

# Original Research Article

## SELECTED ORGANISATIONAL CAPABILITIES AFFECTING IMPLEMENTATION OF ERP SYSTEMS AT UN-HABITAT

### ABSTRACT

This research sought to find out the influence of top management support on ERP Implementation; find out the impact of business processes reengineering on ERP Implementation; identify the impact of ICT Infrastructure on ERP Implementation; and establish the influence of tacit knowledge users (user involvement) on ERP Implementation at UN-Habitat. The study used descriptive research design, where it obtained a sample size of 70 respondents and selected the respondents using stratified proportionate sampling. The study data collected from primary sources using structured questionnaire directly administered to the respondents based on the drop and pick method. Data was analysed using quantitative analysis to produce descriptive statistics followed by inferential analysis for estimating a model and its results represented using figures and tables and explained using narrative and its data analysis assisted by SPSS software. The study concludes that; there is a positive and significant relationship between top management support and ERP implementation at UN-Habitat; business processes reengineering positively significantly influences ERP implementation at UN-Habitat, Information communication technology infrastructure has a significant moderate influence on its ERP implementation, and tacit knowledge users have significant moderate influence on ERP implementation at UN-Habitat. The study recommends that UN-Habitat should; clearly spell out the role of top management involvement, review its business process policy to accommodate various system development activities improves existing ICT infrastructure to match the proposed requirement of the vendor to implement ERP system; and acquire the appropriate tacit knowledge users for ERP implementation possessing.

Keyword: Business processes reengineering, Enterprise Resource Planning implementation, Information communication and technology infrastructure, Tacit knowledge users, Top management support, Un-habitat

### 1. INTRODUCTION

#### 1.1 Background to the study

Like most organisations, UN-Habitat chose Enterprise Resource Planning (ERP) products as their System Applications and Products (SAPs) to replace the legacy systems through acquisition of an entire suite of SAP's ERP Software Suite and is customizing it to fit the environment (Abuwarda, 2017). Implementation involves all of the activities necessary to make the selected system operational in a given organization. The Critical success factors (CSF) shows that top management, people (tacit knowledge users), data, business process and technology as significantly helping in ERP implementations (Cantu, 1999). Although the implementation phase is the most researched topic in the ERP system lifecycle, the effect of organisational capabilities on the implementation and the activities performed during the implementation is scarcely documented (Lech, 2016). More so, choosing an ERP solution that meets a specific business requirement will enable any organization to have a smoother implementation (Donnel, 2016). Success of implementation of any information system requires the main components to work together where *tacit knowledge users* must use *technology* to capture the necessary *data or information* using the available *standard operating procedures* that are in place in the organization on adaptable use of resources. For an ERP's proper implementation in organizations it is important that information is shared within the organization to the right tacit knowledge users and at the right time for effective business process re-engineering, in a manner that represents the organizations workflow. Furthermore, knowledge management strategies and Systems (KMS) must be in place so as to capture best practices, lessons learnt as well as explicit and tacit knowledge which resides with the individual but might be necessary for ERP implementation. Accordingly, the present study considered; top management support, business processes reengineering, ICT Infrastructure, and tacit knowledge users as the organisational factors affecting ERP implementation at UN-Habitat. On the other hand ERP implementation methodology is where the company declares their strategic decisions regarding how to conduct the implementation, and selects a focused path for ERP deployment (Dunaway, 2015). Company driven implementation strategy is when a company drives the leadership and direction for how the ERP system is implemented. Implementation encompasses the processes, activities, and tasks to implement an ERP system.

#### 1.2 Statement of the problem

UN-Habitat adopted an entire suite of SAP's ERP Software and customized it to fit the business process. Despite continued review of the adopted SAP ERP suite to fit to the business processes reengineering of the organisation (Candra, 2014), actualization of a successful ERP implementation at has been elusive. Adoption of an off-the-shelf ERP has proven disastrous in terms of; cost exaggeration, time taken and achievement of its objective. Subramanian (2018) posits that although there exists a liturgical resemblance of likeness between organizations, a "copy & paste" would prove disastrous as witnessed on the implementation of SAP ERP systems. Berente, Vandenbosch, and Aubert (2009) postulate that integration of existing stand-alone information systems with ERP systems is a major problem for many organizations, complicated by the fact that ERP systems also seek to integrate business processes reengineering in organizations which were previously function-based. The study Malahat (2013) indicates that over 50 % of the projects had their cost posted at 189% of their original estimate while Panorama Consulting Solutions (2015) found that; 58% implementation showed a cost overrun; 65% had issued time overruns, and 53% of the implementations stated that the system met less than 50% of the set objectives in comparison to tangible benefits. These and many more problems have been encountered in implementing the Umoja ERP in UN-Habitat and the secretariat. Addressing these challenges affecting implementation of the SAP-ERP demands for sufficient organisational capabilities to support its

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operationalization. Thus, UN-Habitat-Kenya requires sufficient top management support, effective business processes reengineering process, appropriate ICT Infrastructure and relevant tacit knowledge users to assist in the implementation of Umoja. However, there is a lack of adequate research providing the necessary guidance; outlining organisational capabilities vital for assisting implement the S-ERP systems (Chofreh et al. (2014a). This research therefore sought to address the top management support, business processes reengineering process, ICT Infrastructure and tacit knowledge users as factors affecting ERP Implementation at UN-Habitat.

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**1.3 Research Objectives**

- (a) To find out the impact of top management support on ERP implementation at UN-Habitat
- (b) To find out the effect of business processes reengineering on ERP Implementation at UN-Habitat
- (c) To identify the influence of ICT Infrastructure on ERP Implementation at UN-Habitat
- (d) To determine the influence of tacit knowledge users on ERP Implementation at UN-Habitat.

**1.4 Research hypothesis**

*H<sub>1a</sub>: There is no statistically significant relationship between top management support and ERP implementation at UN-Habitat*

*H<sub>2a</sub>: There is no statistically significant relationship between business processes reengineering and ERP implementation at UN-Habitat*

*H<sub>3a</sub>: There is no statistically significant relationship between ICT infrastructure and ERP implementation at UN-Habitat*

*H<sub>3a</sub>: There is no statistically significant relationship between tacit knowledge users and ERP implementation at UN-Habitat*

**2. LITERATURE REVIEW**

**2.1 Theoretical Framework**

A theoretical framework, being a conceptual model for making logical sense of the relationships among the several factors, is found important to this study (Sekaran, 2003). It will be used in assisting clarify associations among variables of interest, by underlying these relations and the direction of the relationship. It will serve in focusing the scope, identifying the conceptual variables to be extracted and to make explicit relationship to the synthesizing question of the analysis.

**Critical success factors (CSF) Models for ERP**

The concept of CSFs was developed as variables that when properly sustained, maintained, or managed, can have a significant impact on the success of a firm competing in a particular industry (Leidecker & Bruno, 1984). The CSFs are assumed to provide significant positive effect on their outcome. Therefore, knowing a greater number of CSFs pertaining to a specific innovation process is considered as critical to the success of the process (Karim, Somers & Bhattacharjee, 2007). Thus, it's important to identify key areas in achieving improvements of the performance (Ram & Pattinson, 2009)

One of the first to develop a CSF model for ERP implementations was Cantu (1999) with the classification captured in Table 1.

