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## Influence of Top Management Strategic Decisions on Effective Implementation of E-Learning in Public Technical and Vocational Education and Training (TVET) Institutions in Western Kenya

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### **Abstract:**

*The purpose of the study was to establish influence of top management strategic decisions on effective implementation of e-learning in Public Technical and Vocational Education and Training (TVET) institutions in Kenya. Studies on e-learning have become paramount and researchers have evaluated its challenges but have not sufficiently reversed the inconsistent implementation of e-learning. Efforts to overhaul education due to prolonged lockdown made the government enforce e-learning policy directive in TVET institutions across the country. Conversely, such directive has not yet yielded the expected change deliverables. Institutions actively engage in designing strategies but managerial attention to implementation of the strategies is usually low and inconsistent. Over 450 educational reforms have been adopted by OECD nations but fail to bring intended output. Such policies are non-specific and often lack focus during implementation phase, lack stakeholders' engagement and fail to address appropriate implementation models. Hence, policies formulated at national level find challenges at lower levels despite significant reforms made in the education sector. This paper aimed at unravelling how top management strategic decisions influences effective implementation of e-learning by; evaluating managements' characteristics and use of tactical decisions. Using the Mazmanian and Sabatier Theory, the study was conducted decisions of Principals, Deputy Principals, Heads of Departments and trainers in 14 Public TVET institutions in Kenya. The study sampled 356 units administered through questionnaire and structured interviews. Findings show significant influence of implementers characteristics and tactical decisions on implementation progress of e-learning in TVET  $\{R^2 = .942, F(20,281) = 245.730, p = .000\}$  where management with robust characteristics and tactical decisions were expected to have effective implementation progress,  $(R^2 = .942)$ . Similarly, there was low level of tactical decisions with regard to technical, financial and human resource. The study concludes that institutional managements should realign their strategic decisions with implementation of policies in order to attain the overall goal of TVET. It is important for institutional managements to realign their strategic decisions with implementation of policies in order to attain the overall goal of TVET.*

**Keywords:** *Implementers characteristics, mazmanian and sabatier theory, top managements' strategic decisions, tactical decisions, TVET institutions*

### **1. Introduction**

An e-learning based education system for teaching and learning is growing within the education sector worldwide (Gros & García-Peñalvo, 2016). According to Frehywot, et al., (2013), e-learning education and its derivative models has received sustained attention from policy makers and governments. It is seen as a possible means of controlling shortages while ensuring quality and effectiveness of skills and knowledge to the society. This technical development has opened access to learning to greater numbers of people but the development is not simple. Previous studies indicate that implementation of e-learning is a multifaceted process that encompasses diverse factors; ranging from policy to implementation processes (Gros & García-Peñalvo, 2016). Synchronizing these is a central challenge.

Both Zarshenas, et al., (2017) and Karanjam, et al., (2017) define e-learning as a flexible educational approach that uses electronic materials in design, presentation and implementation. Given the heightened challenges of the COVID-19 pandemic, Frehywot, et al., (2013) suggest that e-learning will not only form a component of learning but a key ingredient in addressing when and how to successfully embrace teaching in the future. As globalization and competitive rivalry

grows, e-learning signifies hope for learners in higher education (Masoumi & Lindström, 2012) yet pressure is on education policy stakeholders and managers on effectiveness of e-learning implementation from both private and government learning institutions.

Despite most TVET institutions having policies in place, there is escalated pressure with regard to policy implementation on e-learning education system (OECD, 2019). An e-learning system is part of the Government policy initiative to achieve quality education in Kenya. Implementation of a policy is critical component of public interest both in developed and developing nations. Effective implementation of policy is affected by the level of human capacity, finance, level of interaction or adaptive participation, delayed implementation of the policy, and lack of commitment. As such, (Xua & Gao, 2017) suggest that such deviation indicators should be given much attention by the top management of institutions. Hence, there is need for optimum supervision in the implementation of e-learning from implementers. In developing countries, however, the implementation of e-learning remains a distant prospect because of the digital divide (Eltahir, 2020). This is because of the technical aspects involved and the ability of implementers to scrutinize variables affecting e-learning implementation (Mazmanian & Sabatier, 1983); (Sabatier, 2005). Other researchers have also identified that implementation of e-learning in tertiary institutions has not been smooth because of technical, resource and financial obstacles, institutional and managerial obstacles, and policy issues (Alkhalaf, et al., 2012); (Al-Shahrani & Al-Shehri, 2012). In a nutshell, Al-Asmari and Rabb Khan (2014) conclude that regular changes in policies were required on effective implementation of an e-learning education.

