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Technology Context and Firm Performance among State Corporations in Kenya

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Nancy Chepkurui Chepkwony[1]Dr. Ambrose Kemboi[2]Dr. Ronald Bonuke[3]

ABSTRACT

Purpose: *The main aim of the study was to determine effect of technology context, leader personality on firm performance among state corporations in Kenya. This study used a positivism research philosophy.*

Material/methods: *The research study employed explanatory research designs. The target respondents included top management from 187 state corporations. Simple random sampling was used to select 65 state corporations. Primary data was collected through questionnaires using a nominal scale. Cronbach alpha and factor analysis was used to test reliability and validity of research instrument, respectively. Descriptive and inferential statistical methods of Pearson correlation and Hierarchical regression models were used to analyze the data obtained and to test the hypotheses with the aid of SPSS version 23.*

Findings: *The study indicated that technology relative advantage ($\beta = 0.339$, $p<0.05$), technology compatibility ($\beta = 0.167$, $p<0.05$) and technology complexity ($\beta = 0.392$, $p<0.05$), are key to enhancing firm performance.*

Conclusions: *The study recommended that state corporations adopt technology that holds prominence over previous technologies and enhance overall employee productivity and firm performance. Besides, state corporations should ensure any technology adopted is compatible with the existing IT infrastructure. Finally, training should be enhanced for better utilization of online services.*

Keywords: *Technology Context, Leader Personality, Firm Performance, Technology Relative. Advantage, Technology Compatibility, Technology Complexity*

[1] Phd, Moi University
[2&3] Moi University

1. Introduction

Organizations may benefit more than ever from technologies in this arduous undertaking, as it allows them to maximize their competitive advantage by improving their performance and efficiency (Fernandez-Temprano and Tejerina-Gaite, 2020). Firm performance can be achieved "if it can create more economic value than the marginal (breakeven) competitor" (Alfadhli & AlAli, 2021), and firms are positioned to sustain such an advantage through adoption of technologies. Ryser *et al.,* (2020) states that ensuring long-term survival through continuous innovations is a critical concern for all administrators, but especially for those in state organizations.

The extent to which state corporation is successful in today's competitive business environment is greatly determined by the technology context to integrate and reconfigure technology adoption (Ombaka, 2014). The impact of new developments in the innovation sector with reference to public administration is up-and-coming. Mazikana (2019) mentions that the technology is instrumental in this new innovative era as the governments today internationally concentrates on creatively enacting e-service to its citizens. This occurrence has generated and shed light on numerous challenges pertaining to the use of technology toward improving firm performance. Based on Papadomichelaki, and Mentzas, (2012) it entails the citizen's relationship with the current e-government services.

The literature on use of technology adoption has identified a number of factors that influence successful adoption of technology that can contribute to firm performance (Arifin, 2015; Ali, *et al.,* 2022). This study employs the technology context combined with innovation diffusion theory, information system (IS) implementation texts, and upper echelon theory in highlighting relevant technology adopted characteristics that influences firm performance (Suh and Kim, 2015). The technological context incorporates the innovative technology's features and utility, such like relative advantage, complexity, trialability, and compatibility.

Empirical studies adopting the technology context have analyzed several IT adoptions and dependably discovered support technology and organizational resources available (Piaralal *et al.,* 2015; Martínez-Alonso *et al.,* 2020).While the technology context does not represent an integrated conceptual framework or a comprehensive theory as initially described and subsequently amended in information technology adoption research, it serves as valuable analytical framework for studying the adoption and assimilation of varying sorts of information technology innovations. As noted by Lippert and Govindarajulu (2015), the conventional innovation diffusion research uncovers a huge spectrum of innovations in multiple settings and represents as a stable platform for studies on the adoption of information technology innovations.

Previous research on performance has applied the technology context to investigate the application determinants in business corporate settings in various nations and regions such as Europe (Example., Pee, 2018; Qalati *et al.,* 2020), the Asia-Pacific (example., Habiboğlu *et al.,* 2020), the United States (Al-Furaih & Al-Awidi, 2020) and New Zealand (example., Hassan *et al.,* 2014). Nonetheless, research in the East Africa is limited, especially for Kenya.

