Technology Context, Openness to Experience and Firm Performance Among State Corporations in Kenya

Article history: *Revised format:31st Oct 2022, Available online:23rd Nov 2022*

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

Abstract:

Purpose: *The primary objective of this study was to examine the impact of technology context and openness to experience on firm performance among state corporations in Kenya. The research was guided by the upper-echelon theory.*

Material/methods: *The study focused on top management from 187 state corporations in Kenya. A simple random sampling method was employed to select 65 state corporations for inclusion. Primary data collection was conducted through questionnaires using a nominal scale. To analyze the data and test the hypotheses, hierarchical regression models were applied, utilizing SPSS version 23.*

Findings: *The findings reveal significant moderating effects of leader openness to experience on the relationships between various technology aspects and firm performance. Specifically, the study found that leader openness to experience moderated the relationship between technology relative advantage and firm performance ($\beta = .68$, $\rho < .05$, $R2\Delta = .042$), between technology complexity and firm performance ($\beta = 0.58$, $\rho < .05$, $R2\Delta = .023$), and between technology trialability and firm performance ($\beta = .32$, $\rho < .05$, $R2\Delta = .024$).*

Conclusion*: The study concludes that leader openness to experience significantly influences the relationship between various technology factors and firm performance in state corporations in Kenya.*

Value: *The study offers practical recommendations for state corporations, emphasizing the adoption of superior technologies to enhance employee productivity and overall firm performance. It also highlights the importance of ensuring technology compatibility with existing IT infrastructure and the need for enhanced training for better utilization of online services. This research contributes to a deeper understanding of the role of leadership traits in technology adoption and its impact on organizational performance.*

Keywords*: Leader Openness to Experience, Technology Relative Advantage, Technology Complexity , Technology Trialability , Firm Performance*

Paper Type: *Research Article*

Recommended citation: Chepkwony, N. C., Kemboi, A., & Bonuke, R. (2022). Technology context, openness to experience and firm performance among state corporations in Kenya. *Journal of Economics, Management Sciences and Procurement*, 2(1), 85-98.

[1] Phd, Moi University
[2] Department of Management Science, School of Business and Economics Moi University
[3] Department of Marketing and Logistic, School of Business and Economics Moi University

1. Introduction

The performance of various state enterprises is commonly a cause of concern for both academics and government agencies.The greatest financial performance of a state firm is supposed to reflect its overall health and existence. The optimal financial output gives light on management's efficiency and performance in employing firm resources, hence benefiting the nation's overall economic growth. Performance has an impact on a company's health and ultimate sustainability (Alfadhli & AlAli, 2021) contend that the management's efficiency and success in employing resources is largely expressed by optimum performance, hence increasing the country's overall economy. Thus, this study assessed technological context as factor that affect performance (Abdulateef *et al.,* 2010).

The technological context has been chosen as the primary research model in this study since the focus of the study is the use of cutting-edge technology from the viewpoint of an state enterprise. The pool of technologies accessible to a company is illustrated by the technology context. These could include both the present tools used by the business and the innovations that are on the market (Scupola, 2009). Technology context has four characteristics, technology relative advantage, technology trialability, technological complexity, and technological compatibility (Karnali & Kurnia, 2011).

Lacka *et al*., (2020) explained that innovation factors concern current and emerging technologies and could encompass existing processes, equipment, and technologies both within and beyond organizations. Sectors such as manufacturing (Salojärvi *et al.,* 2015), health care (Lin *et al.,* 2020), retail, wholesale, and financial services have all used the technology context to demonstrate the adoption of information technology toward improving firm performance (Gyamfi-Yeboah *et al.,* 2021).

This review therefore aims at providing evidence on how technological context and openness to experience might influence performance. Accordingly, the purpose of this research was to draw inferences as to how technology context and openness to experience 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. State Corporations performance are vital because of their contributions to social welfare, job creation, general economic empowerment, and the poor's lives. Nonetheless, irrespective of the industry's interest and the subsidies that have flowed into certain mission-oriented state Corporations, it appears that a majority of state corporations are faced with the impediment of sustaining viability down the road. A survey revealed that certain state corporations, for instance Uchumi running in late 2014 in Kenya were either shut down or were on privatization (CBK, 2017). In 2017, the poor performance by state corporations in Kenya resulted in outpouring from central government to parastatals translating to 1 percent of the GDP. Additionally, on 2017-2018, the direct subsidies to parastatals totaled Ksh7.2 billion and a total of Ksh 14.2 billion in indirect subsidies. National governments in its effort to improve performance of state corporations, through Central bank financed them and provide motivation in the form of better pay and benefits to personnel based on achievement. All these measures were not100% effective. the commercial state corporation experiences a variety of setbacks (Jeske *et al.,* 2015). Some of these setbacks involve how to change the companies through innovation ingenuity, improving staff performance, customer

satisfaction and loyalty to enhanced performance. A number of these impediments are linked with a dearth in effective technology. In addition, covid 19 pandemic has led to government implementation e-citizens which has resulted in interaction between the government and its citizens, government and its employees, government and business, and government and other government agencies. Indeed, big steps have been made in terms of how the government engages with and gets information from all stakeholders. This is done through obtaining services from government offices like checking the status of a national identity card, passport, driving license, filing tax returns, and the registration of new businesses.