### *1.1. Statement of the Problem*

Although Almaiah (2018) asserts that the uptake of online learning and its related information system rest on users of the system, e-learning is a policy issue and its implementation depends on top management and other stakeholders' decisions. Efforts to overhaul the education due to prolonged lockdown made the government enforce e-learning through policy initiative directive in tertiary institutions across the country. Conversely, such directive has not yet yielded the expected change deliverables due to persistent challenges in leadership, technology, ICT resources, ambiguous policies, or political choice among others. At the discretion of such public issue of e-learning, lack of collaborative adaptive leadership has led to policy implementation gaps due to policy complexities and ambiguities (Pülzl & Treib, 2017). The ball stops at the implementers whether their decisions and choices made can still optimize the outputs of e-learning despite institutionalization of policy frameworks over the years (Bryson, et al., 2020). As a matter of concern Strohhecker (2016) indicates that institutions have been actively engaged in strategy designing but managerial attention to implementation of these strategies is usually low and inconsistent. Similarly, Viennet and Pont (2017) contend that implementation of educational policies is an evolving, complex process where policies are non-specific. These policies lack focus especially during the implementation phase, lack of stakeholders' engagement and failure to address appropriate implementation models for adaptation of multifaceted governance structures. Over 450 educational reforms have been adopted during the period of 2008 to 2014 by OECD nations but have failed to bring intended output and the future seems wanting as globalization and competitive advantage grows (OECD, 2015). It is against this background that the paper aimed at investigating how top managements' strategic decisions influence effective implementation of e-learning in public TVET institutions in Kenya.

## **2. Literature Review**

### *2.1. Conceptual Review*

#### 2.1.1. Top Managements' Characteristics

Strategic decisions are complex and emanate from behavioral aspects. Such attributes of top managers were tested using 191 sample units of different small size firms in the 1990's (Felicio, 2013). Results show significant association between strategic options and managers' characteristics although they vary with firm's level of activities and also social and economic factors. So, top managements' intellectual potentials and their characteristics influence organizational strategic positioning. Similarly, (Hudson, et al., 2019) argue that the extent to which public policies are attained depends on advancement of their implementation process. According to Upper Echelons Theory by Hambrick and Mason (1984) and later expounded by Díaz-Fernandez, et al., (2020) argue that institutional performance is a total reflection of top management's characteristics that influences strategic choices. However, Mubarok, et al., (2020) on the other hand argue that successful implementation of decisions are more likely when approached from the context and content of policy. Mazmanian and Sabatier (1983) observed that successful implementation depends on the nature of the problem, features of policies and environmental contingents. Nevertheless, Felicio (2013) examined implementation from behavioral aspects while Mubarok, et al., (2020) and Mazmanian and Sabatier (1983) analysed from policy context, effective e-learning implementation could be achieved easily when all these contexts are incorporated. From the tested models, top managements' decisions on e-learning policy content, context and processes effectively influence its implementation. Institutions would rather achieve higher and consistent results with fewer challenges in this type of education that maximizes on output. As seen from the examples above, it is indisputable that strategic decisions of top management shape and influence organizational direction and performance.

Today's globalization requires management that has the ability to incorporate the methods and address the consequences of digital revolution into their organizations. Recent studies reported that organizational managements' characteristics and levels of awareness considerably influence the degree of organizational risk levels (de Melo & de

Medeiros, 2020); (Shalender & Yadav, 2019). Top management characteristics are associated with organizational options especially with regard to technology choices (Felicio, 2013). Such variables like age, gender, level of education, managements' level of knowledge and skills, managements' mandate and values influence institutional strategic options as highlighted from the UET. Mubarok, et al., (2020) notes that effective and efficient implementation of policies requires implementers that understand, have intention and the capacity to implement those policies. They should be able to allocate resources and the structures to communicate effectively their good intention (Mubarok, et al., 2020). With regard to e-learning utilization, TVET institutions have to take risky options in exploring technology levels. Knowledge, experience and ethical values reflect the type of leadership and dynamic leaders have greater confidence and desire to take up the risky options. Equally important, Shalender and Yadav (2019) sampled 162 management representatives from several automobile companies and established that management characteristics and their strategic decisions influence organizational performance. In light of the two studies aforementioned, top managements have the greatest bearing in strategic trajectory of the organization.

