Influence of Technology Adoption Interventions on Performance of Selected Commercial State Corporations in Kenya

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Abstract

Organizations all over the world strive to remain in operation through application of change management. This implies that managers who fail to adopt changes remain irrelevant in the market. The existing literature denoted gaps in the areas of technology adoption interventions as a strategic change agent in commercial state corporations in Kenya. The aim of the study was to determine the relationship between technology adoption interventions and performance of commercial state corporations in Kenya. The target was 55 commercial state corporations and a total of 48 were studied. These were obtained through stratified random sampling. The respondents of this study constituted CEOs, Finance Managers and HR Managers of each of the sampled commercial state corporations. A total of 144 respondents participated in the study through interviews using questionnaires. Regression models were fitted and hypothesis testing was carried using standard F and t tests. Technology adoption interventions was assessed by four sub-variables namely acquisition of IT infrastructure, strategic alignment, organization structure and employee training. Seven factors were subjected to factor analysis. Two factors that is, acquisition of IT and employee training were identified with the highest influence on technology adoption interventions with cumulative variance of 69.7%. Factor one had the highest with 53.2% while factor two had 16.6% of total variance. Acquisition of IT and employee training had eigen values greater than 1. Respondents on average agreed that acquisition of technology affects technology adoption interventions with a mean of 3.9449. Respondents also agreed that employee training affects technology adoption interventions with a mean of 3.8189. The results showed a strong positive and significant relationship between acquisition of technology and performance (r = 0.512; p = 0.000). The regression coefficients results of the Technology adoption interventions measures were found to be significant at 5% level of significance with a coefficient of 0.491 and p-value of 0.000. This implied that the null hypothesis was rejected and the alternative hypothesis was accepted that technology adoption interventions influenced performance of commercial state corporations in Kenya. Acquisition of technology, had a positive and linear relationship with performance. There was also a positive relationship between employee training and performance. This therefore, underscored the importance of technology acquisition and also training the agents involved in the change interventions. From the findings of this study, it can be concluded that technology adoption interventions which had acquisition of technology and employee training as sub-variables retained after factor analysis was found to have a significant relationship with performance of commercial state corporations in Kenya.

Key Words: Performance, Technology Adoption interventions, Commercial State Corporations

Introduction

Public sector organizations the world over as observed are under immense pressure to provide improved and integrated services and also improve efficiency. The public sector has remained critical in both the developed and developing world as an avenue of deliverance designed for effectiveness, competitiveness, security, justice and realization of equality (Chemengich, 2013). For the last two decades the

public sector in Kenya has however, gone through turbulent times leading to low profits which has also more or less been the trend in most of the commercial state corporations (Mutua et al., 2012). Change interventions are defined by Johnson et al. (2008) as the deliberate and coordinated measures done to change a firm to achieve its objectives by overcoming its environmental challenges. This means strategic changes are undertaken by organizations with the intention of aligning the business strategies to be in synchrony with the environment they operate in. There is now need for institutions to install systems of technology that are in tandem with change interventions (Kario & Ngugi, 2017). According to East (2011), in the highly demanding business world today, an organizations competitive edge depends on the strategic changes it undertakes, many strategic alteration specialists pledge to the view that amend is an everyday occurrence in an organization; that there is no such obsession as the status quo in a business that needs survival. Experiencing such a challenging competitive global and regional context, it is evident that state corporations in Kenya must implement the right change strategies in order to improve productivity and effectiveness in their organizations. Every business organization today despite the size, capital size and their market niche is affected by intense competition as a result of strategic adaptability and flexibility brought by globalization and other factors (Jaros, 2010). There was still a need to boost strategies to achieve the sustained 10 percent desired growth rate as articulated by Vision 2030.

Business maximization of performance in organizations is associated with change intervention existence (Kakucha et al., 2019). One of the most competitive ways that has great prospects of revolutionizing an organization's destiny is change intervention (Kihara et al., 2016). The importance of practicing change management capability cannot be more emphasized now like never before. Whereas it has been verified that the future is uncertain, there is need for alertness and responsiveness to rapid changes by organizational managers or else their survival in the realm will be in jeopardy. The need for continuous monitoring of the environment by organizations is thus critical to enable them adapt to any changes that may occur (Andersson et al., 2014).

