

Determinants Of Enterprise Resource Planning System Implementation In Ethiopia

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Research Article

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Abstract

Enterprise resource planning system is the type of software that organizations use to manage day-to-day business operations. The effective implementation of Enterprise Resource Planning (ERP) enables business firms to boost their overall performance. So, studying key determinants of ERP system implementation is a valuable issue. This study aimed to identify determinants of Enterprise resource planning implementation of Ethiotelecom Corporation of Ethiopia. The quantitative research approach was employed. To achieve the objective of this study, an explanatory research design where the effect caused by the independent variables on the dependent variable is observed through regression analysis. The simple random sampling technique was used to select respondents. A multiple regression analysis models was employed by the researcher. Accordingly, the result of regression analysis showed that top management support, conflict resolution, business process reengineering, and knowledge transfer have positive and statistically significant effects but independent variables i.e., lack of end-user involvement and lack of technical support to ERP system has a negative and statistically significant effect on ERP implementation. Based on the findings of the study, the researcher forwarded possible recommendations for Ethiotelecom Corporation to work on statistically significant variables due to fact that they have significant influence in improving ERP system effective implementation an organization.

1. Introduction

Today the business environment is dramatically changing from time to time for increasing competition, expanding markets, and rising customer expectations. This increases the pressure on companies to lower total costs in the entire supply chain, shorten throughput times, drastically reduce inventories, expand product choice, provide more reliable delivery dates, provide better customer service, improve quality, improve efficiency, and coordinate global demand, supply and production. Organizations must improve their business practices by upgrading their capabilities and procedures; sharing their accurate information with suppliers, customers, and government to sustain their competitive advantage over their competitors.

ERP has been one of the most popular business management systems, providing the benefits of real-time capabilities and seamless communication for businesses in large organizations. It enhances productivity and working quality by offering integration, standardization, and simplification of multiple business transactions. At present, ERP plays an important role in the efficiency and effectiveness of private or public organizational performance. ERP system is one of the most important IT applications because it enables organizations to connect and interact with their administrative units to manage data and organize internal procedures. But, business or public organizations face challenges in implementing ERP due to factors such as top management commitment and support, ERP system matching organization, business process re-engineering, vendor support, and training users [1-2].

As stated in previous researches, unsuccessful implementations cause serious financial costs or even bankruptcy for businesses or public organizations. Therefore, knowing what affects the effective implementation process of ERP is crucial for organizations that undertake the implementation of a system. Hence, studying determinants of ERP implementation has become an important issue and attracted the attention of researchers and academicians around the globe. So that studies by [10, 12, 14, 16] were

concluded that when implementing integrated and big ERP packages, assessing the factors that affect the implementation and sharing experience is very important for the reason ERP systems are complex, need huge budget investment, company re-arrangements and the implementation success depends on different organizational, people and technological factors of the companies.

Hence, the researcher is motivated to study the determinants of implementation in Ethio telecom Corporation which intensively implements ERP in Ethiopia. A review of the literature on determinants of effective implementation of ERP reveals that there are many case studies undertaken by researchers, but very few have empirically examined the determinants of ERP implementation, while most of those empirical studies were undertaken in developed and other developing countries outside Ethiopia. For instance, empirical studies from [1-16] were found that top management support, conflict resolution, business process reengineering, effective communication, ERP system selection, end-user support, and knowledge transfer through training were significant determinants of ERP systems implementation. This study is different from the above empirical studies reviewed outside Ethiopia since the determinants of ERP implementation may change from time to time due to fast and continuous economic, political, technological, social, and cultural changes in the business environment and earlier time ERP implementation factors is not similar with determinants of ERP implementation in a present-day business environment. Besides, there is a geographical gap as far as the above studies conducted outside the boundary of Ethiopia.

Concerning empirical studies in Ethiopia, very few researchers have studied the issue. For instance, researches of [11-15] were concentrated on the assessment of ERP implementation practice other than studying factors influencing ERP implementation in Ethiopia. But, this study is different from prior studies reviewed in Ethiopia by analyzing data using inferential statistics to scientifically identify the determinants of ERP effective implementation in Ethio telecom Corporation which is the methodological gap. As far as internet browse by the researcher is concerned, there were very limited studies conducted on ERP which focused on the assessment of ERP practice in different organizations in the country. But Previous studies ignored the exploration of key determinates of ERP implementation which is the most relevant issue for the Ethio telecom Corporation. So, the findings of this study would serve as an informative on determinants of ERP implementation to the Ethio telecom Corporation and severed as policy guides for policymakers concerning enterprise resource planning.