Strategic decisions as part of strategic management proliferate today's civilization (Mišanková & Kočišová, 2014). People make strategic decisions which affect parts of, or whole organizations as they are key to everyday running of an organization (Ogaja & Wanyoike, 2015). One area according to Ogaja and Wanyoike (2015), where strategies often fail is in the public sector especially universities. However, it is not clear how top managements' strategic decisions could affect resources in the implementation of e-learning in the midst of huge budgetary allocation and capitation in TVET sector. They then call for the Government and institutional management to be vigilant in their decision-making. This section therefore, explores managements' tactical decisions used by top managements in implementation of e-learning in TVET.

### 2.1.2. Top Managements' Tactical Decisions

Tactical decisions, being an integral part of decision making process, are most often formulated by top management of various organizations (Ogaja & Wanyoike, 2015). These decisions allow organizations to assess their resource potential and adjust how these resources affect their operations. Ogaja and Wanyoike (2015) assessed the implementation of tactical decisions in two public universities in Kenya. Their study uses a descriptive design with all Heads of departments and sections purposefully selected for data collection. The results show institutional internal environment has strong and positive association with implementation of tactical decisions in one university. The study concluded that internal management of environment has a greater bearing to the implementation of tactical decisions, institutions should have appropriate strategic decisions about their internal environment. However, Ogaja and Wanyoike's claims are not consistent with (Dezso, et al., 2012) research, where the later argue that tactical decisions have little effect on implementation of strategies as they can be changed quickly in the course of implementation. These decisions however, have either short-term or long term consequences, their implication on implementation of e-learning in TVET institutions are not clear. In addition, (Kibuku, et al., 2020) identified that poor tactical decisions were as a result of inadequate policies in tertiary institutions.

Numerous challenges relate to tactical decisions with regard to implementation of e-learning in learning institutions. Teo, et al., (2020) find that standardizing adequate policies and strengthening efficient e-learning resources significantly influence effectiveness of implementation of e-learning. At Universities in Russia, Vershitskaya, et al., (2020) recently investigate challenges of ICT on implementation of e-learning using trainers, managers and Heads of institutions. In particular, 65% of the respondents reported total or partial failure of e-learning implementation. This is attributed by lack of technical support, poor service and marketing tactics. Tactical decisions allow top management to assess institutional infrastructure and other resources. Aligning these decisions require management to identify and strengthen potential employees for consultation and the type of communication channels used. It also requires a radical and diverse management to balance training goals and economic truths in making rational decisions. This is something seen in developing countries where the scale of e-learning implementation is rather low.

Effective policy is expected among others to provide guidance for reasonable use of ICT resources, outline development, implementation and sustainability of ICT infrastructure. It also promotes efficient and effective usage and operations of ICT based systems. However, when a policy is in place, it requires strong support from top management of these learning institutions. A similar view is held by (Bose, 2020) who emphasized that implementation of e-educational systems is not a walk over at any place by anybody. In addition, e-learning is a policy issue that requires attention of top management and other stakeholders during planning, allocation of financial resources, infrastructure and staff capacity in order to develop content for course delivery. According to (Aldowah, et al., 2019) and (Ahmad, 2018), trainers require sufficient time, competencies and skills to design and mount successful learning resources. This requires operational policy and substantial support from top management to effectively implement e-learning. Therefore, the extent to which organizational policies address contextual, technical, institutional and infrastructural issues in supporting e-learning and training is a function of strategic decisions of top management.

Elbanna, et al., (2016) find that strategic decisions are necessary in implementation of strategy. They used a questionnaire in over 150 public organizations in Canada and find that strategic decisions have strong significant relationship with implementation mediated by administrative involvement. Similarly, Momanyi (2020) observed positive significant association between strategic decisions and implementation of strategy in Kenya. Andrews et al., (2017) found that various strategic styles have significant influence on implementation of policies in public organizations. Effective implementation of e-learning requires all components of strategic control from time to time (Momanyi, 2020). This involves evaluating cross-dimensional decisions that help top management attain sustainable competitive edge. Ansell, et

al., (2017) argue that strategic decisions about e-learning should go beyond policies and plans by involving policy players in deliberate collaboration for success. However, Khan (2016) believes that there is a big challenge of implementing policies so that policy goals translate into achievement. Viennet and Pont (2017) on the other hand highlight smart policy design, favorable context, stakeholder involvement and logical execution strategy as four major determinants of effective and efficient implementation of policies.