However, although several efforts have been made to deliver electronic services, a range of issues persist, especially accessibility and the capacity of a significant population to access these services, in addition to the ability of government agencies to meet demand and deliver quality and prompt services. The key problems of any country's e-government program include enhancing citizen services, boosting government agency productivity and efficiency, encouraging priority economic sectors, enhancing the standard of living for underprivileged populations, reinforcing good governance, and expanding participation by the public. These diverse concerns need to be addressed in order to arrive at realistic solutions that see to the successful and efficient public service delivery.

In addition, it is the role of the leaders to champion change in the institutions. Nonetheless, Crevani, *et al.,* (2021) notes that not all administrators are leaders are instrumental in advancing change as well as providing incentives and feedback necessary to advance change efforts. They also argued that leader personality is very crucial to successful adoption of technology and innovativeness. However, while considerable attention has been paid to the relationships between openness to experience and innovation, firm performance, extant research about moderating effect of openness to experience on the relationship between technology context and firm performance is limited and is ambiguous (Khalfan *et al.,* 2022; Mai *et al.,* 2022). It is not clear, for example whether the effect of technology context on firm performance is direct or indirect, effecting through openness to experience. Some researchers, for example have suggested that openness to experience moderate the leadership-innovation relationship (Khalfan *et al.,* 2022).

2. Theoretical and Literature Review

According to the upper echelons theory, management background traits can predict organizational results, strategic decisions, and performance levels to some extent (Hambrick and Mason, 1984). Top management react on the basis of their individually tailored understandings of the corporate strategy situations they encounter, and these individually tailored understandings are a component of the managers' personalities, values and experiences (Hambrick, 2007). This is the main idea and the central of the upper echelons' theory.

Researchers have devoted a significant amount of time and effort to investigating how managers' origins and psychological make-up influence the choices they make (Nielsen, 2010). The influence of a personality of the leader on a variety of outcomes of a firm, including a company's competitiveness, amount of innovativeness, strategic change, and ultimately performance, were the subject of early empirical research on top echelons (Nielsen, 2010). Strategic decisions may in part reflect the quirks of decision makers if they have a significant behavioral component.

2.1. Review of Literature

Numerous correlations between openness to experience, technology and firm performance have been found. In general, it seems that many facets of human-technology interaction are linked to the personality trait known as " openness to experience " (Alalwan *et al.,* 2016). In relation to this idea, the use of the Internet by individuals has been especially looked into. For instance, Makanyeza (2017) demonstrated a relationship between the use of various internet services and the openness to experience. An analysis of the relationships between these personality factors and experiences of loneliness and Internet use supported the idea that personality (i.e., a propensity towards loneliness) predicts Internet use and disproved the assumption that using the Internet makes one feel lonely (Mohammadi, 2015).

Additionally, personality modifies the association between technology use and supportive social experiences, despite the fact that personality and technology use were only modestly associated (Swickert *et al.,* 2002). McElroy *et al.,* (2007) recently looked into how personality affected how much time people spent online. They used the Big Five model to assess personality using the updated NEO Personality Inventory, as well as the Meyer-Briggs Type Indicator to assess cognitive style (MBTI). Three tools were used to gauge internet usage. Their key discovery was that cognitive style was a poorer predictor of Internet use than the Big Five personality traits. Additionally, their findings demonstrated that openness to experience predicted internet use, openness to experience predicted buying on the internet, while emotional stability or neuroticism predicted selling before accounting for technology fear and self-efficacy. openness to new experiences influenced Internet use. Research avenues suggested by McElroy *et al.,* include the Big Five personality traits in models of technology acceptance and adoption (Alalwan *et al.,* 2016). There have been several attempts to look into how openness to experience could affect the adoption of new inventions and technology.

Technology-specific personality factors from the Technology Readiness Index (TRI; Parasuraman 2000) were used in a study by Walczuch *et al.,* (2007) to examine the impact of openness to experience on technology adoption. The findings showed that openness to experience played a role in the adoption of information technology, with the optimism component of the TRI having the greatest influence due to its favorable effects on PeU and PU. However, there were substantial relationships between the parameters of inventiveness, insecurity, and unpleasantness with PU, PEU, or both. Given these findings, it is remarkable that relatively few studies have looked at the connection between TAM characteristics and broader personality variables.

According to Ajzen and Fishbein (1975, cited in Agarwal and Prasad 1999), personality was expressly characterized as a type of exogenous or external variable in the theory of reasoned action, which forms the basis of TAM. This makes this a plausible assumption (Agarwal and Prasad 1999, p. 366). The relationship between personal characteristics and intention is also mediated through the relationship between individual differences and personality, according to certain studies on the relationship between TAM components and personality factors (including personality). According to Agarwal and Prasad's hypothesis from 1999, PeU and PU served as a mediator between personality traits and behavioral intention. By testing models where individual variations have both indirect and direct impacts on behavioral intention to switch from a system computer interface

to a GUI-driven interface, they demonstrated that this is the case for demographic and situational personality traits. But they left out personality traits from their study.