Therefore, purpose of this research was to draw inferences as to how technology context affect firm performance. The importance of the State Corporation as the focal point of public firm performance cannot be emphasized. Nevertheless, some of the limiting aspects of firm performance are associated with the involvement of technological variables in public service delivery.

Theoretical framework

The diffusion of innovations theory aims to shed light on how, why, and how quickly innovative concepts and technologies spread. According to Rogers (2003), diffusion is the process through which an innovation is gradually communicated among the members of a social system. The diffusion of innovations theory has several different, cross-disciplinary antecedents. According to Rogers (2003), a new concept spreads due to four primary factors: the innovation itself, communication channels, time, and a social structure. This procedure is very dependent on human resources. To sustain itself, the innovation needs to be extensively used. There is a point where an innovation hits critical mass within the rate of adoption.

According to Greenhalgh *et al.,* (2004), meta-reviews have discovered a number of traits that are shared by the majority of research and are consistent with Rogers' initial suggestions. An innovation's relative advantage, compatibility with the current system, complexity or learning curve, trialability or testability, potential for reinvention, and observed effects are all factors that prospective adopters take into account (Huang *et al.,* 2020). These characteristics interact and are assessed collectively. Adopters have characteristics that influence their propensity to embrace innovations, much like innovations do.

Review Of Literature (Hypotheses Development)

The term "relative advantage" refers to how much a new technology is thought to be superior to an established alternative (Rogers, 2003). One of the main factors influencing the adoption of technological innovation is the relative benefit of one technology over another (Sin *et al.,* 2016). The issue of relative advantage has been proven to have a favorable association with adoption of innovation (Tornatzky & Klein, 2012).

In a number of contexts, relative advantage has been demonstrated to be a significant influencer of technology acceptance. Carter and Campbell (2011) used DOI to find evidence that institutional-based trust, e-government information, and relative advantage all had a favorable influence on company performance. Emani *et al.,* (2012) discovered that relative advantage positively influenced patient perception of individual health record systems, while Chen and Zhang (2016) discovered that relative advantage and perceived benefits favorably impacted business performance in the healthcare industry. Al-Jabri and Sohail (2012) used the DOI theory to investigate the elements influencing the uptake of mobile banking. They discovered evidence that relative advantage has an effect on business performance.

Sin *et al.,* (2016) showed that there is significant influence of relative advantage towards implementation of E-commerce among SMEs. The outcome of this study validates prior studies which discovered that relative advantage was a significant forecaster for implementation of E-commerce among SMEs (Shah Alam *et al.,* 2011; and Wanyoike *et al.,* 2012). According to Eisend *et al.,* (2016), performance of new technology depends on relative advantage of technological capabilities. Based on this review the study hypothesized that:

H1: Technology Relative Advantage Positively Affect Firm Performance

The extent to which a technology interacts with established practices or value systems is referred to as compatibility (Rogers, 2003). The degree of compatibility influences how quickly innovations are adopted; the higher the compatibility, the quicker the adoption and how technology affect firm performance. The adoption of Internet of Things (IoT) is strongly influenced by the compatibility of sensors, networks, and applications from various suppliers (Haddud, DeSouza, Khare, & Lee, 2017). One problem mentioned in the literature is incompatibility problems, such as the inability of IoT devices to connect with one another, which impede IoT adoption and negatively affect firm performance (Stoes, Vank, Masner, & Pavlk, 2016). Positive Adoption of innovation toward improved firm performance is often positively connected with compatibility (Rogers, 2003; Sinha & Mukherjee, 2016).

Technology must be compatible with the firm processes in order to have an impact on business performance. In several research, from mobile payment systems (Oliveira *et al.,* 2016) to healthcare, the idea of compatibility has emerged as a key predictor of firm performance (Abdekhoda *et al.,* 2016). According to Low, Chen, and Wu (2011), enterprise adoption is inversely connected to complexity on business performance. therefore, the study argues that

H2: Technology Compatibility Positively Affect Firm Performance.