**Table 1: CSF model of Cantu (1999).**

Critical success factor	CSF attributes
Top Management	Commitment Education Involvement Project team selection Training Roles and responsibility
Process	Alignment Documentation Integration Process redesign
Technology	Hardware Software Systems management Interface
Data	Master files Transactional files Data structure Maintenance and integrity
People ( tacit knowledge users)	Education Training kills development Knowledge management

The CSF of the theory may be mainly categorized as Top management, people (tacit knowledge users), process and HIT, which significantly helped the present study consider; top management support, business processes reengineering, ICT Infrastructure, and tacit knowledge users as the factors influencing the ERP Implementation at UN-Habitat.

### **Somers Nelson and Ragowsky (2000) framework**

This study will heavily borrow from the framework proposed by Somers et al. (2000) that includes contextual factors such as industry type, size, structure, which are implied as critical in achieving positive outcomes from ERP acquisitions. The Somers et al. framework suggest that the value that adopting organizations would obtain from their ERP software could depend on the extent to which there is a match between the process, contexts, and contingency factors. This study contends that the Somers et al. (2000) framework is rooted in the contingency approach, which will inform the development of this study's model.

The ERP models discussed above are based on studies conducted in developed countries which are the home countries of multinationals. Thus, the framework can provide a rich context which could be used to references the already existing ERP models or develop new ones. The commonly mentioned variable in the theory is process and with regards to the present study, the business process is considered as factor influencing RP Implementation at UN-Habitat.

### **Delone McLean Model (Delone & McLean, 2003)**

The Delone McLean model design, developed following an analysis of IT articles published between 1981 and 1988 inclusively (Kronbichler, Ostermann, & Staudinger., 2010), was found useful in this research. The model is comprised of six interrelated dimensions: information, system, and service quality, intention to use, user satisfaction, and net benefits (Delone & McLean, 2003). The information system, service quality and user satisfaction criteria serve as a base to measure the intention to use. The user satisfaction is measured by the net benefits of the ERP implementation (Kronbichler et al., 2010). Thus, the satisfaction of tacit knowledge users would serve as an essential factor on ERP implementation in multinational organizations and UN-Habitat and accordingly, the study considered the tacit knowledge users as a factorsaffecting the ERP implementation in multinational organizations and UN-Habitat, independent variable. More precisely, the Delone McLean model assisted the present stduys in regarding the role of the management and the Delone McLean model in ERP implementation in multinational organizations and UN-Habitat, leading to these variable being useful in the study as independent variables.

### **2.3 Empirical Review.**

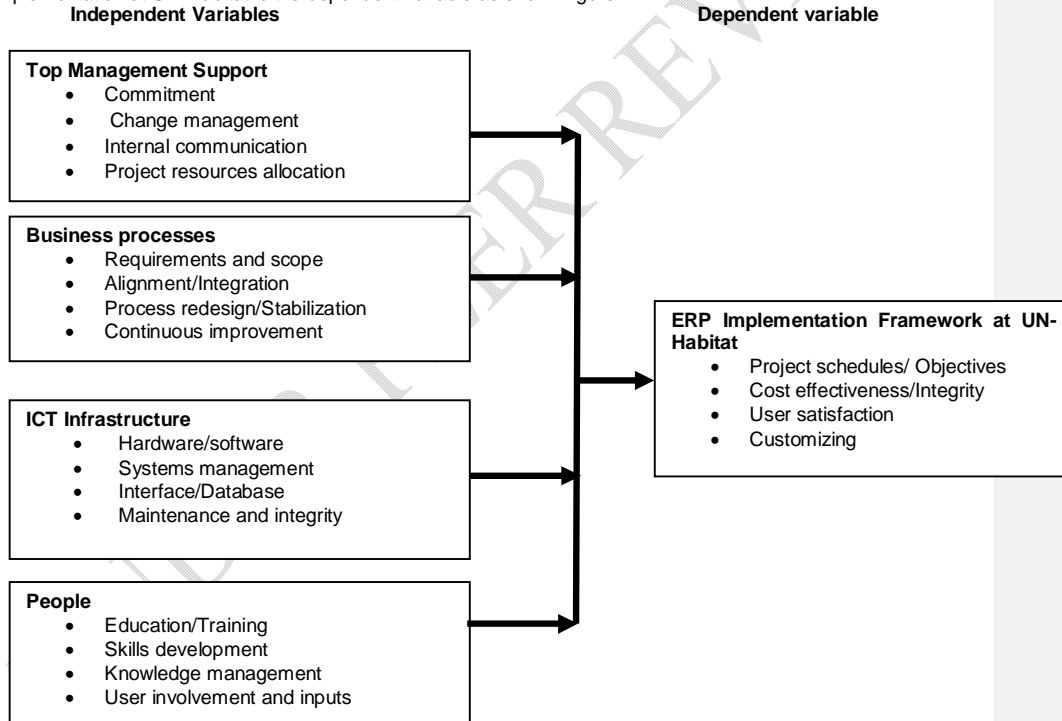
Numerous empirical studiesERP implementation were reviewed in order to get an idea of formulating the structure of the framework. A peer review method is applied to review of related empirical literature on ERP implementations.Subramanian (2018) developed a framework with key focus on the risk identification, Risk assessment and mitigation at in the early stage of the implementation to reduce or avoid implementation failures.The results of the study by Desalegn and Pettersson (2018) shows that more users should be involved in the ERP implementation. Furthermore, the companies believed each 13 CSFs to be critical in an ERP implementation. Islam's (2017) study proposed Framework for ERP Implementation at Palestine Polytechnic University (PPU) which considered thatthe core concept of the ERP is the integrity, when using a centralized database to combine all organization's departments' software. The study by Taterh (2017) established that initially, ERP systems were centred on manufacturing and business sectors. However, implementation experiences vary across different developing countries. Similarly, the ERP implementation experience varies depending on the sector. According to the study by Taterh (2017), it is important to have well-structured risk management focus is essential while implementing ERP. Hence it is important that the unique context of challenges and risks of ERP implementation and evaluation, demanding sector specific research. Chofreh, Goni, and Klemeš, (2017) in their study established that organizations need to implement Sustainable Enterprise Resource Planning (S-ERP) systems to manage their sustainable business. Darbs' (2017) study concludes that sources of motivation have a different impact on performance of employees during ERP projects compared to other working conditions. It can be concluded that the temporal aspect of ERP projects and the heavy workload during that period favour staff with particular motivational characteristics. According to the study, a worldwide generalization of the results cannot be made. The study found that the dimension of project management which includes the quality of project management process, compliance of specifications, satisfaction of project stakeholders and quality of service covers the most considerable dimension for the measurement of ERP project success. The results in the study by Bindi, (2016) suggested that top management involvement is key to the successful implementation of cloud-based ERP system. Gaining trust and support from top management is very important as they are the once who avails resources for the successful implementation of the cloud-based ERP. The results of the study by Cuppen (2016). Provide new insights in the research area of ERP implementations and changes on multinational corporation (MC). The study by Musili (2016) concluded that the decision to implement ERP system was taken by various reasons including: Improvements in processes and better control over them, enhanced quality of processes, predictability of business and business processes reengineering become standardized across the whole enterprise, better transparency and improved integration of activities across departments.