The rest paper was organized into five sections. The second section reviews different literature that relates to the topics of the study. In the third section, the research methodology was addressed. Section 4 covered the results and discussions and finally, section 5 concluded the paper.

2. Literature Review

A review of the literature on determinants of effective implementation of ERP reveals top management support, conflict resolution, business process reengineering, effective communication, lack of end-user involvement, and knowledge transfer were key determinants of enterprise resource planning implementation. Hence, the researcher has reviewed the relationship between a dependent variable and six independent variables as follow:

2.1 Top management support:

If there is enough support from top management in the ERP project in ERP effective implementation, it enhances the usage of the system. Hence, top management must be willing to be involved and commit to allocating valuable resources to the implementation effort. Inconsistent with this idea, study [1-17] evidenced that there is a positive relationship between top management support and ERP system implementation. Accordingly, the researcher developed the tentative statement as follow:

H1: Top management support has positive and statistically significant on ERP implementation

2.2 Conflict resolution:

As a general principle, conflicts will occur while implementing an ERP system because it is very complex and difficult to implement by the employees in an organization. But, solving conflicts among the staff in implementing ERP systems have a positive influence on ERP system implementation. Similarly to the above view, the study conducted [1-10] *found* out that conflict resolution has a positive and significant effect on ERP implementation. Therefore, the researcher developed the tentative statement as follow:

H2: Conflict resolution has a positive and statistically significant relationship effect on ERP implementation

2.3 Business process reengineering:

Changes in the work process that arise with ERP system implementation to fit and adapt the functionality of the system package instead of trying to modify the ERP system to fit the organization's current business processes. Hence, the existence of business process reengineering in an organization has a positive effect on ERP system effective implementation. In agreement with the above discussion, the empirical study by [12-17] suggested that business process reengineering has a positive influence on ineffective ERP implementation. As the result, it is possible to hypothesize that a positive relationship exists between business process reengineering and ERP system effective implementation. Therefore, the researcher developed the tentative statement as follow:

H3: Business process reengineering has positive and statistically significant on ERP implementation

2.4 Lack of end-user involvement:

End-user involvement at the early stage of system implementation has a positive influence on ERP system implementation and satisfies the end-user. But, a lack of end-user involvement will distort the effective implementation of the ERP system. Accordingly, studies from [8-13] found out that lack of end-user involvement has a negative influence on ERP so there would be a negative relationship exists between lack of end-user involvement and effective ERP implementation. Therefore, the researcher developed the tentative statement as follow:

H4: Lack of end-user involvement has negative and statistically significant on ERP implementation

2.5 Lack of consultant technical support:

Support ranging from technical assistance to training can reduce the cost of implementation; the organization can gain other benefits from partnerships with the vendor and use the vendor's customization tools. But, lack of consultant technical support will negatively influence ERP system effective implementation. In agreement with this view [11-14] found out that lack of technical assistance from the vendor hurts ERP system effective implementation. So that, the researcher assumed that there would be a negative relationship exist between lack of technical assistance from the vendor and effective ERP implementation. Consequently, the researcher developed the hypothesis as follow:

H5: Lack of technical assistance from the vendor has negative and statistically effect on ERP implementation

2.6 Knowledge transfer:

Knowledge transfer in the ERP consulting process can be described as a gradual procedure in which knowledge is being transferred from external consultants and vendors to the internal environment of the organization. An increased level of knowledge concerning the ERP system will enable the corporation to exploit the new technology to its full potential and continue to achieve benefits from the use of the system in the future. To this end, the studies conducted [5-10] were addressed that there is a positive relationship between knowledge transfer and ERP system effective implementation. Consequently, the researcher theorizes that a positive relationship exists between knowledge transfer and ERP implementation. So, to be proofed through regression analysis:

H6: Knowledge transfer has a positive and statistically significant effect on ERP implementation

2.7 Conceptual Framework

The researcher has developed the conceptual framework based on six explanatory variables such as top management support, conflict resolution, business process reengineering, lack of end-user involvement, knowledge transfer, and dependent variable which is ERP implementation portrays the relationship of the study variables as shown as follow:

3. Data & Methodology

3.1 Research Approach and Design

By considering the research problem and objective, of the current study, the researcher used a quantitative research approach. The justification for using quantitative data is due to the quantitative nature of the data used to prepare the report of this research. This study is aimed to use an explanatory study design that enables us to explain the relationship between six independent variables such as top management support (TMS), conflict resolution (CR), business process reengineering (BPR); lack of end-user involvement (LEUI), lack of consultant technical support (LCTS), and knowledge transfer (KT) on enterprise resource planning implementation (ERPI)

3.2 Data Type, Methods of Data Collections, and Analysis

The data types the student researcher was used are both primary and secondary. Primary data was collected directly from the employees of ETC by distributing 5-point Likert-type scale questionnaires through the email addresses of districts. Whereas, secondary data was be gathered from report bulletins, journals, textbooks, and documents of the study organization. To collect primary data, structured questionnaires were used. And secondary data was collected through a review of different published and unpublished materials that are related to the topic. After the accomplishment of the data collection procedure, it was classified as per each variable; the qualitative data was coded to be measured quantitatively. In this research, data were analyzed with the help E-Views 9.0 to get a reliable finding.

3.3 Target Population, Sample Size, and Selection Techniques

According to Ethio-telecom (2020) annual report, there are about 36, 465 employees in all twelve (12) operational sites of the Ethio-telecom corporation. These are considered as the target population of the study by the researcher. The researcher employed the scientific formula of Yamane which takes 95% of the confidence interval for the sample size selected for the population. This implies the sample data is 95% population data and the remaining 5% is error this is calculated as follows:

$$n = \frac{N}{1 + (e)^2 * N} \dots\dots\dots (1)$$

Where: n = sample size

N = population size

e = Precision level or sampling error =0.05

$$396 = \frac{36,465}{1 + (0.05)^2 * 36,465} \dots\dots\dots (2)$$

Hence, the representative sample size for this study is 396 employees of Ethio-telecom who were selected using a simple random sampling method. Then, to select the sample proportion from (12) twelve sampling locations was shown in the following Table 1. This is:

$$nh = (Nh / Ns) * n$$

Where, NH = sample size from each site, Nh = total population in each area, Ns = target population, and n = sample proportion.

Table 1
Sampling Size proportion Determination

Regions	Population of each Region	Determining sample size by applying the Formula	Sample size
North west (Bahirdar)	6, 454	(6, 454/36,465) *396	70
North Region (Mekelle)	3,800	(3,800/36,465) *396	42
North East (Desse)	2, 617	(2, 617/36,465) *396	28
South East (Adama)	2, 801	(2, 801/36,465) *396	30
South West (Jimma)	3,500	(3,500/36,465) *396	38
South region (Hawassa	2,740	(2,740/36,465) *396	29
West Region (Nekempt)	2,880	(2,880/36,465) *396	32
East Region (DireDawa)	2, 928	(2, 928/36,465) *396	31
Assosa Region (Assosa)	2,640	(2,640/36,465) *396	29
Gambela region(Gambela)	2,750	(2,750/36,465) *396	30
Jijiga region (Jijiga)	1 850	(1 850/36,465) *396	21
Semera Region(Semera)	1, 505	(1, 505/36,465) *396	16
Total	36, 465	(36, 465/36,465) *396	396
Source: Author Development based on Ethiotelcom, 2020 annual report			

3.4 Econometrics Model Specification

In this study, ERP implementation is considered as a continuous variable that is measured through a questionnaire using a 5-point Likert scale namely: strongly disagree 1 to strongly agree (SA) from very lower probability to very higher probability by employing a multiple regression model to conduct the regression analysis. The researcher developed the model as follows. In the multiple linear regression model, the dependent variable (enterprise resource planning implementation (ERPI) is a linear function of top management support (TS), conflict resolution (CR), business process reengineering (BPR), effective communication (EC)), lack of end-user support (LEUS), lack of consultant technical support (LCTS), knowledge transfer (KT). Designating the regressed by (ERPEI), the independent variables by (TS), (CR), (BPR), (LSS), (EUS), and KT)) and the error- by u, the model is given by the following Equation as:

$$ERPI = \beta_0 + \beta_1 * TS + \beta_2 * CR + \beta_3 * BPR + \beta_4 * LEUI + \beta_5 * LTS + \beta_6 * KT + U.....(3)$$

Whereas:

ERPI = Enterprise Resource Planning Implementation

β_0 = Constant term

$\beta_1, \beta_2, \beta_3, \beta_4, \dots, \beta_6$ refers to coefficients

TS =top management support

CR= conflict resolution

BPR = business process reengineering

LEUS =Lack of end-user involvement

LTS= Lack of technical support to end-user

KT= knowledge transfer

\ddot{U} =is error term

3.5 Operational Definition of Variable and their Scale of Measurement

The summary of Variables definition and scale of measurement has been shown in the following Table 2

Table 2
Summary of Variables Definition and Scale of Measurement

Variables incorporated in the study	Symbol	Scale of measurement	Sign Expected
Dependent variable			
ERP implementation: is a system used by companies to manage and integrate the important parts of their businesses	ERPI	5 Point Likert scale	
Explanatory variables			
Top management support: The support from top management in the ERP project in ERP effective implementation, enhances the usage of the system.	TS	5 Point Likert scale	+
Conflict resolution: As a general principle, conflicts will occur while implementing an ERP system because it is very complex and difficult to implement by the employees in an organization. But, solving conflicts among the staff in implementing ERP systems have a positive influence on ERP system implementation.	CR	5 Point Likert scale	+
Business process reengineering: Changes in the work process that arise with ERP system implementation to fit and adapt the functionality of the system package instead of trying to modify the ERP system to fit the organization's current business processes.	BPR	5 Point Likert scale	+
Lack of end-user involvement: End-user involvement at the early stage of system implementation has a positive influence on ERP system implementation and satisfies the end-user. But, a lack of end-user involvement will distort the effective implementation of the ERP system.	LEUI	5 Point Likert scale	-
Lack of consultant technical support: Support ranging from technical assistance to training that can reduce the cost of implementation; the organization can gain other benefits from partnerships with the vendor and use the vendor's customization tools.	LCTS	5 Point Likert scale	-
Knowledge transfer: Knowledge transfer in the ERP consulting process can be described as a gradual procedure in which knowledge is being transferred from external consultants and vendors to the internal environment of the organization	KT	5 Point Likert scale	+
Source: Own construct (2020)			

3.6 Classical Linear Regression Model Assumption

The following diagnostic tests were carried out to ensure that they suit the basic assumption of the classical linear model. Among the assumption, the researcher conducted four basic diagnostic tests to check if the data meet the requirement. Normality, Multicollinearity, autocorrelation, and heteroscedasticity tests were undertaken.

3.7 Reliability Test

The reliability test of the questionnaire was measured by using a pilot test to be carried out by the researchers before actual data analysis. Reliability refers to random errors in measurement. To measure the consistency of the questionnaire particularly the Likert-type-scale the reliability analysis is essential in reflecting the overall reliability of constructs that it is measuring. To carry out the reliability analysis, Cronbach's Alpha (α) is the most common measure of scale reliability and a value greater than 0.7 is very acceptable. In the current research, the researcher employed Cronbach's Alpha (α) which is the most common measure of scale reliability and a value greater than 0.7 is very acceptable. This has been tested as follows in Table 3:

Table 3
Reliability Test of the Variables

Cronbach's Alpha	N of Items
0.860	30
Source: personal survey, 2020	

4 Results

This section of the paper deals with analysis and discussion of data collected from 340 respondents out of 396 sample respondents from Ethio telecom Corporation. The response rate was 85.86% which implies almost all respondents have participated in the process of data collection. Then, the analysis of the data was based on the questionnaires collected. This includes the analysis of descriptive statistics, correlations, and regression analysis.

4.1 Summary of Descriptive Statistics

Table 4: Summary of Descriptive Statistics

The following table 4, analysis of descriptive statistics for all six independent variables and one dependent variable.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Enterprise Resource Planning	340	1.00	5.00	2.7693	1.10841
Top Management Support	340	1.00	5.00	2.9803	.88185
Conflict resolution	340	1.00	5.00	3.2333	1.04467
Business process reengineering	340	1.00	5.00	2.6851	1.24131
effective end user involvement	340	1.00	5.00	2.7585	1.21830
consultant technical support	340	1.00	5.00	2.9677	1.26334
Knowledge transfer	340	1.00	5.00	2.6664	1.28267

Sources: Personal Survey data, 2020

Effective implementation of enterprise resource planning was the dependent variable of this study. As indicated in the above table 4, the implementation of enterprise resource planning shows that Ethiotelcom Corporation on average a positive because the overall mean of the variable was 2.7693 with a maximum of 5 and a minimum of 1 Likert scale values. The standard deviation value is 1.10841 which indicates there was a variation of actual responses from the mean. About other variables the top management support the overall mean was 2.9803 with SD of 0.88185, Conflict resolution 3.2333with SD of 1.04467, business process reengineering 2.6851 high mean with SD of 1.24131, effective end-user involvement 2.7585 with SD of 1.21830, consultant technical support 2.9677 with SD 1.26334.and knowledge transfer2.6664 mean with SD of 1.28267.