Complexity is a measure of how difficult it is to comprehend and apply an innovation (Rogers, 2003). Innovation is less likely to be adopted and employed when customers think it to be confusing and difficult to use (Wang & Wang, 2016). For instance, complexity will rise as IoT device development advances and new functions are introduced (Bi, 2017). IoT device diversity adds another degree of complexity to product design and selection (Zhong, Xu, & Wang, 2017). IoT adoption is hindered by these complications and a lack of experienced staff to manage a multiple hardware ecosystem (Haddud *et al.,* 2017). Adoption of innovation is often inversely connected with complexity (Wang & Wang, 2016).

In order to assess the user's consumer perception of an intention to use IoT services offered by Taiwanese IoTs service providers, Hsu and Lin (2016b) used the value-based adoption model to look at the influences of benefits (perceived usefulness and perceived enjoyment) and sacrifices (perceived privacy risk and perceived fee). The study's conclusions demonstrated that behavioral intention is positively influenced by perceived utility and enjoyment through perception of worth. While IoT adoption is negatively impacted by perceived privacy.

Cheah *et al.,* (2021) indicated a significant relationship between project performance metrics and technology complexity. Surana *et al.,* (2020) evaluated the impact of technology complexity on manufacturing performance and influences the location of suppliers. Their findings showed that high-complexity technology improves company performance while low-complexity technology had the opposite effect. Therefore, the study hypothesized that

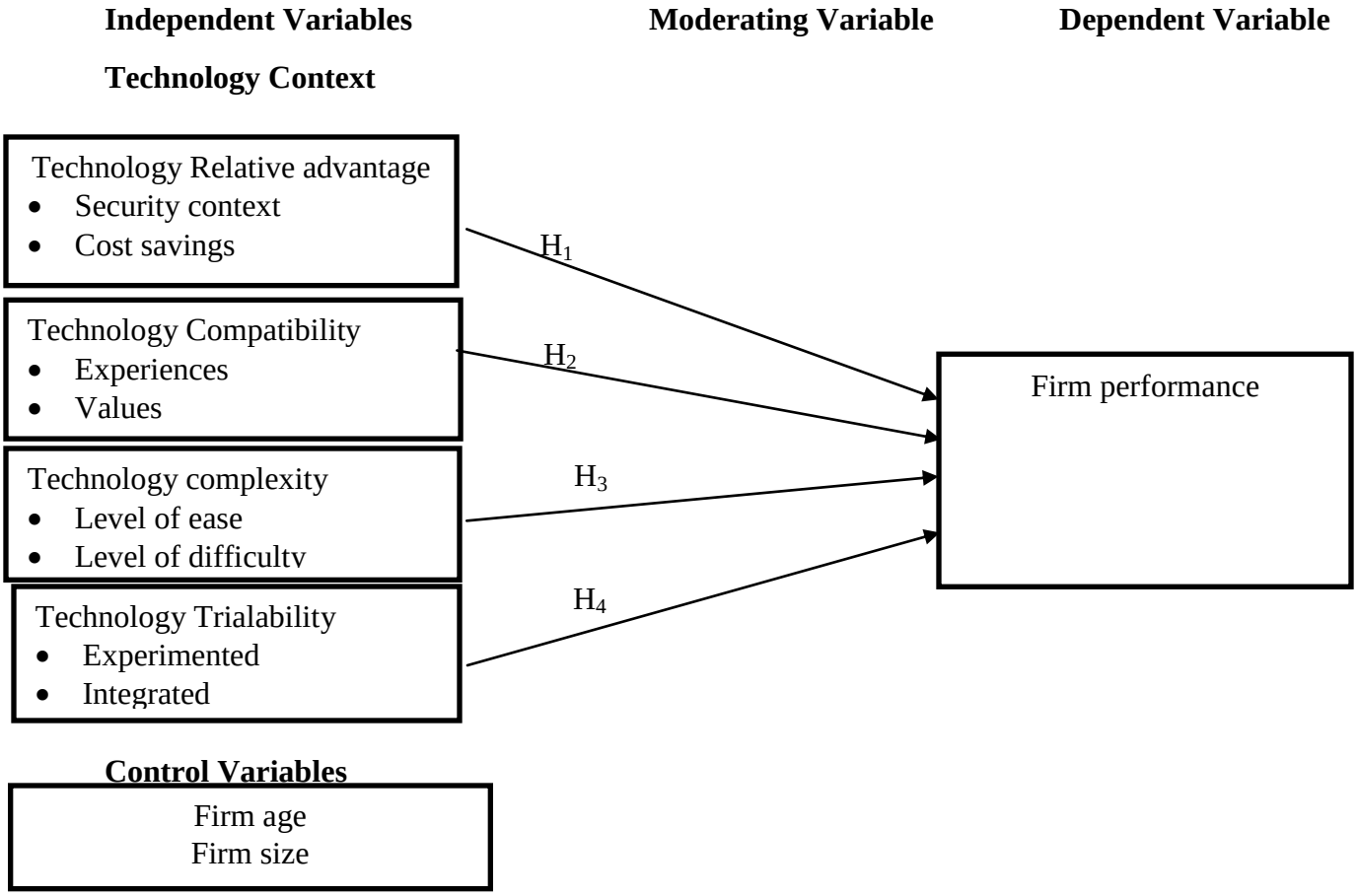
H3: Technology complexity Positively Affect Firm Performance