The findings of the study by Bertolo, (2015) are three-fold:Critical Success Factor (CSF) definition, Public Sector Company (PSC) context, and Measurement framework.The first finding from the applied project is that private and public sector companies are similar in many ways in regards to the CSFs definition.The study by Heijblom (2015) concludes that while many mobile enterprise applications already exist that may be used on mobile devices that are also integrated with back-end ERP systems, it is still an immature domain that is not far developed yet. A study by Ram, Corkindale, and Ming-Lu (2015) shows the measurement of this aspect of the process identifies current issues so they can be effectively dealt with and decreases implementation problems in the later stages of the ERP life cycle. The OGRD measures four CSFs: project management, training and education, BPC, and IT system integration. Ziemba and Oblak (2013) shows available solutions are not able to be a "one size fits all" and must be adjusted to fit public sector needs.The study by Berglöf Stridh and Wågström (2013) describe a misfit between the chosen ERP and the organizational social culture. Loo *et al.* (2013) found that the organization that had adopted ERP, were able to achieve organizational benefits more as compared to

organizations that did not adopt ERP. Alves and Matos (2011) recognized defined the business process owner to make others aware of the process complexity and hierarchical bureaucratic culture while Ebrahim and Irani (2005) who state process and data ownership relates to perceived power and is an obstacle for the implementation of IT systems that were conceived to optimize processes like ERP and e-government. Tsai Chen, Hwang and Hsu (2010) proposed an IT strategy framework which can be used by organizations planning to implement ERP to align their business and IT strategy. Zarei and Naeli (2010) study shows that tactical CSFs groupings incorporate operational components such as the IT consultants, the business process change, and SC. Bahar, K. (2004) concludes that there is no one generic ERP system solution that fits all organizations.

**2.4 Conceptual Framework**

Borrowing heavily from CSF model for ERP and Reitsma and Hilletoft (2017) 13 CSF framework and guided by the ERP Orchestration Theory, the study proposed a conceptual framework which suggest that, top management support, business processes reengineering, ICT infrastructure, and user involvement (people) are the main factors appropriate for design of an ERP implementation for UN-Habitat. Notably, the CSF model for ERP implementations developed by Cantu (1999) considered five critical success factor for development an ERP implementation while Reitsma and Hilletoft (2017) framework considered 13 CSFs. However, the present study proposed a hybrid of the two framework, where the five CSFs in the Cantu (1999) framework' top management support, Process, Technology infrastructure, data, and people were suppressed to four; top management support, business processes reengineering, ICT infrastructure, and people (such as tacit knowledge users). The study considered all the indicators in both frameworks; Cantu (1999) framework and Reitsma and Hilletoft (2017) framework and added more as suggested by Karim *et al.* (2007). Karim *et al.* (2007) suggests that knowing a greater number of CSFs pertaining to a specific innovation process is considered as critical to the success of the process. In this study; top management support, business processes reengineering, ICT infrastructure, and people (preferably tacit knowledge users) are the independent variables while the ERP implementation at UN-Habitat is the dependent variable as shown figure 1.



Source: Researcher (2022)  
Figure 1: Conceptual Framework

**3 RESEARCH METHODOLOGY**

**3.1 Research design**

Gupta and Rangi (2014) explain that a research design is necessary for guiding the researcher in providing a road map for data collection, measurement of that data and for data analysis. Being a master plan, research design specifies the appropriate tools and technique that would enhance collection of adequate data and effective analysing of that data. It also details all the tasks concerned with conducting the research at hand. The present study had identified descriptive research design as the most appropriate research design for ERP implementation among multi-national organizations. Descriptive research design is very effective in describing the characteristics of existing phenomenon and for soliciting data as well as information in most areas of research

as required in the present study. The present study demanded for provision of insights into the ERP implementation, which descriptive research design would conveniently achieve with ease through definition, estimation, prediction and examinations of associative relationships. Descriptive research makes use of six W's (who, what, when, where, why, way) of research (Gupta & Rangi, 2014) and this will significantly help the present study.

### 3.2 Population

The population under study included the UN-Habitat staffs who work on daily basis on the ERP, though a sample of five (5) departments which was used to represent the whole agency. The population under study was chosen based on the core functions and modules that are conducted through the Umoja ERP. The target population of this study comprised of 85 respondents from the whole organization.

### 3.3 Sample and sampling methods

The study purposively selected 70 respondents from the target population who represented the five (5) departments; finance, procurement, human resource, knowledge management and ICT as captured in Table 2.

**Table 2: Sample size of respondents**

Respondents	Target population	Sample Size
Finance	21	18
Procurement	18	17
Human Resource	25	20
Knowledge Management	6	4
ICT	15	11
<b>Total</b>	<b>85</b>	<b>70</b>

Source: Own Computation (2022)

### 3.4 Data collection tools and procedures

Data was collected by means of questionnaires. Questionnaires are appropriate for gathering the views of a large number of people about a particular phenomenon. Questionnaires were used to gain general picture on what ways knowledge is shared within the organizations as well as to find out other challenges that are experienced in implementing the ERP system.

### 3.5 Validity and reliability

Before the study embarked on active data collection, it first tested for the instrument for validity and reliability, by conducting a pilot test. These tests are necessary for establishing as well as ensuring the reliability and validity of the tools designed for collection of data in the research.

#### Validity

Kothari (2010) asserts that validity of the research tool is an indication of the degree to which that instrument measures the expectations of the study and as well ensures that the tool is appropriate and useful to the study data collection. Based on these assertions, the present study tested for questionnaire's validity to establish its accuracy and meaningfulness using the content validity test. Content validity tests measure the degree to which data collected from the questionnaire would represent the specific domain of ERP implementation. The tests of content validity will be done through submitting the questionnaire to two professional experts, who will assess its content validity. These experts included an information science expert and the other the thesis supervisor. The information science professional was tasked with helping assess the questionnaire and determine whether the sets of items accurately measured ERP implementation at UN-Habitat while the supervisor assessed the questionnaire in the views of establishing the concept being measured by the instrument.

#### Reliability

Reliability, which is the stability or consistency of scores over time, measures the degree to which the entire tool is free of error and in effect the items in the instrument would yield consistent results. Reliability tests are carried out for establishing critical issues of the study which include; sources of data, data collection methods, time taken in data collection, biasness and accuracy of the tool (Kvale, 2007). In the present study, the questionnaire was administered to 7 respondents for answering the question with a period of one (1) week to respond. The researcher then improved the questionnaire, after receiving responses, by editing the items found to be inconsistent. The study used the Cronbach's alpha internal consistency technique to test for reliability of the questionnaire. Internal consistency of data collected was determined by correlating the items in the questionnaire (research instrument) to obtain a coefficient of correlation, this time known as the Cronbach's alpha ( $\alpha$ ). The absolute value of  $\alpha$  varies between 0 and 1. In the social sciences, if the value of Cronbach's alpha is less than 0.7, the tool is classified as having unsatisfactory internal consistency reliability or simply being inconsistent. However, a value of Cronbach alpha greater than or equal to 0.7 indicates higher consistency in which case was accepted otherwise it was reviewed to retest for reliability. The results are in table 3.