Barkhi and Wallace (2007) study was unique of it nature of examining personality traits and Behavioral intention (BI), perceived usefulness (PU), perceived ease of use (PEU), and subjective norm (SN) of the TAM components in respect to online purchasing. The foundation of this study was Jung's theory of personality, as assessed by the MBTI. Their findings demonstrated that openness to experience affect SN and PeU. (Xu *et al.,* 2016). Additionally, they discovered evidence supporting favorable relationships between the introversion and extraversion perceiving and judging, and sensing and intuitive dimensions and SN, SN, and PeU (Uruea *et al.,* 2018).

3. Material and methods

3.1. Target Population

The target population of this study includes state corporation 187 state corporations in Kenya (RoK, 2018). The target respondents included top management (manager, assistant manager and supervisor). Simple random was used to select a sample of 65 state corporations from which 6 top management staff were purposively selected. 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.

3.2. 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.

3.4. 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.

3.5. Moderating Variable

According to Luarm and Lin (2005), it is prudent to adopt the items for study constructs from prior researches to ensure content validity of the scale used. Therefore 8 survey items for opness to experience constructs in the questionnaire was adopted and modified from empirical studies to fit in the context of three personality traits.

3.5. Control Variable

The study used number of employees and number the firms has been in existence as firm size and firm age control variables. The validity and reliability of the measuring instrument was addressed including the design of questions, the structure of the questionnaire and the diligence of pilot testing. To increase validity and reliability, the researcher conducted a pilot study to pre-test the questionnaire at the state corporations within Eldoret town. Construct validity is the ability of indicators and scales to measure accurately the concept under study (Hair, Black, Babin, & Anderson, 2010). construct validity was tested using factor analysis. Cronbach's Alpha reliability coefficient, α, was used for the internal reliability test.

3.6. Analytic Model

According to Rose *et al.*, (2004), a moderator is a third variable that adjusts the strength of a causal relationship. Similarly, Baron and Kenny (1986) defined as a "variable that affects the direction and/or strength of the relationship between an independent and a dependent variable. To test for moderation effects the study used hierarchical multiple regression as modelled by Baron and Kenny (1986) following the procedure as outlined for moderation: first, control variables in the model was regressed against firm performance for potential direct effects; second stage entailed regressing control variables and technology context against firm performance. The moderating variable was introduced and regressed together with control variables, technology context against the dependent variable. Therefore, interaction term between predictor and moderating variables was obtained by multiplying the two variables that produced an interaction effect done at different stages for each individual interaction as specified in the hierarchical regression model below:

Moderation 1

The overall model specification for testing moderation in the study was as follows.

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon_i \quad (1)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 x_4 + \beta_5 Mi + \varepsilon \quad (2)$$

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 Mi + \beta_6 x_1 * Mi + \varepsilon_i \quad (3)$$

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 Mi + \beta_6 x_1 * Mi + \beta_7 x_2 * Mi + \varepsilon_i \quad (4)$$

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 Mi + \beta_6 x_1 * Mi + \beta_7 x_2 * Mi + \beta_8 x_3 * Mi + \varepsilon_i \quad (5)$$

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 Mi + \beta_6 x_1 * Mi + \beta_7 x_2 * Mi + \beta_8 x_3 * Mi + \beta_9 x_4 * Mi + \varepsilon_i \quad (6)$$

Where, $\boldsymbol{Y}$ = Firm performance, $\boldsymbol{\beta_0}$= constant term or intercept, $\boldsymbol{\beta_1 \ldots\ldots \beta_4}$ = the coefficients of the variables in the model, $\boldsymbol{X_1}$= Technology Relative Advantage, $\boldsymbol{X_2}$= Technology Compatibility $\boldsymbol{X_3}$= Technology Complexity, $\boldsymbol{X_4}$= Technology Trialability, $\boldsymbol{\varepsilon}$ = error term in the model. $Mi = Openness\ to\ experience,$

4. Findings and Discussion

4.1. Descriptive and Correlation Results

The study examined the impact of electronic tendering on the performance of preferential procurement in the government of Kwale County. The study evaluated the county's use of electronic tendering as a result. The responses were scored using a Likert scale of 5 points, with 1 signifying "strongly disagree" and 5 signifying "strongly agree." Statements labeled "strongly disagree" and "disagree" had mean scores ranging from 0 to 2.5 and were considered to not be agreed upon. Statements classified as "neutral" were those with a mean score between 2.6 and 3.4 and were rated as neither agreed with nor disagreed with. A response of "agree" or "strongly agree" was deemed to be appropriate for statements with a mean score between 3.5 and 5. The results are shown in Table 4 in their entirety.