Trialability is a term used to define the extent in which a technology may be tried inside the acceptance context in order to determine how well it functions and how valuable it is (Rogers, 2003). Because innovation technology that can be rapidly trialed or experimented on for a limited time for free is more likely to be accepted faster, trialability is typically positively correlated with firm performance (Pashaeypoor, Ashktorab, Rassouli, and Alavi-Majd, 2016; Rogers, 2003). Alshamaila *et al.,* (2013) assed relationship between SMEs' adoption of new technologies and firm 's performance and showed that trialability in the technology context have a significant impact, on firm performance.

Based on Rogers' Five Factors of Diffusion of Innovation Model, Mehdi et al (2013) explored and explain the many aspects of small and medium firms' acceptance of e-commerce using data collected from 200 managers and staff members in the manufacturing, agriculture and service sectors using questionnaires sent through email. The findings of this study suggest that trialability has an impact on the adoption of e-commerce. The degree of management confidence is impacted by trialability and observability elements, which in turn affects the adoption of e-commerce. Trialability according to Wang (2014), have a beneficial impact on company performance. Odumeru (2013) carried out a study on the uptake of digital money utilizing DOI as its theoretical underpinning. Trialability was found to be a major driver of performance. According to a study by Chung and Holdsworth (2012), trialability was a highly reliable indicator of company performance.

H4: There is no significant direct effect of technology trialability on firm performance

Thus, proposed conceptual model which diagrammatically present the interaction between technology context (independent variables) and firm performance (dependent variable) are presented in figure 1below.



Source; Author (2020)

Figure 1 Conceptual Framework

Methodology

This study used a positivism research philosophy which is aligned explanatory research design in developing potential causal relationships of the technology context and firm performance using factual data. explanatory research designs were consequently used in the research investigation. The goal of analytical or explanatory research is to find any causal relationships among the variables or factors that are relevant to the study problem.

Sampling

In the study unit of analysis reflect 187 state corporations in Kenya, which include the commercial State Corporation, executive agencies, independent regulatory agencies, research institutions, public universities, tertiary education and training institutions. While unit of observations were the top management (manager, assistant manager and supervisor) . The study

used simple random sample design to select a sample of 65 state corporations calculated using Slovin's Formula (2018), thus, out of total 396 distributed questionnaires to employees, 354 questionnaires were returned giving a response rate of 89.39%. However, after data screening and cleaning (checking for missing data and outliers) 20 questionnaires were found unusable (13 had missing values and 7 were outliers). Hence, the total response rate for usable questionnaires was 84.3%. According to Sekaran and Bougie (2010), response rate of 30% is acceptable for surveys. Hence the response rate of this study is adequate for further analysis.

Data Collection Instrument and variable measurements

Structured or closed-ended questionnaires were employed in collecting quantitative data from top management. The self-administered closed-ended or structured questionnaire was in five-Point Likert Scale (strongly disagree, disagree, neutral, agree and strongly agree) with predetermined questions.