**Table 3: Reliability Statistics**

Variable	Cronbach's Alpha	N of Items
ERP implementation	.875	7
Top Management Support	.919	9
Business processes reengineering	.853	11
ICT Infrastructure	.966	10
Tacit knowledge users	.625	5

**Source: Researcher (2022)**

Table3 shows the mean of Cronbach's alpha obtained as calculated through SPSS was 0.978. Kothari (2010) asserts that, if Cronbach alpha value  $\geq 0.7$  then this indicates higher consistency for a given scale and then the tool will be accepted otherwise the tool is reviewed through editing or deletion of items in it. This means that the tool was highly consistent, at  $\alpha = 0.978$  which was greater than the threshold of 0.7. Since the Cronbach alpha was greater than the threshold 0.7, then tool was considered as reliable and all the items were therefore retained and used for further analysis.

**3.6Data analysis**

After successful data collection, the researcher was checked the data for errors of omission and commission. The questionnaires containing meaningless or uncompleted answers were omitted and then the researcher embarked on analysis of the correct questionnaire. During the analysis, the researcher first classified the data and code the same data accordingly. The coded data was analysed using quantitative analysis technique to produce the associated descriptive statistics. This analysis was done according to the study objectives, isolating each study variable to describe the properties of that variable and relationship of the variable with strategic change management. Descriptive statistics including; means and standard deviation were produced, explaining the respective study variables properties and based on study objectives. The results from the data analysis was represented in tables and figure and thereafter interpreted in narratives.

Secondly, inferential analysis (correlational and multiple regression analysis) were carried out to produce inferential statistics for establishing whether there exists any relationship between the study Independent Variables (IVs) and the Dependent Variable (DV) and to establish a model to estimate of DV (response) in terms of the predictor IVs, based on the model shown below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \dots\dots\dots (i)$$

Where:

- Y = ERP implementation at UN-Habitat
- X<sub>1</sub> = Top management support
- X<sub>2</sub> = Business processes reengineering
- X<sub>3</sub> = ICT Infrastructure
- X<sub>4</sub> = Tacit knowledge users
- $\beta_0$  is a constant and is the value of Y dependent variable when X<sub>1</sub> = 0 and X<sub>2</sub> = 0 and X<sub>3</sub> = 0 and X<sub>4</sub> = 0).
- $\beta_{1-4}$  is the regression coefficients or change induced by X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub>
- e = error term

**4 Research Findings and Discussions**

The study sample size was 70. Soquestionnaires were administered to 70 respondents. However, the response rate was 58, which translates to 82.86%.

**4.1 Descriptive Analysis**

The study analyzed the data collected to describe the study variables using descriptive statistics, which helped to establish the influence of the independent variables on the dependent variable. The study relied on result produce from analysis of data collected using a questions ranked on 5 point Likert scale; "1 = Strongly Disagree; above; 2 = Disagree; 3 = Neutral; 4.= Agree; and 5.= Strongly Agree" to assess the ERP Implementation at Un-habitat. The study obtained a mean (M) and standard deviation (M) for each indicators of ERP implementation. The means obtained for these indicators were used to obtain the overall mean for the ERP implementation (Mean of Means). The same applied to the SD. Since the M and SD were in ratios, the study moderated these using the statistics; 1– 1.8 for Strongly Disagree; above 1.8 – 2.6 for Disagree; above 2.6 – 3.4 for Neutral; above 3.4 – 4.2 for Agree; and above 4.2 – 5.0 for Strongly Agree during interpretation. These statistics were also considered to imply that; Strongly Disagree indicates not at all; Disagree is for low, Neutral indicated moderate, agree represents high and Strongly Agree means Very high.

When assessing the research objectives, the research data was collected using a questionnaire ranked on the 5-point Likert scale; "1 = Not at all; above; 2 = Low; 3 = Moderate 4 = High; and 5.= Very High". The result produced were in form of M and SD, moderated using the statistics; 1 – 1.8 for not at all; above 1.8 – 2.6 for Low; above 2.6 – 3.4 for Moderate; above 3.4 – 4.2 for High; and above 4.2 – 5.0 for Very High.

**4.1.1 ERP implementation**

The study first evaluated the status of ERP implementationto established the far the organisation had performed in relation to ERP implementation integration.The results obtained for ERP implementation industry were recorded in Table 4.

**Table 4: Analysis by Status of ERP implementation**

ERP implementation	M	SD
The ERP system was implemented within the stipulated timelines without any delays as per the project schedules	2.05	1.08
Cost of implementing the ERP was within the budget provisions of the projects (Cost effectiveness)	2.00	0.90
The ERP implementation has successfully integrated all the sustainable data and activities across different branches and divisions within the organisation	2.51	1.24
The ERP system was implemented to user satisfaction	2.36	1.15
The evaluation of the implemented system indicated that the set objectives were achieved	2.44	0.95

The implemented ERP has been successfully customised to fit the business environment of the organisation 2.50 1.17

**Average ERP implementation 2.31 1.08**

Source: Research Data (2022)

The results in Table 5 shows that the generally, the respondents agreed that on average they disagreed that existing ERP implementation was effective (M = 2.31; SD = 1.08). That is the performance of the ERP system was below the expectations of the user. They disagreed to the asserting that the ERP system was implemented within the stipulated timelines without any delays as per the project schedules (M = 2.05; SD = 1.08) and also disagreed to the statement that the cost of implementing the ERP was within the budget provisions of the projects (Cost effectiveness) (M = 2.00; SD = 0.90). They disagreed to the statement that the ERP implementation had successfully integrated all the sustainable data and activities across different branches and divisions within the organisation (M = 2.51; SD = 1.24). They further disagreed to the assertion that the ERP system was implemented to user satisfaction (M = 2.36; SD = 1.15) and disagreed to the assertion that evaluation of the implemented system indicated that the set objectives were achieved (M = 2.44; SD = 0.95). The results show that the respondents disagreed to the statement that the implemented ERP has been successfully customised to fit the business environment of the organisation (M = 2.50; SD = 1.17). The study found that there was moderate the effectiveness of the implementation of the existing SAP ERP implementation was low at UN-Habitat and would have rarely met the expectations of the user. Chofreh *et al.* (2017) in their study established that organisations need to implement Sustainable Enterprise Resource Planning (S-ERP) systems to manage their sustainable business, which was not case at UN-Habitat. In fact, the ERP system implementation was not done within the stipulated timelines, leading to delays in the project schedules. The study found that the cost of implementing the ERP exceeded the budget provisions of the projects, making it a very expensive exercise The study implementation failed integrity issues such as data redundancy since the ERP implementation has not successfully integrated all the sustainable data and activities across different branches and divisions within the organisation. The ERP system was not implemented to user satisfaction owing to the fact that the evaluation of the implemented system indicated that the set objectives were not achieved. The study found that the implemented ERP has not been successfully customised to fit the business environment of the organisation. The results of the study by Cuppen (2016) concluded that the absence of the distinction between a strategic and technical implementation of an ERP system can possibly explain the differences of those inconsistent findings. ERP systems have no predefined functionality and predictable effects and this has perhaps partly to do with the fact that the objective of the ERP implementation of firms can be different. According Cuppen (2016)), the data collection among multinational corporation (MC) did not only take place by managers high up in the hierarchy. Finally, this study showed that many expected changes on MC, which are described in the literature, will not be reached due to, among others, the limitations and the complexity of an ERP system. This agrees to the study by Subramanian (2018) which found that ERP implementation is important for mitigating at in the early stage of the implementation to reduce or avoid implementation failures. The study by Taterh (2017) established that it is important to have well-structured risk management focus is essential while implementing ERP. Hence it is important that the unique context of challenges and risks of ERP implementation and evaluation, demanding sector specific research.