Almost all organizations go through phases of transformations which may cause stressful situations, hence to achieve success embracing change is inevitable (Kario & Ngugi, 2017). State corporations in Kenya today have a number of objectives as spelt out by the Presidential taskforce (Government of Kenya [GOK], 2013). Some of the functions performed include; manufacturing and commerce, financial intermediaries and development of infrastructure through service provision, regional development, environmental conservation, education and training as well as regulation of the economy. State corporations are bestowed with the responsibility of provision of employment opportunities, provide access to water, electricity and sanitation hence alleviate poverty. The existing governance structures have raised concerns if they are adequate to develop long term strategies for meeting these multiple obligations. The taskforce hence among others recommended technology adoption to enable state corporations to improve performance.

Public organizations have repeatedly been faced with the need to change in order give more efficient and better services to their citizens. In the ever-changing business environment organizations tend to look for new opportunities on the market where they can develop and maintain their competitive advantage and outdo their rivals. According to Muriuki et al. (2016) organizations mostly focus heavily on the performance contract thereby neglecting many aspects of strategic change interventions which are embodied in the implementation process. Rumelt (2011) stated that only 10% or less of suitably formulated strategies get effectively executed. Cobbold (2010) further in his study noted that 80% of directors interviewed who had the right strategy only 14% of them thought the strategies were well implemented. Njuguna and Muathe (2016) stressed that Organizations are continually confronting challenges and that in order to continue being successful and yet competitive, they have to frequently relook their structures, processes, strategies, operations, policies and culture in place. In Kenya, many studies (Kakucha et al., 2019; Kihara et al., 2016; Kibicho et al., 2015; Chiuri et al., 2015) have been conducted on influence of Strategic

implementation on some organizations, but failed to address commercial state corporations. For instance, Kakucha et al. (2019) in their study addressed determinants of Strategic Change Management in Mombasa County.

Materials and Methods
The Study Area
The study was carried out on the 48 sampled commercial state corporations in Kenya. Some of the Corporation include; Kenya Ports Authority Kenya Agro-Chemical and Food Company, Muhoroni Sugar Company, Simlaw Seeds Kenya, Kenya Safari Lodges and Hotels Ltd, School Equipment Production Unit, New Kenya Cooperative Creameries, Consolidated Bank of Kenya, Kenya Airports Authority among others. These Corporations are spread out in Mombasa, Nairobi, Trans Nzoia, Kisumu and Uashin Gishu Counties.

Research Design and Data Collection
A cross sectional descriptive survey was adopted in this study. It involved collection of qualitative information. Data was collected using questionnaires with both closed and open-ended questions. Semi-structured questions used were necessary to enable the researcher to collect both quantitative and qualitative data. The effect of strategic change interventions on performance of commercial state corporations was examined using multiple linear regression analysis. The independent variable was technology adoption interventions. The dependent variable was performance. The multiple regression model for the study was as follows:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$ ---------------------------------- (i)
Where:

Y_i = Dependent variable (Performance)

X_1 = Technology Adoption interventions

Determination of Sample Size

There are a total of 55 commercial state corporations in Kenya (Government of Kenya, 2013). This research confined to state owned entities as per the reclassification done on October 9th, 2013 period. The state corporations were reclassified to enhance service delivery in the Public Sector. The date marks the appointment of a Presidential Task Force on corporations with a mandate to conclude the current policy review on the sectors with a view to address sectoral challenges to achieve government policy priorities (Government of Kenya, 2013).

The sample size was determined using the formula given by Miller and Brewer (2003) with a confidence interval of 95 % as follows:

$$n = \frac{N}{1 + N(\alpha)^2}$$ --------------------------- (ii)

Where:
n = sample size
N = sampling frame
α = margin of error (0.05%)

The formula gave a sample size of 48 which was arrived at as follows:

$$n = \frac{55}{1 + 55(0.05)^2}$$ -------------------

(iii)

$$n = 48$$

Commercial state corporations (n = 48; Table 1) were therefore drawn randomly using random number generator from 55 reclassified government owned entities that was traced for the study. A random number is described as a computational or physical device designed for generation of sequence of numbers/symbols that do not have any pattern (Kothari & Garg, 2014). The technique was operationalized by entering the desired quantity (55) and running it in the random number generator against a range of 1 to 55. The numbers for the study was then picked from the random number generator.