Table 1: *Correlation Results*

	Mean	Std. Dev	Skewness	Kurtosis	FP	TRA	TC	TCX	TT	LOTE
FP	3.97	0.51871	-0.4	1.642	1					
TRA	3.87	0.67	-0.51	0.85	.697**	1				
TC	3.66	0.68	-0.25	0.21	.639**	.759**	1			
TCX	3.64	0.53	-1.05	3.39	.696**	.627**	.592**	1		
TT	3.57	0.61	0.56	0.49	0.098	.223**	.270**	.109*	1	
LOTE	3.99	0.52	-1.04	3.61	.593**	.551**	.498**	.527**	.138*	1

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

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

Key: FP=Firm Performance, TRA=Technology Relative Advantage, TC=Technology compatibility, TCX=Technology complexity, TT=Technology trialability, LOTE=Leader OTE

4.2. Hierarchical Regression Results

The objective of the study was to establish the moderating effect of openness to experience on the relationship between technology context and firm performance. The hierarchical regression results are presented in Model 1 to 7 in Table 2. The first model involves regression control variables (CS and CA) against the firm performance (Model1). Model 2 showed the effect of control variables (CS and CA) and predictor variables (TRA, Comp, Comx and Tria) on firm performance. In Model 3, control variables (CS and CA), predictor variables (TRA, Comp, Comx and Tria) and moderator (OTE) were regressed against firm performance. In model 4, 5, 6, 7, interaction results for each independent variable (i.e TRA*OTE, Comp*OTE, Comx*OTE and Tria*OTE) respectively.

Findings showed that leader openness to experience moderates the relationship between technology relative advantage and firm performance (β =.68, ρ< .05). This was also confirmed by $R^2\Delta$ of .042, which indicate that leader openness to experience moderate the relationship between technology relative advantage and firm performance by 4.2%. This implies that leader openness to experience enhances the relationship between technology relative advantage and firm performance. The implication is that leaders who are open to experience are crucial to

implementing technology that is superior to prior technologies, thus contributing to an improvement in firm performance. The findings agree Swickert et al., (2002) with personality modifies the association between technology use and supportive social experiences, despite the fact that personality and technology use were only modestly associated. Similarly, McElroy et al., (2007) demonstrated openness to experience predicted internet use, openness to experience predicted buying on the internet, while emotional stability or neuroticism predicted selling before accounting for technology fear and self-efficacy.

The regression results showed a negative and insignificant moderating effect of leader openness to experience on the relationship between technology compatibility and firm performance (β = -0.18, ρ> .05). This was also supported by a change of R squared of 0.0% ($R^2\Delta$= .000), indicating that there would be no change in the effect of technology compatibility on firm performance with the incorporation of leader openness to experience as a moderator. Also, leader openness to experience positively moderated the relationship between technology complexity and firm performance (β = 0.58, ρ< .05). The moderating effect was also revealed by change in R squared ($R^2\Delta$ .023) and F change (F Δ =24.182) (This suggests that leader openness to experience facilitate the relationship between technology complexity and firm performance). The implication is that leader openness to experience strengthens the relationship between technology complexity and firm performance. leader openness to experience moderates the relationship between technology trialability and firm performance (β =.32, ρ< .05). This was also confirmed by R2Δ of .024, which indicate that leader openness to experience moderate the relationship between technology trialability and firm performance by 2.4%. It implies that leader openness to experience enhances the relationship between technology trialability and firm performance.

Table 2: *Hierarchical Regression for Moderating role of Openness to Experience on Technology Context and Performance of State Corporations*

	Model 1 B (S.E)	**Model 2 B (S.E)**	**Model 3 B (S.E)**	**Model 4 B (S.E)**	**Model 5 B (S.E)**	**Model 6 B (S.E)**	**Model 7 B (S.E)**
(Constant)	0.00(.05)	0.00(.04)	0.00(.03)	0.01(.03)	0.01(.03)	-0.01(.03)	0.02(.03)
ZCS	-0.09(.05)	-0.03(.04)	-0.02(.03)	-0.02(.03)	-0.02(.03)	0.00(.03)	0.02(.03)
ZCA	-0.17(.05) **	-0.04(.04)	-0.06(.04)	-0.03(.03)	-0.04(.03)	-0.02(.64)	-0.01(.03)
ZTRA		0.34(.06) **	0.29(.06) **	-0.13(.08)	-0.15(.09)	-0.11(.09)	-0.07(.09)
ZComp		0.14(.06) *	0.12(.06) *	0.11(.05) *	0.23(.19)	0.41(.19) *	0.00(.20)
ZCOMX		0.40(.05) **	0.34(.05) **	0.29(.04) **	0.29(.05) **	-0.04(.08)	-0.03(.08)
ZTrial		-0.05(.04)	-0.05(.04)	-0.06(.03)	-0.05(.03)	-0.04(.03)	-0.20(.04) **
ZOTE			0.20(.04) **	-0.08(.06)	-0.01(.12)	-0.09(.12)	-0.35(.12) **
ZTRA*OTE				0.68(.011) **	0.72(.12) **	0.63(.12) **	0.53(.11) **
ZComp*OTE					-0.18(.27)	-0.48(.27)	0.06(.28)
ZComx*OTE						0.58(.12) **	0.51(.11) **
ZTria*OTE							0.32(.06) **
Model Summary							
R	.198a	.778b	.794c	.820d	.821e	.834f	.849g
R Square	0.039	0.606	0.631	0.673	0.674	0.696	0.720
Adjusted R Square	0.033	0.599	0.623	0.665	0.665	0.687	0.710
Std. Error of the Estimate	0.988	0.637	0.617	0.582	0.582	0.562	0.541
Change Statistics							
R Square Change	0.039	0.567	0.025	0.042	0.000	0.023	0.024
F Change	6.769	117.611	22.120	41.885	0.449	24.182	27.215
df1	2	4	1	1	1	1	1
df2	331	327	326	325	324	323	322
Sig. F Change	0.001	0.000	0.000	0.000	0.503	0.000	0.000