Dependent variable

Non-financial measures were adapted and modified from Larcker, Ittner, and Randall (2003). By implementing these measures, Sholihin, Pike, and Mangena (2010). Ittner, Larcker, and Randall (2003) characterize these strategic performance measures utilizing performance indicators for an organization's ultimate success: supplier alliances, operational efficiency, product and service quality and service innovations, number of employees, number of customers, community and environmental reputation.

Independent Variable

In this review, the independent variables are technology context dimensions. The components of technology context; which include relative advantage (5), complexity (5), compatibility (8), Trialability (5). The measurement tool is embraced from Feuerlicht and Goverdhan (2010) and Jain and Bhardwaj (2010). Complexity tool was adopted from Premkumar*et al.,* (1994), Gardner and Amoroso (2004) and Diane *et al.,* (2001). Compatibility tool was adapted from Wang *et al.,* (2010). The above measures adopted a five-point likert scale (1=strongly disagree to 5= strongly agree) was used by the above scholars and was modified to suit the Kenyan state corporation context.

To determine the internal consistency of the data collection tool, an assessment was undertaken using Cronbach's alpha value attributed to Cronbach (1951). From the results in Table 1, the Cronbach alpha for each variable based on the average of inter-item correlation was above .70 with the highest Cronbach alpha value observed in leader personality (.88), whereas the lowest value was .70 for leader neuroticism. Therefore, any Cronbach alpha value of more than .70 is a reliable measure for the construct under consideration. Thus, the results met the required threshold for further analysis as documented in the subsequent sections of this article document (Campbell, 2015).

Ina addition, The component factor analysis with varimax rotation was conducted in all variables to extract factors from each construct. According to Hair et al., (2015) all items loading below 0.50 were deleted and those with more than 0.50 loading factor retained. The items were well loaded into their various underlying variable structure of dimensions. The findings were summarized and discussed under this section. The factor analysis results for technology context are presented in Table 1. The factor loading scores showed that all the technology context items were above the minimum recommended value of 0.50 (Hair et al., 2014). Further, the factor analysis results revealed an Eigenvalues above the accepted value of 1 (Yong & Pearce, 2013) and a cumulative extracted variance of 51.36% for technology compatibility, 52.76%. for technology compatibility, 43.38% for technology complexity and 48.336% for technology trialability. . Thus, the items were appropriate to explain the variable. Moreover, Bartlett'sTest of Sphericity produced a significant Chi-Square (χ^2) values with $p<0.05$) and KMO values above the acceptable value of 0.000 (Field, 2005), showing that it was appropriate to subject data for factor analysis on this variable of technology context.

Table 1: Factor Analysis for Technology Context

Component	loadings	Extraction Sums of Squared Loadings: Eigen value	% Of Variance	Cum %
Technology relative advantage (KMO=.804, BTS (χ^2)=366.88, p=000), Cronbach's Alpha = 0.76)		**2.57**	**51.36**	**51.36**
The electronic portal reduces the time to accomplish tasks	0.73			
The electronic portal improves the quality of our work	0.61			
Using the electronic portal improves our job performance	0.71			
Using the electronic portal increases our productivity	0.74			
Using the electronic portal makes it easier to do our job	0.78			
Technology Compatibility (KMO=.754, BTS (χ^2)=453.424, p=000, Cronbach's Alpha = 0.76)		**2.64**	**52.76**	**52.76**
The electronic portal is compatible with the existing IT	0.72			
The electronic portal is compatible with the overall operation of the parastatals	0.55			
The electronic portal fits the firm's need	0.82			
Using online service fits well with the way I like to control and manage my transactions.	0.78			
I use the online service because these are already a part of my daily life.	0.74			
Technology Complexity (KMO=.805, BTS (χ^2) =763.902, p=000, Cronbach's Alpha = 0.76)		**3.47**	**43.38**	**43.38**
I find ease in learning to use online services to accomplish desired tasks	dropped			
Interacting with online service does not require a lot of mental effort	0.70			