4.2 Correlation Analysis

Correlation analysis measures the relationship between two items. The resulting value (called the “correlation coefficient”) shows if changes in one item will result in changes in the other item. Correlation is a way to index the degree to which two or more variables are associated with or related to each other (Brooks, 2008). The correlation matrix for this study was computed as follow

Table 5: Pearson Correlation Matrix for Dependent and Independent Variables

Variable	ERPEI	TMS	CR	BPR	LEUI	TS	KT
ERPEI	1						
TMS	.576**	1					
CR	.264**	-.066	1				
BPR	.560**	.112*	.188**	1			
LEUI	.246**	.109*	.142**	.673**	1		
TS	.162**	.052	.000	.540**	.323**	1	
KT	.473**	.385**	-.020	.392**	.197**	.296**	1

Personal Survey data, 2020

Table 5 shows the relationship between the dependent variable which is effective enterprise resource planning and independent variables with a coefficient of correlation 1 indicates that each variable is perfectly correlated with each

other. The result shows that variables such as top management support, top management support, conflict resolution, business process reengineering, end-user involvement, technical support of end-user and Knowledge transfer have more respectively has a positive relationship with effective enterprise resource planning and statistically significant respectively since the p-value is more than 1% level of significance since the p-value is less than 0.01. The result shows the acceptable reliability of the research variables in which, the correlation among predictors was not high and more than 0.80 indicates there are no multicollinearity problems among variables which are best for analysis of the data for this study.

4.3 The Regression Analysis

For valid hypothesis testing and to make data available for reliable results, the test of assumption of the regression model is required. Accordingly, the study has gone through the most critical regression diagnostic

tests consisting of normality, multicollinearity, heteroscedasticity, model specification, and autocorrelation test that have been tested and fulfilled. Regression analysis is the statistical technique that identifies the relationship between two or more quantitative variables: a dependent variable, its value is to be predicted, and an independent or explanatory variable (or variables), about which knowledge is available or influences the dependent variable.

Table 6: Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIP
1	Con	-.607	.209		-2.909	.004	-1.018	-.196		
	TMS	.635	.041	.505	15.345	.000	.554	.717	.837	1.194
	CR	.219	.033	.206	6.575	.000	.153	.284	.925	1.081
	BPR	.632	.044	.708	14.476	.000	.546	.718	.380	2.632
	LEUI	-.250	.038	-.275	-6.662	.000	-.324	-.176	.533	1.878
	TS	-.169	.032	-.193	-5.288	.000	-.232	-.106	.685	1.460
	KT	.101	.031	.117	3.240	.001	.040	.162	.701	1.426

a. Dependent Variable: ERPI, R=.836, R²=.698, Ad R².692, Std. Error of the Estimate = .61517, Durbin-Watson (d) = 1.924, F-statistic = 109.793, P-value = 0.000, ANOVA with (p-value of 0.000)

Personal Survey data, 2020

The above table 6, R-squared has measured the goodness of fit of the explanatory variables in explaining the variations in ERPI of Ethio telecom. R-squared and the Adjusted-R-squared statistics of the model were 69.8 percent and 69.2 percent respectively. The result indicates that 69.2 percent variation in the dependent variable was jointly explained by the explanatory variables in the model. Whereas, the remaining 30.8 percent of the variation in the effective implementation of enterprise resource planning (as measured by the Likert scale) is explained by other variables which are not included in the model. The coefficient of explanatory variables such as top management support +0.635, Conflict resolution + 0.219, Business process reengineering +0.632, and Knowledge transfer + 0.101 implies that 1% increase in the variables leads to 63.5%, 21.9%, 63.2%, 0.1%, 10.1% increase dependent variable. In opposite direction, the coefficient of independent variables such as end-user involvement -0.250 and technical support to end-users -0.169 one percent increase in end-user involvement and technical support to end-users leads to 25% and 16.9% decrease independent variable which is effective implementation of enterprise resource planning. Besides, the F-statistics (109.793) in the model summary and ANOVA with (p<0.000) which is used to test the overall significance of the model was presented and indicates the reliability and validity of the model at a 1 percent level of significance. This tells us that the model as a whole is statistically significant for more information.