#### 4.1.2 Influence of Top Management Support

In assessing objective 1, the study sought to find out to find out influence of top management support on ERP implementation at UN-Habitat. Then study assessed the influence of top management support on ERP implementation at UN-Habitat. These results are captured in Table 5.

**Table 5: Influence of top management support**

<b>Top Management Support</b>	<b>M</b>	<b>SD</b>
Commitment to the implementation of the ERP system	3.61	1.01
Top management involvement and support	3.76	0.98
Training of the staff, management and users of the ERP	3.62	1.02
Definition of roles and responsibility	3.48	0.96
Change management for managing risks and any changes (issues) arising during the implementation of the project	3.24	0.94
Managing internal communication among all relevant parties effectively	3.84	1.09
Allocation and provision of Project resources allocation such as finding, equipment, human capital, education	3.26	0.89
Project planning in terms of scope, objective, goals, budgets, contingent plans, time and completion schedule	3.40	1.12
<b>Average Top Management Support</b>	<b>3.53</b>	<b>1.00</b>

Source: Research Data (2022)

On analysing the influence of indicators of influence of top management support on ERP implementation at UN-Habitat, the results showed that respondents indicated that their commitment to the implementation of the ERP

system would highly contribute to the framework (M = 3.61; SD = 1.01) and that top management involvement and support would also highly yield to success of the proposed framework (M = 3.76; SD = 0.98). They showed that training of the staff, management and users of the ERP which was a strong contributing factors to the proposed framework (M = 3.62; SD = 1.02). As the respondents showed that definition of roles and responsibility was a factors highly contributing to the success of the proposed framework (M = 3.48; SD = 0.96), they however showed that managing change through change management practices for purpose of managing risks and any changes (issues) arising during the implementation of the project would moderately influence the success of the proposed ERP framework (M = 3.24; SD = 0.94). As they showed that managing internal communication among all relevant parties effectively highly enhance the ERP implementation (M = 3.84; SD = 1.09), the respondents indicated that allocation and provision of Project resources allocation such as finding, equipment, human capital, education was an important factors to the success of the ERP framework implementation (M = 3.26; SD = 0.89). They further showed that project planning in terms of scope, objective, goals, budgets, contingent plans, time and completion schedule importantly enhanced the success of the ERP framework (M = 3.40; SD = 1.12) On average, the respondents showed that top management support was contributing highly to the success of implementation of ERP at UN-Habitat (M = 3.53; SD = 1.00). These findings agreed to those in the study by Bindi, (2016) which revealed that there was evidence to suggest that top management involvement is key to the successful implementation of ERP system. Gaining trust and support from top management is very important as they are the once who avails resources for the successful implementation of the cloud based ERP. The study found that definition of roles and responsibility, change management practices for purpose of managing risks and any changes (issues) arising during the implementation of the project moderately contribute to ERP implementation while other factors contributes highly. The findings of the study by Bertolo, (2015) established that project identification describes the need to develop a tailored detailed change management plan to overcome specific PSC's adoption barriers. These findings agreed to results in the study by Bindi (2016) which suggested that; it is vital to give enough time towards training of users, getting top management trust and support, and allocate enough resources towards the problem are important for ERP implementation. While the present study found that managing internal communication highly contributes to the ERP implementation, the study by Musili (2016) concluded that ERP allows different departments with diverse needs to communicate with each other by sharing the same information in a single system. ERP thus increases cooperation and interaction between all business units in an organization on this basis. Also, ERP standardizes processes and data within an organization with best practices. The company also streamlines data flow between different parts of a business by creating a one-transaction system.

#### 4.1.3 Business processes reengineering

The study assessed the second objective which was to establish the influence of find out influence of business processes reengineering on ERP implementation at UN-Habitat. These results are captured in Table 6.

**Table 6: Influence of business processes reengineering**

<b>Business processes reengineering</b>	<b>M</b>	<b>SD</b>
Definitions of requirements and scope to set clear goals and objectives	3.43	0.90
Design specifications of the ERP system	3.24	1.03
Alignment of the ERP system to business process	3.69	0.98
Documentation of the procedures, policies, process, goals and objective	3.19	1.03
Integration of the ERP to legacy system	3.50	1.00
Process redesign – business process reengineering	3.34	0.98
Constructing and testing the implemented systems	3.52	0.96
Involve high degree of customization in application	3.62	0.86
Actual implementation of the ERP system	3.36	0.93
Continuous improvement	3.29	1.01
<b>Average Business processes reengineering</b>	<b>3.42</b>	<b>0.97</b>

Source: Research Data (2022)

The results on finding out influence of business processes reengineering on ERP implementation at UN-Habitat in table 8 showed that the respondents indicated that the average influence of Business processes reengineering would be high (M = 3.42; SD = 0.97). They indicated that the influence of definitions of requirements and scope to set clear goals and objectives (M = 3.43; SD = 0.90) while the influence of design specifications of the ERP system would be moderate (M = 3.24; SD = 1.03). According to these results, the respondents indicated that alignment of the ERP system to business process would highly influence the ERP implementation (M = 3.69; SD = 0.98) while documentation of the procedures, policies, process, goals and objective would have a moderate influence (M = 3.19; SD = 1.03). While they showed that integration of the ERP to legacy system would highly influence the ERP implementation (M = 3.50; SD = 1.00), they showed that process redesign in terms of business process reengineering would have a moderate influence (M = 3.34; SD = 0.98). The results show that the respondents indicated that constructing and testing the implemented systems would highly influence the ERP implementation (M = 3.52; SD = 0.96) and involving high degree of customization in application would also have

high influence (M = 3.62; SD = 0.86). As they showed that the actual implementation of the ERP system would have moderate influence (M = 3.36; SD = 0.93), they also showed that continuous improvement (M = 3.29; SD = 1.01) has moderate influence on the implementation of the ERP. The study by Musili (2016) concluded one of the preconditions for the decision to implement ERP system was taken was improvements in processes and better control over them. This would enhance quality of processes, predictability of business and business processes reengineering become standardized across the whole enterprise, better transparency and improved integration of activities across departments. So these findings confirm those in the study by Musili (2016), which concluded that ERP creates many interconnections among various business processes reengineering and data flows to ensure that any other unit of the organisation can obtain information in one part of the business. Information that was previously maintained by different departments must be integrated and made available to the company as a whole. Business processes reengineering must be tightly integrated, jobs redefined and new procedures created throughout the company. The whole process of change is challenging and employees are often unprepared for new procedures and roles. The findings of the study by Bertolo, (2015) concludes that making the decision to implement an ERP implementation promote better understanding of the process. The findings in the study by Alves and Matos (2011) recognized this difficulty and defined the PSC business process owner to make others aware of the process complexity and hierarchical bureaucratic culture. The study by Ziembra and Oblak (2013) found ERP implementation in have the greatest positive impact when targeted processes are supported or are "locked" within the ERP functionalities. It is therefore crucial to support a process approach instead of the optimization of functional units which focus on the optimization of tasks (Ziembra & Oblak, 2013).