Table 1. Selected commercial state corporations studied

S/N	State Corporation	Category	Products
1	Chemilil Sugar Company	Pure Commercial	Sugar
2	Kenya Meat Commission	"	Meat
3	Agro-Chemical & Food Company	"	Agrochemicals
4	Muhoroni Sugar Company	"	Sugar
5	Nyayo Tea Zones Development Corporation	"	Tea
6	South Nyanza Sugar Company Ltd	"	Sugar
7	Nzoia Sugar Company Ltd	"	Sugar
8	Simlaw seeds Tanzania	"	Seeds
9	Kenya Safari Lodges & Hotels Ltd	"	Hotel
10	Sunset Hotel Kisumu	"	Hotel
11	Golf Hotel Kakamega	"	Hotel
12	Kabarnet Hotel Limited	"	Hotel
13	Jomo Kenyatta Foundation	"	Stationery
14	Jomo Kenyatta University Enterprises Ltd	"	Training Production & Consultancy
15	Kenya Literature Bureau	"	Books
16	Rivatex (East Africa) Ltd	"	Textile
17	School Equipment Production Unit	"	Medical Equipment
18	University of Nairobi Enterprises Ltd	"-	Consultancy services
19	University of Nairobi Press	"	Publishing services
20	Kenya National Trading Corporation	"	Trading
21	Kenya Reinsurance Corporation	"	Insurance
22	New Kenya Cooperative Creameries	"	Milk
23	National Housing Corporation	"	Home property
24	Consolidated Bank of Kenya	"	Banking
25	Kenya National Assurance Co. (2001) Ltd	"	Life Assurance
26	Kenya National Shipping Line	"	Shipping
27	Kenya Animal Genetics Resource Centre	Strategic Commercial	Animal Genetic Services
28	Kenya Seed Company	"	Agricultural Seeds
29	Kenya Veterinary Vaccine Production Institute	"	Veterinary Vaccines
30	Research Development Unit	"	Research
31	Kenya Development Bank	"	Banking Services
32	Geothermal Development Company	"	Geothermal Power
33	National Cereals & Produce Board	"	Cereals
34	Kenya Railways Corporation	"	Rail services
35	Kenyatta International Convention Centre	"	Conference services
36	Kenya Electricity Generating Company	"	Electricity
37	Simlaw seeds Kenya	"	Seeds
38	Kenya Pipeline Company	"	Oil
39	Kenya Power & Lighting Company	"	Power

40	Agro Seed Company	"	Agro Seeds
41	National Oil Corporation of Kenya	"	Oil
42	National Water Conservation & Pipeline Corporation	"	Water
43	Numerical Machining Complex	"	Machines
44	Kenya Broadcasting Corporation	"	News Broadcasting
45	Postal Corporation of Kenya	"	Postal Services
46	Kenya Post Office Savings Bank	"	Savings Bank
47	Kenya Airports Authority	"	Airports Services
48	Kenya Ports Authority	"	Ports Management