## 2.2. Theoretical Framework

The study employed the use of Mazmanian and Sabatier Theory. It postulates that public policies should be flexible in identifying variables that influence effective and efficient attainment of strategic goals throughout implementation practice in the organization (Mazmanian & Sabatier, 1983). These variables include problem characteristics; policy characteristics and environmental contingents influence implementation process. However, Mubarak, et al., (2020) modify these implementation variables by incorporating three models into policy context, content and process in moderating effect of policy implementers as the 'Policy Triangle Model.' Furthermore, Xua and Gao (2017) observed that regardless of model used, implementation gaps were seen. Their work was carried out in China where they used Mazmanian and Sabatier model to point out policy implementation deviations and suggested that this model is very dynamic and responsive to implementation challenges. Two issues were pertinent namely the policy itself and variables other than the policy circumvent policy implementation in contemporary societies. Some authors argue that implementation of policies is now taking horizontal trajectory of collaborated structures (Hill & Hupe, 2014); (Ansell, et al., 2017), while (Buffat, 2015) content that implementation of policies is increasingly moderated by ICT. Although there is no single agreed theory for implementation of public policies, Xua & Gao (2017) holds the view that implementation should recognize effective patterns, institute adequate mechanisms and systems and also moderated by effective managers. On the other hand, Viennet and Pont (2017) highlights smooth policy design, favorable context, stakeholder involvement and logical execution strategy as four major determinants of effective and efficient implementation of policies. Thus, this paper dissects how strategic decisions (management's characteristics, and management's tactical decisions) emanating from top managers' influences implementation of e-learning in public TVET institutions. However, managing strategic changes is somehow difficult and requires core competences in terms of good strategic leadership. Therefore, it is critical for TVET institutions to assess their market positioning to the industry needs and make appropriate strategic decisions for them to survive the dynamic situations (Hussain, et al., 2015) and (Mufudza, 2018). Moreover, top managers will require not only planning but also adopt tactical approaches with regard to global challenges facing the education sector (Mufudza, 2018).

## 2.3. Conceptual Framework

The study was guided by the conceptual framework as shown in figure 1.

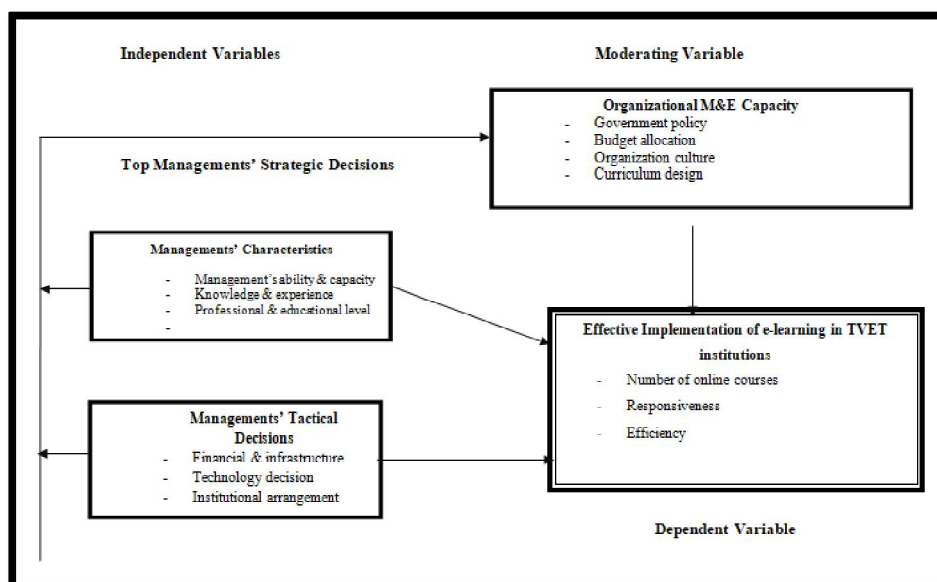


Figure 1: Conceptual Framework  
Source: Researchers', 2021

Fig 1 shows the relationship of independent, moderating and dependent variables. Top managements' strategic decisions are the independent variable which was measured by managements' characteristics, and managements tactical decisions. Organizational M&E Capacity was the moderating variable which moderates the improvement in the monitoring and control of the effective implementation of e-learning. It was measured through government policy, budget allocation, organizational culture and curriculum design. The proposition is that organizational M&E capacity moderates the relationship between top management strategic decisions and effective implementation of e-learning in TVET institutions