#### 4.1.4 ICT Infrastructure

The third objective was to establish the influence of ICT Infrastructure on ERP implementation at UN-Habitat. These results are captured in Table 7.

**Table 7: Analysis by ICT Infrastructure**

ICT Infrastructure	M	SD
Hardware	2.88	1.17
appropriate choice of software	3.29	1.09
Systems management	2.76	1.13
Interface	3.36	1.18
Network infrastructure	3.41	1.04
Database Platform	2.67	1.08
Data structure	3.10	1.18
Maintenance and integrity	2.48	0.80
<b>Average ICT Infrastructure</b>	<b>2.99</b>	<b>1.08</b>

Source: Research Data (2022)

The results in table 8 show that the respondents indicated that on average ICT Infrastructure would have a moderate influence of the ERP implementation (M = 3.03; SD = 1.09). As they showed that hardware architecture would have a moderate influence (M = 2.88; SD = 1.17), they also showed that each of; appropriate choice of software (M = 3.29; SD = 1.09), and systems management (M = 2.76; SD = 1.13) would also have moderate effect on implementation of ERP. While the respondents showed that the interface would moderately influence the ERP implementation (M = 3.36; SD = 1.18), they showed that network infrastructure would highly influence the ERP implementation (M = 3.41; SD = 1.04). Data structure (M = 3.10; SD = 1.18), and maintenance and integrity (M = 2.48; SD = 0.80) was shown to moderately influence the ERP implementation. As this study established that the ICT Infrastructure had moderate influence of the ERP implementation, the study by Berglöf and Wågström (2013) conclude that use of data structure along with the organizational, physical, and IT technological structures act as a barometer of the company's internal environment. The study by Chofreh *et al.* (2017) established that implementation of Sustainable Enterprise Resource Planning (S-ERP) systems to manage their sustainable business enables an integration of information and data on every level of the organisation's value chain. The study concludes that outlining a master plan that shows steps, viewpoints and stages that can provide direction for practitioners in the implementation of the S-ERP systems. The framework must be developed and assessed for the completion of the master plan and to implement the S-ERP system. Ebrahim and Irani (2005) state process and data ownership relates to perceived power and is an obstacle for the implementation of IT systems that were conceived to optimize processes like ERP. Islam's (2017) study proposed Framework for ERP Implementation which considered that the core concept of the ERP is the integrity, when using a centralized database to combine all organization's departments' software.

#### 4.1.5 Influence of tacit knowledge users

The fourth objective was to establish the influence of tacit knowledge users on ERP implementation at UN-Habitat. These results are captured in Table 8.

**Table 8: Influence of tacit knowledge users**

<b>Influence of people</b>	<b>M</b>	<b>SD</b>
Acquiring staff possessing high academic qualification to run and manage the ERP	3.69	1.00
Continuously training the staff and stakeholders involved in the projects on relevant issues in ERP implementation and management	3.26	0.89
Ensuring ERP projects are run and managed by staff with varied knowledge, experience and skills – through skills development	3.79	1.02
Staff possessing vast understanding of principles of ERP through - knowledge management practices	3.24	0.90
<b>Average Influence of people</b>	<b>3.50</b>	<b>0.95</b>

Source: Research Data (2022)

The results obtained in table 10 showed that on overall influence of tacit knowledge users on ERP implementation at UN-Habitat was high (M = 3.50; SD = 0.95). These results show the respondents indicating that acquiring staff possessing high academic qualification to run and manage the ERP would highly influence its implementation (M = 3.69; SD = 1.00). Although they should that continuously training the staff and stakeholders involved in the projects on relevant issues in ERP implementation and management would have moderate effect (M = 3.26; SD = 0.89), they showed that ensuring ERP projects are run and managed by staff with varied knowledge, experience and skills, through skills development would highly influence its implementation (M = 3.79; SD = 1.02). The staff possessing vast understanding of principles of ERP through - knowledge management practices (M = 3.24; SD = 0.90) would moderately influence the ERP implementation. The findings on tacit knowledge users indicate that the tacit knowledge users necessary in the implementation of the ERP play a key in the development of ERP implementation at UN-Habitat while the results of the study by Desalegn and Pettersson (2018) shows that more users should be involved in the ERP implementation.. The study by Desalegn and Pettersson (2018) indicates that education and training are essential while this study found that acquiring staff possessing high academic qualification to run and manage is vital to the success of ERP implementation. Continuous staff training and training of stakeholders involved in the projects on relevant issues is vital ERP implementation and management. The success of the ERP implementation relies in being run and managed by staff with varied knowledge, experience and skills, through skills development would highly influence its implementation. The staff involved in the ERP implementation should possess vast understanding of principles of ERP through knowledge management practices. The user involvement and inputs from the onset are appropriate for ERP implementation. Darbs' (2017) study concludes that sources of motivation have impact on performance of employees during ERP projects compared to other working conditions. The study by Ram et al. (2015) show that training and education as positive effect on development successful ERP implementations.

#### 4.2 Inferential Analysis

The study carried out inferential analysis for establishing existence of a relationship between the study variables for predicting study model through correlation analysis and n multiple regressions respectively.

##### 4.2.1 Correlation Analysis

Correlation analysis was carried out on the study variables, independent variables (IVs) and Dependent variable (DV) to establish whether there existed any significant relationship in between the IVs and the DV. The correlation used the Pearson's product moment correlation at 0.05 level of significance and the results obtained captured on Table 9.

**Table 9: Correlation Results**

		<b>Correlations</b>				
		ERP implementation	Top Management Support	Business processes reengineering	ICT Infrastructure	Tacit knowledge users
ERP implementation	Pearson	1	.657**	.623**	.488**	.487**
	Correlation		.000	.000	.000	.000
	Sig. (2-tailed)					
Top Management Support	N	58	58	58	58	58
	Pearson	.657**	1	.734**	.378**	.309*
	Correlation			.000	.003	.018
Business processes reengineering	N	58	58	58	58	58
	Pearson	.623**	.734**	1	.233	.298*
	Correlation				.078	.023
ICT Infrastructure	N	58	58	58	58	58
	Pearson	.488**	.378**	.233	1	.309*
	Correlation			.078		.018
	Sig. (2-tailed)					

	N	58	58	58	58	58
Tacit knowledge users	Pearson Correlation	.487**	.309*	.298*	.309*	1
	Sig. (2-tailed)	.000	.018	.023	.018	
	N	58	58	58	58	58

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2022)

The results of the correlation analysis in Table 11 show that; at 0.05 level of significance; and under the Pearson correlation each of the IVs; top management support (p-value = .000), business processes reengineering (p-value = .000), ICT infrastructure (p-value = .000), and tacit knowledge users (p-value = .000) was significantly related to the DV, ERP implementation at UN-Habitat. This was because the p-value for each relationship was less than 0.05. The results show that the results; top management support (r = 0.657; p-value = .000), followed by business processes reengineering (r = 0.623, p-value = 0.000), ICT infrastructure (r = 0.488, p-value = 0.000) and tacit knowledge users (r = 0.487, p = 0.000). It was shown that the relationship between each of top management support (r = .657) and business processes reengineering (r = .623) and DV (ERP implementation at UN-Habitat) was high since the correlation of coefficient (r) was greater than 0.6. However, the relationship between each of ICT infrastructure (r = 0.488) and tacit knowledge users (r = 0.487) and ERP implementation at UN-Habitat was moderate since for each of them the correlation coefficient was greater 0.3 and not exceeding 0.6.

