deviation of 1.15541. This imply that the majority of respondents agreed and the researcher observed that HRIS is key to redesigning the HRM department in an organization which in turn helps the HRM department to function more effectively and efficiently. The findings concur with Schiemann and Seibert (2017) who stated that an organization that take an interactive view of the performance management process and ensure that compensation is just one of many outcomes, which might also include promotion, new opportunities for learning and development, and other forms of recognition, understand the importance of integrating performance and HRIS to measure total compensation and rewards.

Interview findings on the influence of HRIS on organizational performance at ZPC

In this section, interviewees were asked to provide their views on how HRIS influences the organizational performance. Below is the summary of their view;

In responding to the above question, the first interviewee said:

‘sometimes I have a good feeling regarding HRIS especially when I truly know that I am being assessed by both human and technology...all my information regarding this work are safely stored in the system unlike previously where files used to be misplaced or get lost completely. I also believe that this HRIS makes me more focused and more committed to my work’ (RP₁).

The above findings from RP₁ suggest that HRIS motivates employees to work hard and feel safe about their personal work information. The findings are in agreement with Özdemir, Dulkadir, and Uğur (2018) who found that one of the major benefits offered by HRIS is its contribution to the efficiency of control functions whereby it brings strategic benefits to the information sharing, creation of an organizational memory, increased speed of decision-making and establishment of a culture of commonality. Similarly, the findings concur with Sergio et al. (2010) who observed that through the use of HRIS, more rapid decision-making is achieved in development, planning and management of HR information while also helps in easier storing, updating, classifying and analyzing of the data.

Another interviewee said:

‘you can see for yourself how busy people are now... this is an indicator that HRIS makes employees more hard working and through that they become more productive. This system has managed to solve so many cheap mistakes like loss of information and unnecessary delays of some expected planned activities but after its implementation today we are relaxed as you can see for yourself...’ (RP₂)

The above findings from RP₂ imply that HRIS influences organizational performance through motivating employee to work hard. The findings are in line with Sergio et al. (2010) who found that HRIS helps

the effective use of human resources in actualization of organization's strategic goals and meeting individual needs of the employees. In the same vein, the study findings agree with Sadiq et al. (2010) who suggested that through the use HRIS the organizations are gifted with unstoppable commencement of future HR process which involves among others planning of work processes, performance appraisal for employees, employees' training and development, and retirement in lieu of a personnel management procedure where only the records are kept. In responding to the interview question, this interviewee said:

'I work with HR department here, so your question to me means a lot! HRIS for my department has brought a relief especially on our tasks, in addition to that we give feedback to our employees timely. It is hard to say everything but this system has removed a big burden that my department had before its operation' (RP₃).

The above findings from RP₃ suggest that through HRIS operation, the HR department has managed to work effectively to serve the organizational needs. Hence, through this HR effectiveness, the employees get what they deserve and thereby improve their performance in achieving the organizational goals. The findings agree with Sergio et al. (2010) who noted that HRIS has helped HR managers and professionals to take more rapid, accurate and effective feedbacks and decisions that in turn helps in improving the organizational performance.

V. CONCLUSION AND RECOMMENDATIONS

Conclusion

The study concluded that human resource information system has a positive influence on organizational performance through among others helping in supporting strategic decision-making operation, program and policy assessment or daily operational matters; providing information regarding employment and retention strategies facilitate quality information to management to make informed decisions; enhancing competitiveness through developing and increasing HR operations; speeding up information dissemination and facilitate changes and reduction of administrative workload by minimizing the boring, repetitive and routine tasks.

Recommendations:

HR department should understand that HRIS may be an important tool for the port authorities to gain competitive advantage as HRIS is expected to reduce paper works, facilitates decision making, streamline HR processes and procedures and to have accuracy employee's information. With an HRIS, the human resource department can naturally manage employee data, whenever required supplementing it with computer and web-based technology, allowing them to reallocate their energies towards more important HR activities like implementing policies to achieve organization goals. ZPC management should be seriously commitment to the use of HRIS so that to utilize its potential entirely.

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