It is easy to use online service to accomplish my transactions	0.66			
Use of online service does not require any training	0.53			
It is easy to get social media to undertake desired tasks	0.74			
It is easy to develop/acquire skills using social media for business purposes.	0.70			
Social media is flexible to interact with	0.69			
Social media platforms are easy to use.	0.72			
Technology Trialability (KMO=.640, BTS (χ^2) =448.251, p=000, Cronbach's Alpha = 0.76))		**2.417**	**48.336**	**48.336**
I have tested the application of online service system before	0.51			
I agree with the experiment of online service technology usability	0.65			
It is easy to integrate social media with my existing business platform	0.78			
I am able to properly try out social media applications before use	0.80			
The cost of trying social media for business purpose is relatively low compared with other platforms	0.71			

Model specification

The objective of the study is to test the effect of technology context on firm performance. Multiple regression model for direct effects is given as;

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \textbf{(1)}$$

Where;

Y = firm performance;

β_0= constant term or intercept;

C= control variables in the model;

$\beta_1 \ldots\ldots \beta_4$ = the coefficients of the variables in the model;

x_1= Technology Relative advantage , x_2= Technology Compatibility;, x_3= Technology Complexity; x_4= Technology Trialability, ε = error term in the model.

Findings And Discussions

The study deemed it important to highlight the corporation attributes since these attributes have a bearing on their overall performance. Their attributes focused on institution within state corporation, number of employees and corporation age. The findings are as presented in table 2. Based on the findings in the table 2, most firms have over 500 employees suggesting that the corporations could be experiencing significant growth in their assets and size. Thus, the

corporations are able to give an account of their adoption of technology and how leadership personality influences the link between technology context and overall firm performance. most of the corporations have operated for over 30 years. The implication is that the corporations have been in operation long enough to give an accurate insight into how leader personality influences the relationship between technology context and firm performance.

Table 2: Corporation Attribute

		Respondents' population	Percentage
Number of Employees	1-500	131	39.2
	501-1000	173	51.8
	1001-1500	18	5.4
	1501-2000	8	2.4
	above 2001	4	1.2
	Total	**334**	**100**
Corporation age	1-10 years	36	10.8
	11-20 years	80	24
	21-30 years	34	10.2
	31-40 years	145	43.4
	above 40 years	39	11.7
	Total	**334**	**100**

Univariate analysis

Table 1 shows the results on descriptive statistics and correlations analysis. From the findings, firm performance (mean = 3.97), technology relative advantage (mean = 3.87), technology compatibility (mean = 3.66) then technology complexity (mean = 3.64) and finally technology trialability (mean = 3.57). The standard deviations for the variables were less than 1 except technology complexity, indicating less variation in the responses.

The findings in Table 2 show a positive and significant correlation between technology relative advantage and firm performance ($\rho = 0.697$, p-value < 0.01). Similarly, the relationship between technology compatibility and firm performance was found to be positive and significant, $\rho = 0.639$, p-value < 0.01. The findings also showed that the relationship between technology complexity and firm performance is positive and significant, $\rho = 0.696$, p-value < 0.01. However, technology trialability did not have a significant correlation with firm performance.

Table 3: Correlation

	Mean	Std. Dev	FP	TRA	TC	TCX	TT
Firm performance (FP)	3.97	0.52	1				
Technology relative advantage (TRA)	3.87	0.67	.697**	1			
Technology compatibility(TC)	3.66	0.68	.639**	.759**	1		
Technology complexity(TCX)	3.64	0.53	.696**	.627**	.592**	1	
Technology trialability(TT)	3.57	0.61	0.098	.223**	.270**	.109*	1