Results

Influence of Technology Adoption Interventions on Performance

A total of 3 respondents per State Corporation were sampled over the study period. The study respondents were required to indicate what change processes the management take when introducing technology to   ensure it is fully adopted. It was found that, 38% of the respondents agreed that commercial state corporations acquire Information Technology (IT) infrastructure. At least 33% of the respondents indicated that there was employee training that takes place while 15% and 14% indicated there is organization structure improvement and strategic alignment, respectively (Figure 1).
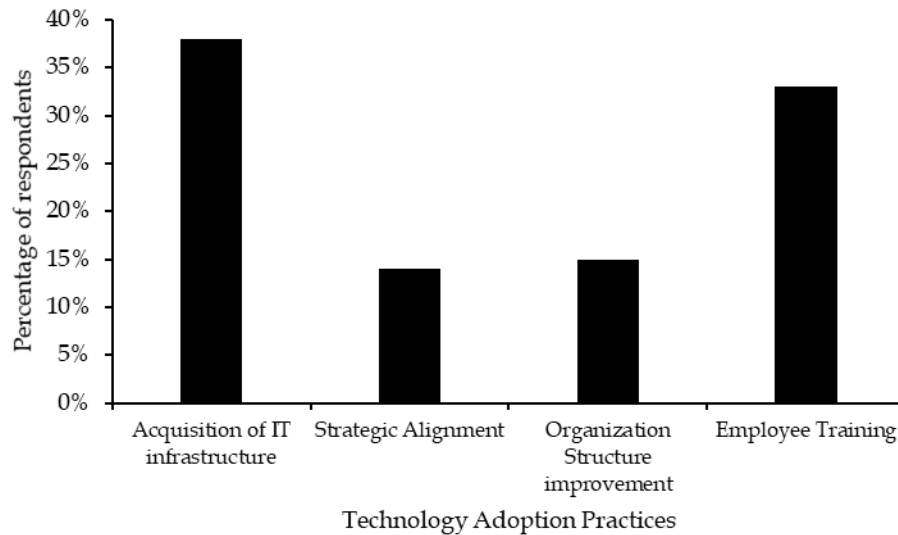

Figure 1. Results of technology adoption interventions from respondents sampled over the study period

Technology Adoption Interventions

The study respondents were required to indicate the various new technology types adopted in their organization during the change processes. The study findings revealed that software was the most commonly adopted new technology at 44%. Hardware was mentioned by 26% of the respondents. Communications was at 15% (Figure 2).
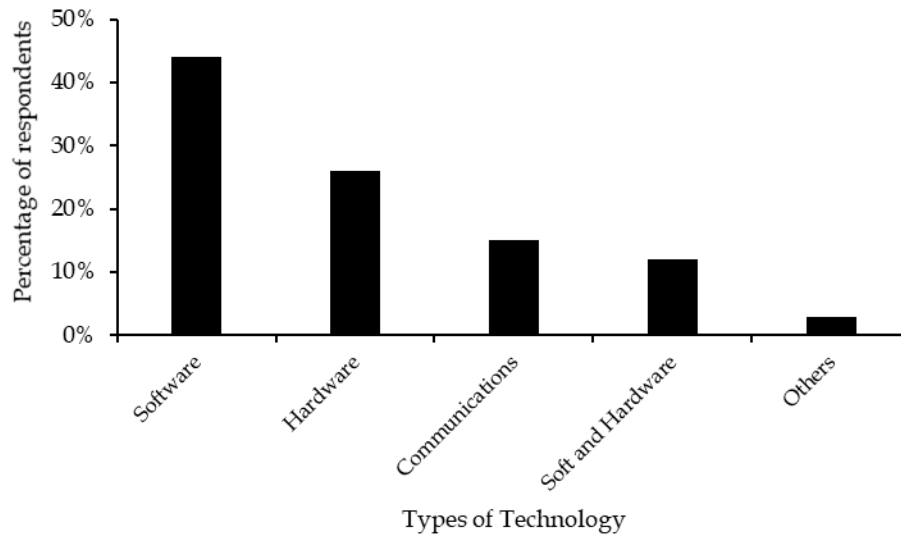
Figure 2. New technology types adopted