#### 4.2.2 Regression Analysis

After the study established that all the IVs were significantly correlated to DV, it then sought to establish whether the IVs (top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users) were predictors of the DV (ERP implementation at UN-Habitat) by carrying out multiple regressions. The multiple regressions were also used in estimating a model for explaining DV in terms IVs.

The study used the mean of mean to obtain indices for all the study variables. The study first performed another ANOVA analysis to test the goodness of fit of the model for using the variables; top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users as predictors of ERP implementation at UN-Habitat and the results obtained were captured in Table 10.

Table 10: Analysis of Variance for all Variable

ANOVA <sup>a</sup>						
	Sum of Squares	df	Mean Square	F	Sig.	
Regression	14.863	4	3.716	19.710	.000 <sup>b</sup>	
Residual	9.992	53	.189			
Total	24.855	57				

a. Dependent Variable: ERP implementation

b. Predictors: (Constant), Tacit knowledge users, Business processes reengineering, ICT Infrastructure, Top Management Support

Source: Research Data (2022)

The study tested for fitness of the model using the coefficients of the model by establishing whether  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$  (the coefficient of op management support, business processes reengineering, ICT infrastructure, and tacit knowledge users are all zero) or at least one  $\beta_i \neq 0$ . The model would be fit if at least one  $\beta_i \neq 0$ .

The results in Table 14, indicates that p-value = 0.000. Since p-value < .05 (F= 19.710, p-value = .000), then at least one  $\beta_i \neq 0$ . So, at the 5% significance level (i.e  $\alpha = 0.05$  level of significance), there exists enough evidence to conclude that at least one of the predictors; op management support, business processes reengineering, ICT infrastructure, and tacit knowledge users are useful in predicting the ERP implementation at UN-Habitat. Therefore, the model is useful in explaining to ERP implementation at UN-Habitat.

Since these IVs are predictors of ERP implementation at UN-Habitat, they were then regressed to estimate the study model and the result obtained shown in Table 11

Table 11: Results of Regression ERP implementation

Coefficients <sup>a</sup>					
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-1.099	.403		-2.724	.009
Top Management Support	.264	.129	.278	2.052	.045
Business processes reengineering	.264	.117	.292	2.248	.029
ICT Infrastructure	.214	.086	.241	2.488	.016
Tacit knowledge users	.262	.104	.239	2.530	.014

a. Dependent Variable: ERP implementation

Source: Research Data (2022)

The results in table 12 enabled interpretations for establishing the significance of the IVs in determining the DV. First, the study hypothesis 1;

*H<sub>1a</sub>: There is no statistically significant relationship between top management support and ERP implementation at UN-Habitat*

This yielded results, T= 2.052 and p-value= .045. Since p <.05 then the null hypothesis is rejected and the alternative hypothesis accepted. At the α = 0.05 level of significance, there exists enough evidence to conclude that the top management support is not zero and, hence, that appropriate top management support is useful as a predictor of ERP implementation at UN-Habitat.

Testing hypothesis two;

*H<sub>2a</sub>: There is no statistically significant relationship business processes reengineering and ERP implementation at UN-Habitat*

Produced the results, T= 2.248 and p-value= .029. Since p <.05 then the null hypothesis is rejected and the alternative hypothesis accepted. At the α = 0.05 level of significance, there exists enough evidence to conclude that the business processes reengineering is not zero and, hence, that appropriate business processes reengineering is useful as a predictor of ERP implementation at UN-Habitat.

The on hypothesis 3;

*H<sub>3a</sub>: There is no statistically significant relationship ICT infrastructure and ERP implementation at UN-Habitat*

Produced the results, T= 2.488 and p-value= .016. Since p <.05 then the null hypothesis is rejected and the alternative hypothesis accepted. At the α = 0.05 level of significance, there exists enough evidence to conclude that the ICT infrastructure is not zero and, hence, that ICT infrastructure is useful as a predictor of ERP implementation at UN-Habitat.

Lastly, testing hypotheses 4;

*H<sub>3a</sub>: There is no statistically significant relationship tacit knowledge users and ERP implementation at UN-Habitat*

Produced the results, T= 2.530 and p-value= .014. Since p <.05 then the null hypothesis is rejected and the alternative hypothesis accepted. At the α = 0.05 level of significance, there exists enough evidence to conclude that the tacit knowledge users is not zero and, hence, tacit knowledge users is useful as a predictor of ERP implementation at UN-Habitat.

The estimated equation, derived from Table 16, is

$$Y = 1.099 + .267X_1 + .264X_2 + .214X_3 + .262X_4 \dots\dots\dots (iii)$$

According to these results, an increase of one unit in top management support causes a 0.267 increase rate in ERP implementation at UN-Habitat and vice versa. A unit increase in business processes reengineering causes an increase rate of .264 in ERP implementation at UN-Habitat while a unit decrease in business processes reengineering causes a decrease rate of .264 ERP implementation at UN-Habitat. Based on the equation, any one unit increase in ICT infrastructure causes a decrease rate of 0.214 in growth of ERP implementation at UN-Habitat and one unit decrease in ICT infrastructure causes a decrease rate of 0.214 in growth of ERP implementation at UN-Habitat. Any one-unit increase in tacit knowledge users cause a 0.262 increase rate in growth of ERP implementation at UN-Habitat while a one unit decrease in internal controls cause a 0.262 decrease rate in growth of ERP implementation at UN-Habitat.

The table 11 resultsshow that top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users had positive coefficients, which showed that they were directly proportional to ERP implementation at UN-Habitat. This means that an increase in any of; top management support,business processes reengineering, ICT infrastructure, and tacit knowledge users would lead to improvement of ERP implementation at UN-Habitatand vice versa.

Lastly, the study obtained model summary shown in table 12.

**Table 12: Model Summary for ERP implementation**  
**Model Summary<sup>b</sup>**

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.773 <sup>a</sup>	.5980	.5677	.43419	1.747

a. Predictors: (Constant), Tacit knowledge users, Business processes reengineering, ICT Infrastructure , Top Management Support

b. Dependent Variable: ERP implementation

Source: Research Data (2022)

Table 12 shows the coefficient of determination was .5677, an indication that 56.77% of variation in ERP implementation at UN-Habitat is explained by top management support,business processes reengineering, ICT infrastructure, and tacit knowledge users. Therefore, all the variable; top management support,business processes reengineering, ICT infrastructure, and tacit knowledge usersare strong determinants of ERP implementation at UN-Habitat. In conclusion, it was shown that the ERP implementation at UN-Habitatwas significantly and positively explained by top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users.