5. Discussion

The result of this study shows that support from top management in ERP implementation with the unstandardized coefficient of regression [$b = 0.635$] has a positive and statistically significant at 1% level of significance since ($p < 0.01$). Hence, hypothesis H1 is accepted. This finding is consistent with the idea of studies from [1-17] were evidence that there is a positive relationship between top management support and ERP system implementation. This implies that top management support is positively contributing to the implementation of enterprise resource planning in Ethio telecom.

The result of this study with regards to conflict resolution showed an unstandardized coefficient of regression [$b = 0.219$] has positive and statistically significant at 1% level of significance since ($p < 0.01$). Hence, the researcher was forced to accept hypothesis H2. This finding is consistent with the finding of another study result of [9-14] found out that conflict resolution has a positive and significant effect on ERP implementation. This implies that conflict resolution has a positive contribution to the implementation of ERP in Ethio telecom.

Regarding the business processes reengineering, [$\beta = 0.632$] is positive and more statistically significant with a ($p < 1\%$), level of significance. Therefore, hypothesis H3 is accepted by the researcher. Hence, the existence of business process reengineering in an organization has a positive effect on ERP system effective implementation. In agreement with the above discussion, this finding is consistent with the empirical finding of [13-17] suggested that business process reengineering has a positive influence on ineffective ERP implementation. This implies that business processes reengineering has a positive effect on ERP implementation

The result of this study also shows that the coefficient of regression lack of end-user involvement in the implementation of ERP project is [$b = -0.250$] negative and statistically significant since ($p\text{-value} < 0.01$) Hence, hypothesis four is accepted. This finding is similar to findings of [8-11] found out that lack of end-user involvement has a negative influence on ERP system implementation. End-user involvement at the early stage of system implementation has a positive influence on ERP system implementation and satisfies the end-user. But, a lack of end-user involvement will distort the implementation of ERP.

When comes to the lack of technical support for ERP users, the unstandardized coefficient of regression of variable is [$b = -0.169$] is negative and statistically significant with a ($p < 1\%$), level of significance. Therefore, hypothesis five is accepted by the researcher. Support ranging from technical assistance to training can reduce the cost of implementation; the organization can gain other benefits from partnerships with the vendor and use the vendor's customization tools. But, lack of consultant technical support will negatively influence ERP system effective implementation. In agreement with this view, [4-8] found out that lack of technical assistance from the vendor harms ERP system effective implementation. This implies that there is negative relationship exists between lack of technical assistance from the vendor and ERP implementation"

Regarding the coefficient of regression of knowledge transfer, [$b = 0.101$] is positive and statistically significant with a ($p < 1\%$ level of significance. Therefore, hypothesis H6 is accepted. This is consistent with findings of the studies conducted by [11-17] found that there is a positive relationship between knowledge transfer and ERP implementation. This implies that knowledge transfer has a positive effect on ERP implementation.

6 Conclusions

In this research work, the researcher explored the determinates of ERP implementation of Ethio telecom Corporation. By keeping this objective in mind, the researcher collected the primary data through a self-administrated questionnaire developed in the form of a five-point Likert scale. Based on the findings from the regression analysis of the model, the researchers concluded that the enterprise resource planning system effective implementation was best explained by the explanatory variables included in the model. So, the researcher accepted the research hypotheses from one up to six. Firstly, the study showed that top management has positive and statistically significant ERPEI. This implies that a one-unit increase in top management support enables to improve implementation of ERP. Secondly, the study confirmed that there is a positive relationship between ERP implementation and conflict resolution. This implies that conflict resolution has a positive contribution to the effective implementation of ERP in Ethio telecom. Thirdly, the paper evidenced that the existence of business process reengineering has a positive effect on ERP effective implementation. Also, regression results, lack of end-user involvement in the implementation of ERP, and lack of technical support have a negative influence on ERP implementation. Lastly, the result of this study confirmed that knowledge transfer has a positive effect on the implementation of Enterprise Resource Planning.