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

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

Assumption of Regression model

diverse statistical assumptions were tested as outlined in the section below to establish if the data met the normality, linearity, heteroscedasticity, multicollinearity and autocorrelation assumptions (Garson, 2012; Hayes, 2013) . study confirmed that normality of the data was not a problem because tests of K-S and S-W of all the variables were not significant. Hence, the data distribution in the study was considered fit for multivariate analysis. Test for linearity may be conducted using analysis of Variance (ANOVA) and other diverse tests in SPSS (Field, 2009; Garson 2012). When ANOVA was employed in testing the assumption of linearity, ρ – values were or less than 0.05, thus, relationship between technology context variables and firm performance was linear. In general, the results indicated a significant linear relationship between all the predictor variables and the predicted variable (firm performance). This implied non-violation of the linearity assumption (Garson 2012). In this study, heteroscedasticity was Levene's Test for Equality of Variances which tested heteroscedasticity was statistically significant at $\alpha = .05$ (less than 0.05). This indicates that the group variances are unequal or heteroscedastic and not homoscedastic, which is a crucial assumption of linear regression models. The study conformed data had no multicollinearity suing VIF values for all the independent variables which were below 10 and the tolerance values were all above 0.1. This means that for all the predictor variables, multicollinearity was not detected.

Hypotheses Testing

Multiple linear regression analysis was performed to calculate the effects of the predictor variables on firm performance. Based on the model, the combined prediction of all the technology trialability, technology complexity, technology compatibility, technology relative advantage accounted for approximately 61 % of the total variation in firm performance ($R^2 = .61$, Adjusted $R^2 = .605$). This implies that technology trialability, technology complexity, technology compatibility, technology relative advantage affects performance of state corporation by 61%.

The ANOVA model showed that the joint prediction of all the independent variables (technology relative advantage, technology complexity, technology compatibility and technology trialability) as depicted in Table 4 below was statistically significant ($F = 128.42$, ρ=.000). Thus,

the model was fit to predict firm performance using technology relative advantage, technology compatibility, technology complexity and technology trialability (Christensen, 2018).

Hypothesis 1 (H_{o1}) stated that there is no significant direct effect of technology relative advantage on firm performance. Findings in Table 4.32 showed that technology relative advantage had coefficients of estimate which was significant basing on $\beta_1 = 0.339$ (p-value = 0.000 which is less than $\alpha = 0.05$). The null hypothesis was thus rejected, and it was concluded that technology relative advantage had a significant effect on firm performance. This suggested an up to 0.339 unit increase in firm performance for each unit increase in technology relative advantage. The effect of technology relative advantage was more than six times the effect attributed to the error; this was indicated by the t-test value = 6.018. Consistent with the results, Carter and Campbell (2011) confirmed that relative advantage with the inclusion of institutional-based trust and e-government information positively contributes to firm performance. Similarly, Chen and Zhang (2016) established that relative advantage and perceived credibility positively impacted firm performance in the healthcare industry. The implication is that the relative advantage of one technology over another is a key determinant to improved firm performance across firms in different industries.

Hypothesis 2 (H_{o2}) stated that there is no significant direct effect of technology compatibility on firm performance. However, research findings in Table 4.32 showed that technology compatibility had coefficients of estimate which was significant based on $\beta_2 = 0.167$ (p-value = 0.003 which was less than $\alpha = 0.05$) hence the null hypothesis was rejected. This indicated that for each unit increase in technology compatibility, there was 0.167 units increase in firm performance. Furthermore, the effect of technology compatibility was stated by the t-test value = 3.028 which implied that the standard error associated with the parameter was less than the effect of the parameter. There is limited evidence on the nexus between technology compatibility and firm performance of corporations. However, the bulk of studies suggest that technology compatibility is key to the adoption of technology/ innovation (Rogers, 2003; Sinha & Mukherjee, 2016; Sin Tan *et al.,* 2009). Thus, the current study could have potentially shed light on the possible positive link between technology compatibility and firm performance among state corporations in Kenya.

Hypothesis 3 (H_{o3}) postulated that there is no significant direct effect of technology complexity on firm performance. Findings in Table 4.32 showed that technology complexity had coefficients of estimate which was significant basing on $\beta_3 = 0.392$ (p-value = 0.000 which is less than $\alpha = 0.05$) implying that the null hypothesis was rejected and it was concluded that technology complexity had significant effect on firm performance. This indicated that for each unit increase in technology complexity, there was up to 0.392 unit increase in firm performance. The effect of technology complexity was stated by the t-test value = 8.604 which indicated that the effect of technology complexity was over 8 times that of the error associated with it. Prior studies have focused on the relationship between technology complexity and firm performance. For instance, Wang and Wang (2016) concluded that there is a negative correlation between technology complexity and innovation adoption. The few studies (Cheah *et al.,* 2021) that have tried to establish a link between technology complexity and firm performance suggest that investing abundant resources in low complexity technologies reduces the financial performance of

projects. In that regard, there is a need for further studies to ascertain if indeed technology complexity positively influences firm performance, as the present study suggests.