a Predictors: (Constant), ZCA, ZCS

b Predictors: (Constant), ZCA, ZCS, ZTrial, ZCOMX, ZComp, ZTRA

c Predictors: (Constant), ZCA, ZCS, ZTrial, ZCOMX, ZComp, ZTRA, ZOTE

d Predictors: (Constant), ZCA, ZCS, ZTrial, ZCOMX, ZComp, ZTRA, ZOTE, ZTRA_OTE

e Predictors: (Constant), ZCA, ZCS, ZTrial, ZCOMX, ZComp, ZTRA, ZOTE, ZTRA_OTE, ZComp_OTE

f Predictors: (Constant), ZCA, ZCS, ZTrial, ZCOMX, ZComp, ZTRA, ZOTE, ZTRA_OTE, ZComp_OTE, ZComx_OTE

g Predictors: (Constant), ZCA, ZCS, ZTrial, ZCOMX, ZComp, ZTRA, ZOTE, ZTRA_OTE, ZComp_OTE, ZComx_OTE, ZTria_OTE

Key:CS= proration size, CA=Corporation Age, TRA= Technology Relative Advantage, COMX= Technology Complexity, Comp = Technology compatibility, Trial = Technology Trialability, OTE= Openness to Experience

Source; Field Data (2022)

To support the above moderation effect of leader openness to experience on the relationship between technology relative advantage and Performance of State Corporations, the study used Modgraphs. Moderated results are presented on a moderation graph as suggested by Aiken & West (1991) who suggested that it is insufficient to conclude that there is interaction without probing the nature of that interaction at different levels of the moderator. Figure 1 demonstrated that higher leader openness to experience within the state corporations showed a steeper slope between technology relative advantage and firm performance. This implied that leader openness to experience positively and significantly moderates the relationship between technology relative advantage and firm performance.

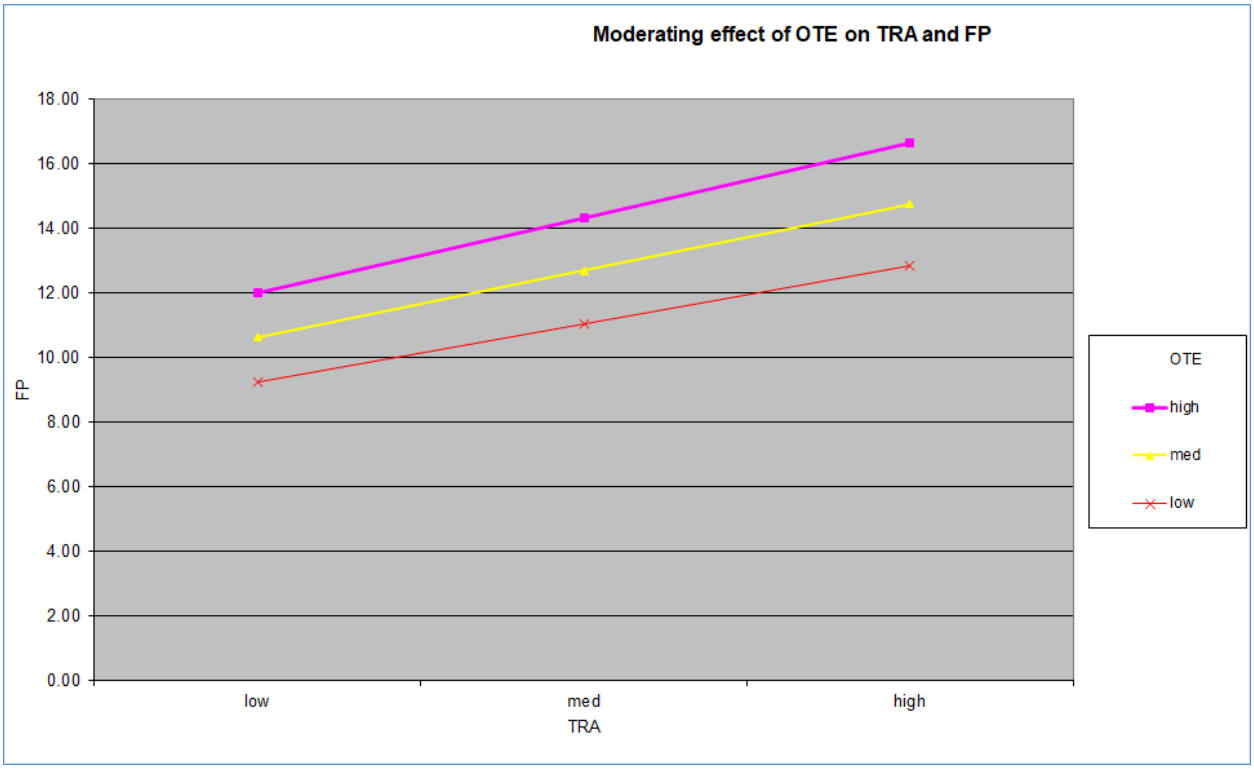

Figure 1:*ModGraph for Moderating role of Openness to Experience on Technology Relative Advantage and Performance of State Corporations*
Source; Field Data (2022)