Level of Innovation Adoption Intervention

Respondents were required to point out the level of innovation adoption intervention that best describes their corporation. The study findings revealed that Late Majority Adopters were the most common innovation interventions at 27.7%. Early Majority and Early Adopters were both at 22.5%. Laggards were at 15% while Innovators were mentioned by 12.5% of the respondents (Figure 3).
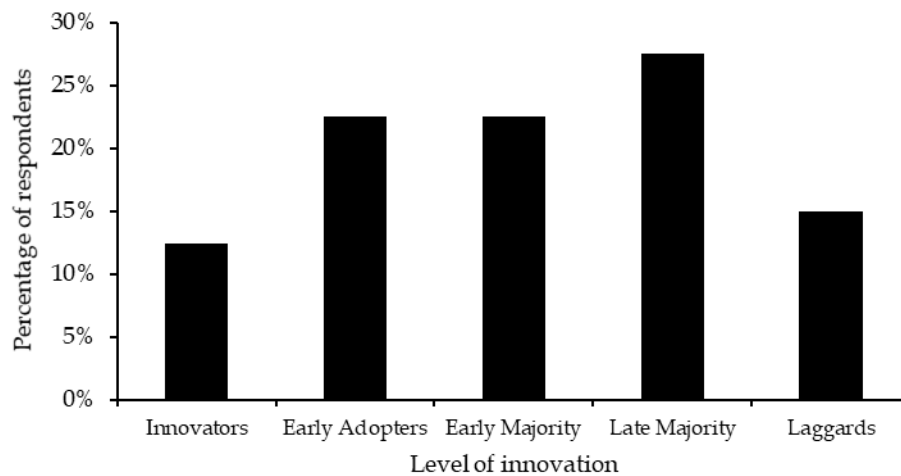

Figure 3. Results of levels of innovation adoption interventions from respondents sampled over the study period

Technology Adoption Interventions

The results for influence of technology interventions on performance revealed 57.5% of the respondents were in agreement that there was proper alignment of technology and business strategies in the organization. It was also found that 51.2% of the respondents agreed that technology had business support strategies for improvement of process management. Other respondents who accounted for 46.5% agreed that structure of the corporation had changed so as to enhance employee empowerment, inter-department (cross-function) integration and new business interventions and that 36.2% of the respondents also agreed that change agents have been identified and trained to facilitate the

change process. A further 47.2% of respondents agreed that there was availability of training and development programmes while 48% agreed that technology projects in the organization were executed to match with business strategies. Respondents representing 51.2%, agreed that adequate infrastructural technology that includes

networks, electronic data interchanges, conducting research and development to get latest technologies had been put in place. Results also showed that respondents on average agreed that technology adoption interventions influenced performance with a mean ranging from 3.69 and 4.07 (Table 2).

Table 2. Influence of Technology Adoption Interventions on Performance

Statement	Strongly Disagree (%)	Disagree (%)	Neither (%)	Agree (%)	Strongly Agree (%)	Mean ±SD
There is proper alignment of technology and business strategies in the organization	1.6	7.9	11	57.5	22.0	3.95 ± 0.89
Technology has business support strategies for improvement of process management	0.0	10.2	5.5	51.2	33.1	3.91 ± 0.87
The organization structure by adopting technology systems has changed so as to enhance employee empowerment	1.6	3.9	20.5	46.5	27.6	3.98 ± 0.95
Change agents have been identified and trained to facilitate the change process	2.4	15	20.5	36.2	26.0	4.07 ± 0.89
The organization has well defined training and development programs	3.1	8.7	15.7	47.2	25.2	3.94 ± 0.89
The technology projects in the organization have been implemented in compliance	0.8	10.2	10.2	48.0	30.7	3.69 ± 1.09
Adequate technology infrastructure which includes networks	0.8	7.9	13.4	51.2	26.8	3.83 ± 1.01

Factor Analysis Results for Technology Adoption Interventions
Sample Adequacy Results for Technology Adoption interventions

The sample size adequacy was tested by KMO and Bartlett's tests to assess the appropriateness of using factor analysis on the data. The result

was 0.813 which denoted that the data set was appropriate for factor analysis since it was more than 0.5. The Bartlett's Test of Sphericity has a p-value of 0.000 which relates to the significance of the study and thereby shows that the validity and suitability of the responses collected to the problem being addressed through the study (Table 3).

Table 3. KMO and Bartlett's Test for   Technology Adoption Interventions

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.813
Bartlett's Test of Sphericity	Approx. Chi-Square	394.349
	Degree of freedom	21.000
	Significance level (p-value)	0.000

Factor Analysis Results of Technology Adoption Interventions

Technology adoption interventions was assessed by acquisition of IT infrastructure, strategic alignment and employee training. Three factors were subjected to factor analysis. Two factors were identified with the highest influence on technology adoption interventions with cumulative variance of 69.69%. Factor one, which is acquisition of IT had the highest with 53.15% while factor two which is employee training had 16.54% of total variance. These two factors had their Eigen values greater than 1 (Table 4).