7 Direction For The Future Research

Since any study cannot be free from limitations, accordingly there are some limitations in the current study. This study only focused on identifying the determinants of ERP implementation in Ethio telecom. The six explanatory variables incorporated in the model have only explained 69.2 % of the model. The remaining 30.8 % of changes in the ERP implementation were explained by other explanatory variables that were not included in the model. The other researcher should incorporate more variables to improve adjusted R² with the same topic in the same study area. In another way, the findings of this study may be difficult to generalize about countries in Africa in particular and in the world in general. Hence, this study can be improved if it will be done at the continental level by comparing factors affecting ERP implementation. The other study will be also, conducted on key determinants of ERP system implementation by comparing public and private entities since this study only focused on one public enterprise.

Abbreviations

ERP-Enterprise Resource Planning

ERPEI- Enterprise Resource Planning Effective Implementation

Declarations

Availability of data and materials

The data is included in the manuscript.

Conflict of interest disclosure

The author declares that there is no conflict of interest

Ethics approval and consent to participate

Not applicable since this research did not involve human subjects.

Author's Contributions

I have carried out the whole work of this study. I have designed the study research design and carried out the fieldwork, document analysis, literature work, manuscript draft, and editorial. The author, Kanbiro Orkaido, personally undertook this study. The read and approve the final manuscript.

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Figures

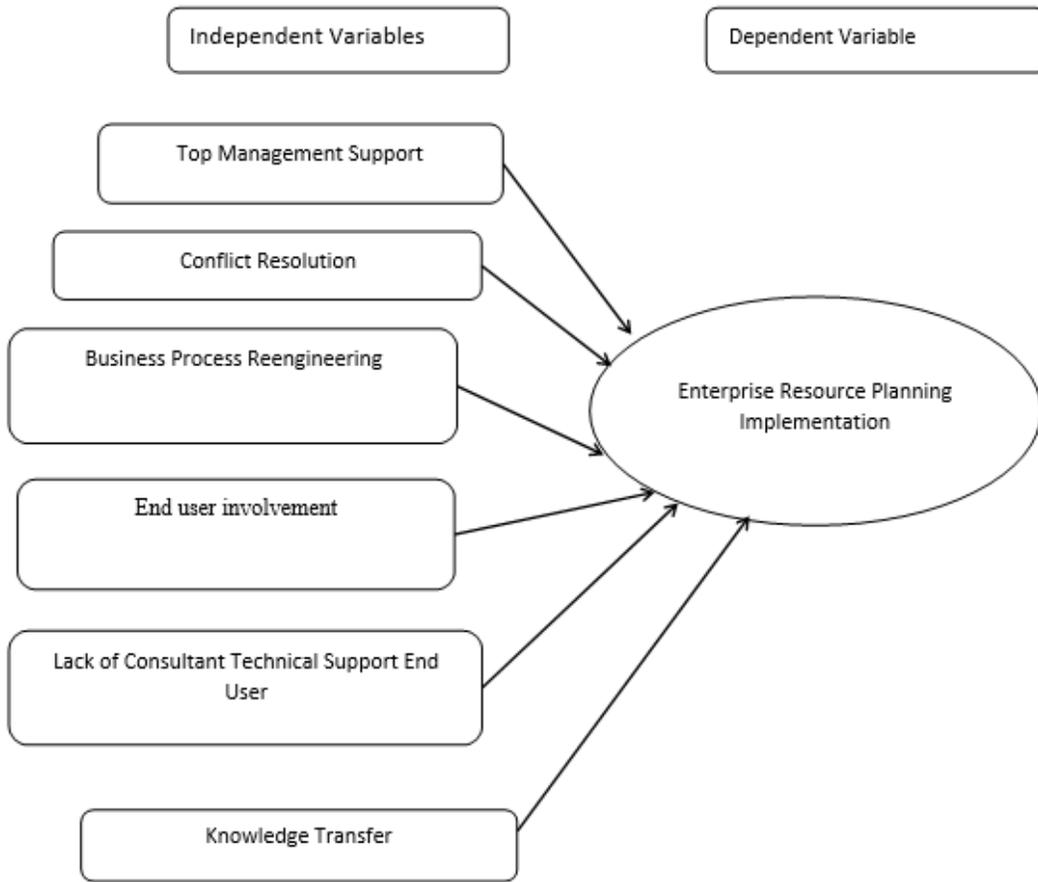


Figure 1

Conceptual Framework

Source: Researcher construction based on Literature review (2020)