The graph in Figure 2 revealed that when state corporations have leaders with high levels of openness to experience, technology complexity contributes more to firm performance than when there are low levels of leader openness to experience, as shown by the steepness of the slope. Thus, leader openness to experience positively and significantly moderates the relationship between technology complexity and firm performance.

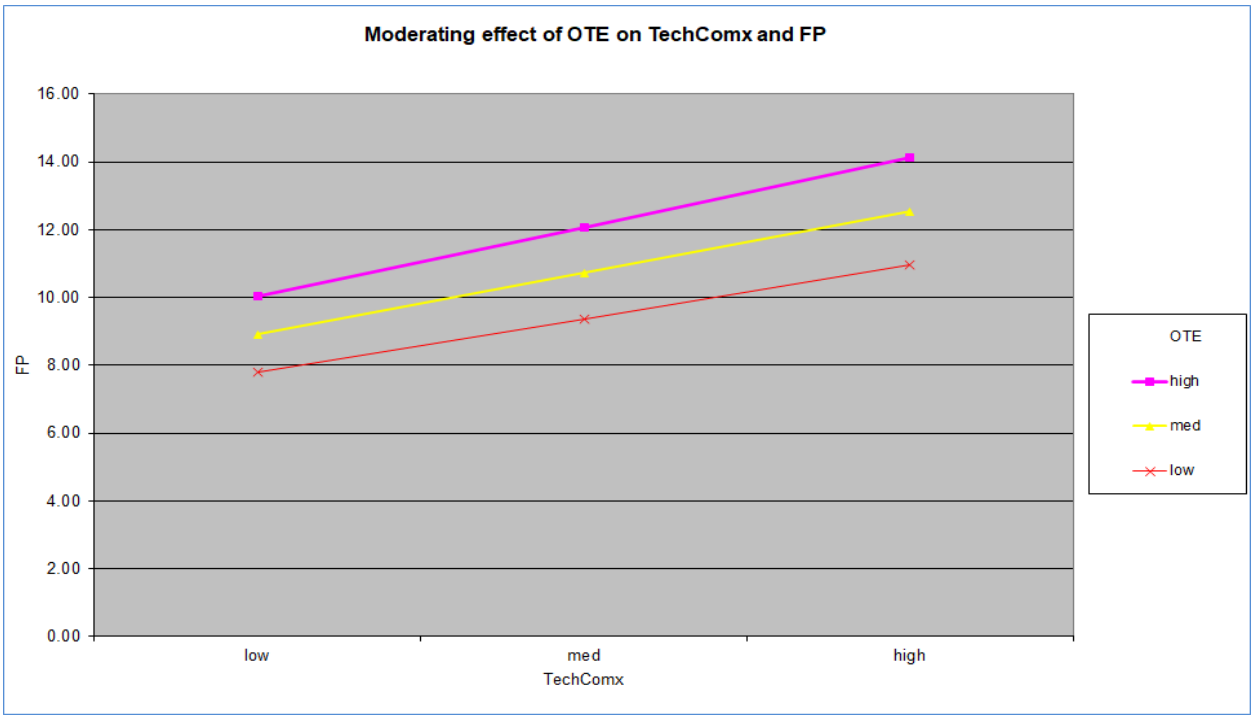

Figure 2:*ModGraph for Moderating role of Openness to Experience on technology complexity and Performance of State Corporations*
Source; Field Data (2022)

The interaction plot in Figure 3 displays an enhancing effect that as leader openness to experience increases in state corporations in Kenya, the effect of technology trialability on firm performance increases, as depicted by the steepness of the slope. Thus, leader openness to experience positively and significantly moderates the relationship between technology trialability and firm performance.