Table 4. Factor Analysis Results of Technology Adoption interventions

Component	Initial Eigenvalues			Extraction Sum of Squares Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.721	53.151	53.151	3.721	53.151	53.151
2	1.158	16.538	69.690	1.158	16.538	69.690
3	0.656	9.370	79.060			
4	0.535	7.644	86.703			
5	0.417	5.958	92.661			
6	0.301	4.306	96.967			
7	0.212	3.033	100.000			

Component Matrix for Technology Adoption Interventions

Table 5 gives the rotated component matrix for determinants of Technology adoption interventions. Component 1 was acquisition of technology and Component 2 was employee training. The variables of growth had a factor loading of higher than 0.4 which indicated that the component values were highly interrelated with each other.

Table 5. Rotated Component Matrix for Technology Adoption Interventions; Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 3 iterations; KEY: AT=Acquisition of Technology, ET= Employee Training

	Component	
Opinion Statement	**AT**	**ET**
Adequate technology infrastructure which includes networks	0.673	
There is proper alignment of technology and business strategies in the organization	0.861	
Technology has business support strategies for improvement of process management	0.770	
The organization structure by adopting technology systems has changed so as to enhance employee empowerment		0.797
Change agents have been identified and trained to facilitate the change process		0.843
The organization has well defined training and development programs for the employees to handle new technology		0.663

Descriptive Results of Retained Technology Adoption Sub Variables

		Performance	Emp. Training	Acquisition of Technology
Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	127		
Emp_Training	Pearson Correlation	0.149	1	
	Sig. (2-tailed)	0.094		
	N	127	127	
Acqusition_of_Technology	Pearson Correlation	0.512**	0.472**	1
	Sig. (2-tailed)	0.000	0.000	
	N	127	127	127

Table 6 shows that respondents on average agreed that acquisition of technology affects technology adoption interventions with a mean of 3.9449. Respondents also agreed that employee training affects Technology adoption interventions with a mean of 3.8189. Cronbach's alpha was used to test the reliability of the selected variables. Acquisition of technology had a coefficient of 0.834. On the other hand Employee training had a coefficient of 0.726. Since the Cronbach's coefficient is more than 0.7 the data is reliable.

Table 6. Descriptive Results for Technology Adoption

Variable	Mean ±SD	Cronbach's Alpha
		0.834
Acquisition of Technology	3.945 ± 0.78	
Employee training	3.819 ± 0.802	0.726

Correlation Results for Technology Adoption and Performance

Table 7 gives correlation matrix between the measures of technology adoption interventions and performance. The results showed a strong significant positive relationship between acquisition of technology and performance (r = 0.512; p = 0.000). This implies that acquisition of technology influences the performance of state corporations.

Table 7. Correlation results for technology adoption (** indicate correlation is significant at 0.01 level (2-tailed))

		Performance	Emp. Training	Acquisition of Technology
Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	127		
Emp_Training	Pearson Correlation	0.149	1	
	Sig. (2-tailed)	0.094		
	N	127	127	
Acqusition_of_Technology	Pearson Correlation	0.512**	0.472**	1
	Sig. (2-tailed)	0.000	0.000	
	N	127	127	127

Data Normality Test Results for Technology Adoption Interventions

The Kolmogorov Smirnov (K-S) one sample test was used for data normality test. In Kolmogorov Smirnov test the null hypothesis states that the data came from a normal distribution and the alternative is that the data did not come from a normal distribution. The rule is to reject the null hypothesis when the p-value is less than 0.05. Since the p-value is more than 0.05 for the two cases we fail to reject the null hypothesis and conclude that the two data sets are normal (Table 8).