**5 CONCLUSION AND RECOMMENDATIONS**

**5.1 Conclusions**

The study established that adoption of ERP implementation is highly influences the success and effectiveness ofERP implementation at UN-Habitat through; top management support, ICT infrastructure, and tacit knowledge users. Consequently, the ERP integrates the sustainable data and activities across different branches and

divisions within the organisation (Küçüksayraç, 2015). This would ensure that cost of ERP implementation is within the budget but not exaggeration, the implementation is done within the scheduled timelines and the ERP achieves the set objective (Chofreh, 2015).

The study concludes that top management support positively and significantly influences the ERP implementation at UN-Habitat, positively improving the ERP implementation activity. Thus, there is a positive and significant relationship between top management support and ERP implementation at UN-Habitat. Top management support contribute to the ERP implementation, some significantly and other moderately. Commitment to the implementation of the ERP system, Top management involvement, project team, training (of staff, management and users of the ERP), definition of roles and responsibility, internal communication, and project planning highly contribute to the ERP implementation. However, change management, and allocation and provision of project resources moderately contribute to the ERP implementation.

The study concludes that business processes reengineering positively significantly influences ERP implementation at UN-Habitat. Thus business processes reengineering have a positive significant relationship with ERP implementation at UN-Habitat. The main factors of business processes reengineering highly contributing to the ERP implementation include; definitions of business process requirements, alignment of the ERP system, integration of the ERP to legacy system, constructing and testing the implemented systems, high degree of customization in ERP application. Meanwhile, process redesign (in form of business process reengineering), documentations (of the; procedure; policies; process; goals; and objective), design specifications of the ERP system, actual implementation of the new ERP, stabilization of the ERP, and continuous improvement moderately contribute to ERP implementation.

The study concludes that the ICT infrastructure has a significant moderate influence on its ERP implementation. Thus, ICT infrastructure has a significant moderate relationship with ERP implementation. When the UN-Habitat manages an effective ICT infrastructure then there is assured establishment of an effective ERP implementation that ensures success in ERP implementation. The main considerations when developing the ICT infrastructure for ERP implementation are; hardware, appropriate choice of software, systems management, interface, network infrastructure, database platform, master files, transactional files, data structure, maintenance and integrity. Much emphasis should laid on; selecting the suitable hardware, identifying the appropriate choice of software, describing the systems management, design interface, designing an effective network infrastructure, sourcing the most suitable database platform, master files, transactional files, data structure, ensuring maintenance and integrity.

The study concludes that tacit knowledge users have significant moderate influence on ERP implementation at UN-Habitat. Tacit knowledge users highly contributes towards the improvement of ERP implementation at UN-Habitat have significant moderate relationship with ERP implementation at UN-Habitat. The best tacit knowledge users are necessary for development of ERP implementation at UN-Habitat. There is need for; having staff possessing high academic qualification necessary for running and managing the ERP, skills development (for ensuring ERP projects are run and managed by staff with varied knowledge, experience and skills), continuously training the staff and stakeholders involved in the projects on relevant issues in ERP implementation and management, knowledge management practices (staff possessing vast understanding of principles of ERP through, and user involvement and inputs from the onset).

Lastly, the study reveals that at 5% (0.05) level of significance there exists a positive significant contribution of top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users to the ERP implementation at UN-Habitat. Thus, top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users are predictors of ERP implementation at UN-Habitat and that 56.77% of variation in ERP implementation at UN-Habitat is explained by top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users.

## 5.2 Recommendations

### Policy and practical implications

The study made policy recommendation based on the findings and study objectives. First, the study recommends that UN-Habitat needs to establish an ERP implementation founded on top management support through development of a policy for top management involvement. The framework should have an allowance for participation of the top management by spelling out that the top management should be actively involved in the ERP implementation.

Secondly, the study recommends that UN-Habitat should review its business process policy to accommodate various system development activities and their associated documentations. The; project team should first analyse and find the gap and missing capabilities in the existing system (current environment), identify the need for a new ERP system and readiness (need analysis), Make the decision (decision making), and understand the benefits and issues involved in ERP implementation. The existing environment needs to be analysed for a gap or need statement and the steps leading to defining the need statement should be documented. The need statement document would highlight the draw backs and strengths of the current system. Based on this data a need analysis for a new ERP system can established. This initiative will help determine whether the current systems should be replaced with an ERP system or to merely enhance the current system to include additional capabilities.

Thirdly, the study recommends that UN-Habitat should analyses its existing ICT infrastructure, by comparing it to the proposed requirement of the vendor to implement ERP system. It is important to procure the necessary technical components for the infrastructure to be ready for the implementation including the relevant licenses. Creating the necessary technical environment, within the organisation, is essential for helping create essential validators to service provision and inter departmental co-operation. This would essentially help in putting the correct infrastructural elements such hardware (such as servers), appropriate choice of software, interface, data structures, and network infrastructure in place as defined by the vendor.

Comment [u6]: Summarize the conclusion

Lastly, the study recommends that UN-Habitat should acquire and retain the appropriate tacit knowledge users for ERP implementation through education and training. This education and sufficient training requires investment, promotes an effective and correct use of the ERP system, and should be provided for users from the beginning of the ERP system implementation project. When employees are provided with sufficient training and education for the new system, the risk of resistance that might occur during the implementation of a new system is reduced. By offering sufficient training to users and internal team members, organizations can reduce the dependency of consultants and consequently save capital. Training must cover all parts of the ERP system, operational skills of the new system, with the need of continuous training as well as proper documentation.

#### **Recommendations for further study**

The study used data collected from UN-Habitat, which limited the scope of the study findings to UN-Habitat. UN-Habitat is one out of the many multi-national organizations in Kenya. This scope limited the applicability of the study for failing to consider other multi-national organizations. So, other studies should be conducted to assess the influence of; top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users on ERP implementation among multi-national organizations in Kenya due to differences in challenges faced in different areas.

The study found that 56.77% % variation in ERP implementation at UN-Habitat is explained by top management support, business processes reengineering, ICT infrastructure, and tacit knowledge users. This means that there are other factors that account for the remaining 43.23%. So the study recommends that other studies should be conducted to establish what influences the 43.23% change of ERP implementation at UN-Habitat.

#### **5.3 Contribution to Knowledge**

The study was conducted at UN-Habitat on ERP implementation for successful ERP implementation. First the employment of the ERP implementation would ensure the success of ERP implementation. This will ERP implementation among multi-national organizations. Secondly, the study will aid in prevailing the existing barriers that hinder success of ERP implementation among multi-national organizations. Therefore valid research that was conducted would enhance the capability of managers in making their decisions processes that directly relate to ERP implementation among multi-national organizations.

Thirdly, the study will offer a chance of a model that could be implemented or embraced by organizations in the efforts of conducting exemplary sustainable initiatives by other multi-national organizations.

Lastly, the study is an important resource in the ERP implementation field by bringing on board new knowledge about ERP implementation. The new contribution to the ERP implementation would immensely benefit academicians as well as scholars seeking related information. A window on the utilisation of ERP implementation will be open by the study, which would motivate and entice for more research on ERP implementation, making it useful to researchers studying the association between ERP implementation and success of ERP implementation.

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