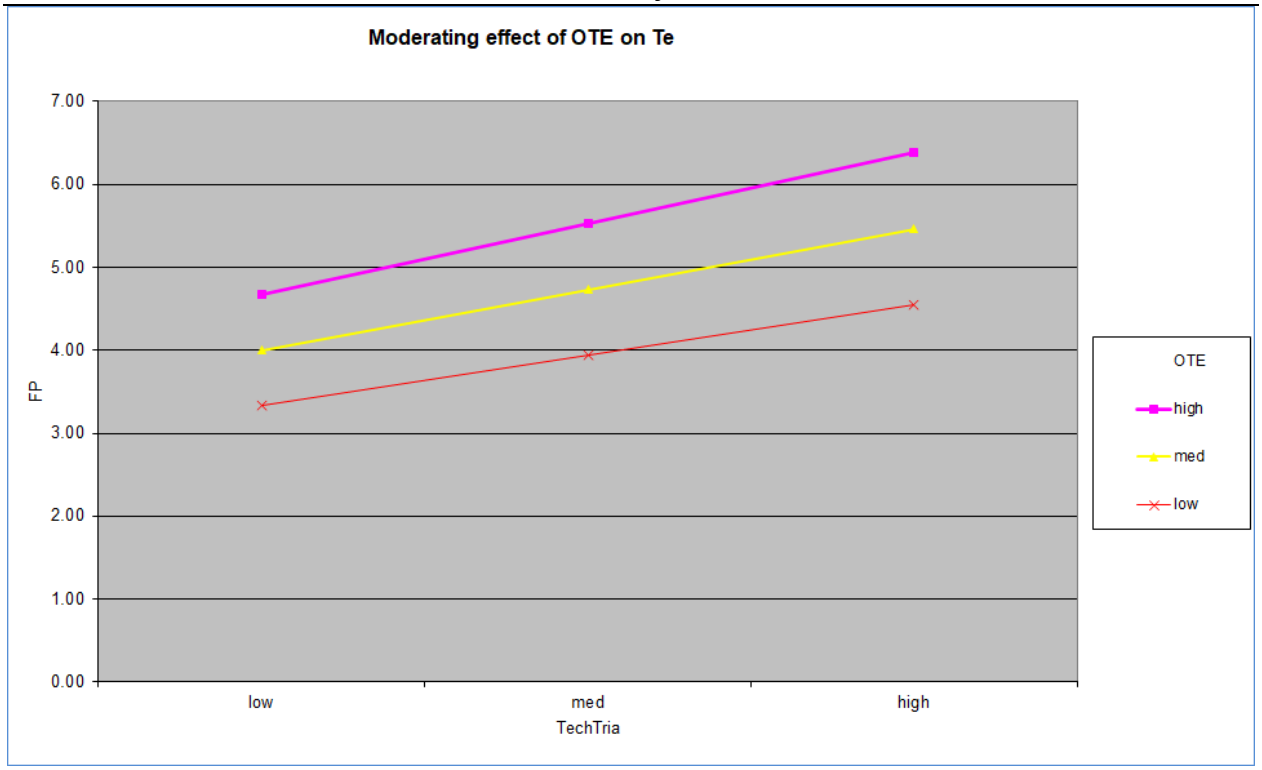

Figure 3: *ModGraph for Moderating role of Openness to Experience on Technology Trialability and Performance of State Corporations*

Source; Field Data (2022)

5. Conclusion and Implications

The results of the moderated hierarchical regressions indicated that leader openness to experience positively and significantly moderates the relationship between technology relative advantage and firm performance. similarly, technology complexity had a significant relationship with firm performance when moderated with leader openness to experience. Also, the moderated hierarchical regression findings indicated that technology trialability had a significant effect on firm performance when moderated with leader openness to experience. However, leader openness to experience had a negative and insignificant moderating effect on the relationship between technology compatibility and firm performance. The findings of the moderated hierarchical regressions indicated that technology relative advantage had a negative and significant relationship with firm performance when moderated with leader neuroticism.

The study validates the upper echelons theory since the leadership personality had a role in influencing the direction of the relationship between technology context and firm performance. Notably, the personality of the leaders in the state corporations have contributed to the effectiveness of the technology. It reaffirms the upper echelon theory assertion that the characteristics of senior management of an organization can influence the decisions made and practices adopted by the organization. The implications of this research findings are that the state corporations' leadership in Kenya has been enlightened on the essence of openness to experience in influencing firm performance. Therefore, corporations are aware of the openness to experience that will encourage the implementation and ease of using a particular technology in the organization, thereby positively contributing to firm performance. Also, the leadership in state

parastatal have information on the strategies to synergize their openness to experience with technology to attain superior firm performance.

References

Abdulateef, A. A., & Al-Shwaiyat, N. M. (2010). The effect of computer games on high school students' achievement in mathematics. International Journal of Humanities and Social Science, 2(4), 134-142.

Agarwal, P., & Prasad, J. (1999). Effect of computer games on mental and physical development of children. Indian Journal of Applied Psychology, 36(3), 213.

Alfadhli, E., & AlAli, A. (2021). The effect of video games on academic achievement and behavior of elementary school students in Saudi Arabia. International Journal of Humanities and Social Science, 11(5), 1-7.

Barkhi, R., & Wallace, D. (2007). Narcissistic leadership: The incredible pros, the inevitable cons. Leadership Quarterly, 18(3), 276-288.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173-1182.

CBK, (2017). The Impact of Social Media on Business. [online] Available at: https://www.cbk.ac.ke/the-impact-of-social-media-on-business/ [Accessed 25 Feb. 2021].

Crevani, L., Uhl-Bien, M., Clegg, S., & By, R. T. (2021). Changing leadership in changing times II. *Journal of Change Management*, *21*(2), 133-143.