Table 8. One-Sample Kolmogorov-Smirnov Test. [a] Test distribution is Normal; [b] Calculated from data

		Acquisition of technology	Employee training
N		127	127
Normal Parameters[a,b]	Mean	3.945	3.819
	Std. Deviation	0.787	0.802
	Absolute	0.071	0.103
Most Extreme Differences	Positive	0.070	0.091
	Negative	-0.071	-0.103
Kolmogorov-Smirnov Z		0.799	1.159
Asymp. Sig. (2-tailed)		0.546	0.136

Durbin-Watson Test Results

Another assumption of linear regression is that there should be no auto correlation. One of the tests used for auto correlation is Durbin Watson test which checks for serial correlation. The Durbin-Watson value of 1.98 obtained from the study indicates that there was no autocorrelation (Table 9).

Table 9. Results of Durbin-Watson (Autocorrelation) for technology adoption interventions. [a]Predictors: (Constant), Acquisition of IT infrastructure and employee training; [b]Dependent Variable: Performance

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Durbin-Watson
1	0.523[a]	0.273	0.262	0.642	1.984

ANOVA Results for Technology Adoption

Table 10 gives the analysis of variance of the study on technology adoption and performance of state corporations. The results show that at least one of the measures of technology adoption (acquisition of technology and employee training) has a significant relationship with performance ($F = 23.351$, $p = 0.000$).

Table 10. ANOVA results for technology adoption. [a]Dependent Variable: performance; [b]Predictors: (Constant), employee training, acquisition of technology

Model		Sum of Squares	Df	Mean Square	F	Sig. level
1	Regression	25.977	2	12.988	23.351	0.000[b]
	Residual	68.971	124	0.556		
	Total	94.948	126			

Results of Goodness of fit Model for Technology Adoption Interventions
When a goodness-of-fit test was conducted it revealed that measures of technology adoption (acquisition of technology and employee training) explains 27.4% of the variation in performance of state corporations. Other factors explain 72.6% of the changes on performance. This implies that the measures have a predictive power on the performance (Table 11).

Table 11. Goodness-of-fit Model Results for Technology Adoption Interventions

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.523[a]	0.274	0.262	0.74580

Regression Analysis
Table 12 shows the regression coefficients results on acquisition of technology. This was found to be highly significant (R = 0.645; p = 0.000). The resultant regression model can be summarized by the following equation:

$$Y = 1.341 + 0.645X_1 \text{ -------------- (iv)}$$

When the two sub-variables are combined into one variable that is, they become technology adoption interventions, the resultant regression results are given (Table 13). The regression coefficient results of technology adoption was highly significant (R = 0.491; p = 0.000). This implies that the null hypothesis is rejected and the alternative hypothesis is accepted since $\beta \neq 0$ and p-value < 0.05.

The regression model is summarized by the following equation:

$$Y = 1.414 + 0.491X_1 \text{ ---------------- (v)}$$

Where, X_1 represents technology adopting interventions.

Table 12. Coefficients Results for Technology Adoption Interventions. [a] Dependent Variable: performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.341	0.381		3.524	0.001
	Acquisition of Technology	0.645	0.099	0.569	6.550	0.000
	Employee Training	-0.129	0.094	-0.120	-1.376	0.171

Table 13. Coefficients for combined Technology Adoption Interventions. ([a]Dependent Variable: performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.414	0.411		3.439	0.001
	adopting_tech	0.491	0.107	0.380	4.599	0.000

Discussion

The objective of this study was to establish whether technology adoption change interventions had an influence on performance of commercial state corporations to ascertain whether technology adoption change interventions had a significant effect or otherwise on performance. Technology adoption interventions was assessed by four sub-variables namely acquisition of IT infrastructure, strategic alignment, organization structure and employee training. Seven factors were subjected to factor analysis. Two factors that is, acquisition of IT and employee training were identified with the biggest influence on technology adoption interventions with cumulative variance of 69.7%. Factor one had the highest with 53.2% while factor two had 16.5% of total variance. Acquisition of IT and employee training had Eigen values greater than 1. Respondents on average agreed that acquisition of technology affects technology adoption interventions with a mean of 3.95. Respondents also agreed that employee training affects technology adoption interventions with a mean of 3.82. Indeed, acquisition of technology was seen to be very crucial as posited by Jabar et al., (2010) who viewed acquisition of technology as a very important ingredient for economic growth to business organizations as it enables them to be competitive and ensure their survival in the modern business world. The findings imply that majority of the commercial state corporations have given a lot of emphasis on technology adoption interventions and aligned with their business processes to improve their operations. These findings concur with Ng'ang'a et al. (2018) where the mean for influence of technology on performance was 3.76. Rugimbana & Dimba, (2010) also supported the findings that that there is a significant impact of training on performance of organizations. Likewise, Niazi (2011) asserts that skills and abilities of employees are enhanced through training.