Hypothesis 4 (H_{o4}) indicated that there is no significant direct effect of technology trialability on firm performance. The findings confirmed that technology trialability had no significant influence on firm performance basing on β_4= -0.065 (p-value = 0.069 which was more than α = 0.05) hence the null hypothesis was accepted. Therefore, there would be no change in firm performance with either an increase or decrease in technology trialability. The findings contradict prior studies (Pashaeypoor, Ashktorab, Rassouli, & Alavi-Majd, 2016; Rogers, 2003) suggesting that there is a positive correlation between technology trialability and firm performance since the technology that can be quickly tested or experimented on for a limited basis for free are more likely to be adopted faster (Chiyangwa & Alexander, 2016; Rogers, 2003). Similarly, the results defer with that of Alshamaila *et al.,* (2013), inferring that technology trialability contributes to an improvement in firm performance. Also, Odumeru (2013) elucidated that trialability is a significant predictor of firm performance. Thus, the present study contradicts prior studies suggesting that technology trialability significantly influences firm performance. Thus, there is need for further studies on the nexus between technology trialability and firm performance to ascertain the direction of the relationship between the variables.

Table 4: Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	1.280	0.156		8.220	0.000
Technology relative advantage	0.262	0.044	0.339	6.018	0.000
Technology compatibility	0.127	0.042	0.167	3.028	0.003
Technology complexity	0.386	0.045	0.392	8.604	0.000
Technology trialability	-0.056	0.031	-0.065	-1.822	0.069
Model Summary					
R	0.781				
R Square	0.61				
Adjusted R Square	0.605				
Std. Error of the Estimate	0.32607				
Durbin-Watson	1.672				
ANOVA Model					
F	128.42				
Sig.	0.000				

a Dependent Variable: Firm performance

Source; Field Data (2022)

Conclusion

In conclusion, technology relative advantage is key to enhancing the firm performance among the state corporations in Kenya. The reason for this is that the corporation has incorporated the use of the electronic portal, which has prominence compared to other technologies. Additionally, technology compatibility positively influenced firm performance among state corporations in Kenya. It implies that the electronic portal's compatibility with the corporations' IT infrastructure contributed to the overall effectiveness of the organizations' processes. Also, the needs of the corporations are in perfect alignment with the electronic journal such that it is now a part of the employees' lives. Further, the study revealed that technology complexity positively influences firm performance. There is the ease of use of online services such that it does not require a lot of mental effort or time. In that regard, employees can flexibly interact with social media and acquire skills that they can utilize for business purposes. Finally, technology trialability had no significant influence on firm performance. Similarly, when moderated with leader neuroticism, there is a negative and significant relationship between technology trialability and firm performance.

Recommendations

The study indicated a positive link between technology relative advantage and firm performance among state corporations in Kenya. Thus, there is a need for state corporations to incorporate electronic journals to reduce the time required for employees to accomplish tasks. Since technology compatibility positively influences firm performance among state corporations in Kenya, the state corporations need to ensure any technology adopted is compatible with the existing IT infrastructure. Specifically, parastatals should ensure that the electronic journal is compatible with their operations. Moreover, the electronic portal should fit the firms' needs. Additionally, technology complexity is key to enhancing firm performance in state corporations. Thus, corporations need to adopt online services that does not require much mental effort. There should also be employee training so that they can find it easier to utilize online services in accomplishing their tasks.

Limitation and Future Research

The study sought to evaluate the effect of technology context on firm performance among state corporations in Kenya. However, the study targeted state corporations in Kenya. Therefore, future scholars need to enquire from other firm types. The study has only relied on questionnaires to gather information on the influence of technology context on firm performance, future scholars could also utilize secondary data.

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