Diane, L., et al. (2001). The relationship of age and experience to self-reported use of information and computer technology in auditing. International Journal of Auditing, 5(2), 153-166.

Feuerlicht, G., & Goverdhan, A. (2010). The role of self-efficacy in stress appraisal and coping. Stress and Health, 26(3), 195-208.

Gardner, D., & Amoroso, D. (2004). The impact of information technology on the organization of economic activity. The Information Society, 20(3), 153-168.

Gyamfi-Yeboah, M., Ayigbe, E. E., Amankwaa, E. K., & Agyeman, K. A. (2021). The impact of COVID-19 on medical students' academic performance and psychological well-being: a systematic review and meta-analysis. BMC medical education, 21(1), 1-16.

Hair, J., Black, W., Babin, B. and Anderson, R. (2010) Multivariate Data Analysis. Prentice Hall, Inc., Upper Saddle River.

Hambrick, D. C. (2007). Upper echelons theory: an update, Academy of Management Review, 32(2), 334-43.

Jain, A., & Bhardwaj, R. (2010). An empirical study of online game addiction among teenagers. International Journal of Information Technology & Decision Making, 9(4), 697-712.

Jeske, D., Stetina, B. U., Wimmer, G., & Neuper, C. (2015). Neural correlates of video game training. Brain and Cognition, 105, 42-51.

Karnali, P. & Kurnia, S. (2011). "The impact of electronic commerce on the accounting profession." International Journal of Accounting Information Systems, Vol. 12, No. 1, pp. 1-21.

Khalfan, I., Jamaluddin, Z., & Widyarto, S. (2022). Effect of leadership and quality culture on quality management practices and operational performance of construction companies in Oman. *International Journal of Quality & Reliability Management*, (ahead-of-print).

Lacka, E. A., Siegel, J. Z., & Shevaun, M. (2020). The history of meta-analysis and its implications for the social and behavioral sciences. Wiley Interdisciplinary Reviews: Cognitive Science, 11(1), e1497.

Larcker, D. F., Ittner, C. D., & Randall, T. (2003). Performance implications of alternative compensation systems: A quantitative review. Journal of accounting and economics, 36(1), 350-386.

Lin, C., Lee, C., & Chen, L. (2020). The impact of online customer reviews on hotel room sales: Evidence from Taiwan. International Journal of Contemporary Hospitality Management, 32(4), 1868-1887.

Luarm, N., & Lin, S. (2005). The relationship between emotional intelligence and job satisfaction: A study of nurses in Taiwan. International journal of nursing studies, 42(5), 587-595.

Mai, N. K., Do, T. T., & Phan, N. A. (2022). The impact of leadership traits and organizational learning on business innovation. *Journal of Innovation & Knowledge*, *7*(3), 100204.

Makanyeza, E. (2017). The relationship between emotional intelligence and job satisfaction: A study of primary school teachers in Zimbabwe. International journal of educational research, 89, 1-9.

McElroy, J. C., Marshall, G. W., & Plecas, D. (2007). The relationship between emotional intelligence and job satisfaction. Canadian journal of administrative sciences/Revue canadienne des sciences de l'administration, 24(3), 263-275.

Mohammadi, E. (2015). A review on applications of data mining techniques in healthcare. International journal of medical informatics, 84(12), 1042-1049.

Nielsen S (2010). Top Management Team Diversity: A Review of Theories and Methodologies. Inter. J. Manage. Rev. 11(1): 301–316

Premkumar, G., Rajendran, C., & Venkatraman, N. (1994). Determinants of business unit strategy and performance in a multibusiness corporation. Strategic management journal, 15(S1), 25-46.

Rose, G., Malhotra, B., & Lilien, G. (2004). Assessing research productivity: A multimethod examination. Marketing Science, 23(3), 524-539.

Salojärvi, J., Takala, T., & Lyytinen, K. (2015). A systematic literature review of empirical evidence on agile software development methods. Information and Software Technology, 57, 15-28.

Scupola, A. (2009). A framework of social commerce: Convergence of e-commerce and social networking. International Journal of Electronic Commerce, 13(4), 9-21.

Sekaran U (2006). *Research Method for Business: A Skill Building Approach*. United Kingdom: John Wiley & sons, Inc

Sholihin, M., et al. (2010). Research methods for business: A skill-building approach (12th ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Swickert, R., & Tabachnick, B. (2002). Using multivariate statistics (4th ed.). Boston: Allyn and Bacon.

Walczuch, R. M., Lorenz, A., Wimmer, M. A., & Flick, U. (2007). How does computer-mediated communication affect conflict and outcomes in groups? A meta-analysis. Journal of Applied Psychology, 92(1), 208.

Wang, J., Li, M., Dong, W., & Li, J. (2010). Lateral flow immunoassay technology for rapid detection of infectious diseases. Infectious diseases of poverty, 9(1), 1-13. 2.

Xu, W., Zhao, J., & Fang, Y. (2016). The impact of international student migration on host country employment: evidence from Australia. International Journal of Manpower, 37(4), 663-682.