Majority of the respondents in this study agreed that organizations required adequate infrastructural technology that includes networks, electronic data interchanges, conducting research and development to get latest technologies has been put in place. Paasivaara and Lassenius, (2014) compliments the ideas by stating that a stable technological infrastructure with its support operations and systems, coupled with good management practices is quite useful in the achievement of improved firm performance. The respondents were also in agreement that agents of change have been identified by their organizations and trained to facilitate the change processes. They also agreed that their organizations have well defined training and development programmes for the employees on how to deal with new technology. These views are echoed by Youssef et al., (2014) who in their study found out that organizations with employees who are qualified have better adoption and use of IT tools than organizations with employees who are less qualified. In essence IT adoption requires skilled labour.

The findings imply that commercial state corporations have given emphasis to acquiring of IT infrastructure and training their employees on how to use the infrastructure and thus keeping abreast with technology. These findings have been supported by Barker, (2010) who asserts that training aids employees to gather competencies and skills required to perform tasks hence positively influencing performance. Kioko & Mwangangi, (2017) also confirmed the positive relationship between technology and performance of corporations. The findings are also in tandem with previous studies which established the existence of close correlation between IT and the skills of workers (Bresnahan, et al., 2002; Arvanitis & Loukis, 2009). Human capital investment has been the main determining factor for IT (Mughal & Diawara, 2011).

Technology adoption interventions were found to have a positive significant influence on performance of commercial state corporations in Kenya with a coefficient of correlation of 0.512 and p-value of 0.000. 27.4% of the variation in Performance of commercial state corporations was attributed to technology adoption interventions. Other factors explain 72.6% of the changes on performance. This implied that the measures have a predictive power on the performance. This is in agreement with the study by Ismail and Mamat (2012) who sought to establish the correlation between process innovation, organizational performance and technology. The outcome noted the existence of a significant relationship between technology

adoption on the innovation process and organizational performance. Ng'ang'a et al. (2018) in their study found out that adoption of technology had great influence on performance of organizations.

The regression coefficients results of the technology adoption interventions measures were found to be significant at 5% level of significance with a coefficient of 0.491 and p-value of 0.000. This implied that the null hypothesis was rejected and the alternative hypothesis was accepted that technology adoption interventions influence performance of commercial state corporations in Kenya. These results clearly underscore the importance attached to technology adoption in state corporations. Most commercial state corporations have tried to acquire modern technology and also have been training its employees on how to handle and cope with the technology at hand. Chen and Tsou, (2006) in their study established that business organizations have prioritized adoption of information technology as a strategy to gain competitive advantage over competitors. Their study also accepted the alternate hypothesis that information technology adoption has a positive and significant effect on service innovation of services, products and creating competitive advantage to organizations. Mwangi et al., (2016) in their study also obtained a regression coefficient of 0.320 at 5% level of significance, putting technology to be a very important factor in improving performance of an organization. Onwuka and Eguavoen, (2007) also supports that for an organization to be a key player in the world market it should have extensive use of technology.

Conclusion

From the findings of this study, it can be concluded that technology adoption interventions which had acquisition of technology and employee training as sub-variables retained after factor analysis was found to have a significant relationship with performance of commercial state corporations in

Kenya. Acquisition of technology, had a positive and linear relationship with performance. There was also a positive relationship between employee training and performance. This therefore underscores the importance of technology acquisition and also training the agents involved in the change interventions as is evidenced by the commercial state corporations in Kenya. The current study has found acquisition of technology and employee training as the most important factors that determine firm performance. In this regard commercial state corporations should improve their performance by expanding the acquisition of technology and expound on employee training programmes to cater for the new technology. This will enable proper use of technology and enhance employee empowerment.

Acknowledgement

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