### 3. Materials and Methods

#### 3.1. Participants

The study targeted 14 TVET institutions in Western region of Kenya. All Principals, Deputy Principals, and HoDs were sampled. Equally important, 1890 trainers were targeted from these institutions assuming each institution has 9 academic departments each having 15 trainers. A total of 2072 respondents from the selected TVET institutions were targeted. A sample 356 was selected out of which 302 responded appropriately resulting in 84.8% response return rate. Responses from the survey data reveal that 59.3% male participated. The study also reveals that 52.0% of the respondents who participated in this study were between 31-40 years. Responses also indicate that 55.6% of the respondents were degree holder while only 2.0% PhD holders.

#### 3.1.1. Sample Size Determination

Sample-size approximations must be representative enough within the acceptable margin of error and address the research aim and the findings do not deviate with the population under study (Mariño, 2020). All 14 approved public TVET institutions in Western region were selected purposively. Similarly, 42 respondents were selected purposively from categories of Principals, and Deputy Principals while 14 HoDs were selected using a minimum 10% (Mugenda & Mugenda, 2003). Then, respondents from each stratum were selected by use of random sampling technique. Three hundred trainers were selected by use of simple random sampling technique using Miller and Brewer (2003) sampling formula as follows;

$$n = \frac{N}{[1+(N)e^2]}$$

Where; **n** = Sample size

N= Population size =1890 trainers

e = is the margin of error/level of precision at 5%

$$\text{Therefore, } n = \frac{1890}{[1+(1890)0.05^2]}$$

n= 300 trainers

Therefore, a total of 356 respondents were selected.

#### 3.2. Research Design

This study adopted a survey research design. Surveys abound in contemporary social research and are applicable in many disciplines. They are practically evidence oriented and provide far reaching knowledge and attitudes (Story & Tait, 2019). Various components are important when selecting this type of design. Dillman, et al., (2014) stated that it depends on the kind of research questions, resources available and the target population, whereas (Story & Tait, 2019) claim that consideration of a survey should be based on the topic, clearly defined population, clarity of questions, adequate response rate, and needed precision of the results. As such, data collected from the study site was rigorously and scientifically undertaken to support practice and prolong the cutting edge of knowledge in the field of education (Ngulube, 2019).

#### 3.3. Statistical Measures

The study employed the use of online survey questionnaire and structured interviews as data collection methods. The online questionnaire was send using google forms taking the Likert scale (1=Strongly Disagree, 2= Disagree, 3=Undecided, 4=Agree, and 5= Strongly Agree). Four institutions were sampled for structured interview. Twelve respondents were interviewed from the four institutions. Each interview took approximately 30 minutes and answers were recorded in a note book for analysis. Two study variables were specifically measured to reflect the phenomenon under scrutiny in the questionnaire (Aamir, 2014). Data was cleaned, sorted and coded in SPSS version 23 for analysis.

#### 3.4. Procedure

Assistance from TVET institutions in the study area was sought to engage trainers from Principals, Deputy Principals, HoDs and trainers. The survey questionnaire was emailed to heads of institution through google form which was distributed to targeted respondents in one-day awaiting responses within five days. Follow-up reminder mail was followed on the fourth day for emailing back the responded questionnaire. Additionally, email was sent on the sixth day to thank the respondents for their co-operation and time to answer the questionnaire for academic purpose. This was done so to make sure that sufficient survey response return rate from the respondents of this survey (Corner & Lemonde, 2019).

#### 3.5. Research Hypothesis

- Ho<sub>1</sub>: there is no significant influence of top managements' characteristics on implementation of e-learning in TVET institutions in Kenya.
- Ho<sub>2</sub>: There is no significant relationship between Top managements' tactical decisions and implementation of e-learning in TVET institutions in Kenya.

## 4. Results and Discussion

### 4.1. Results

#### 4.1.1. Managements' Characteristics and Effective Implementation of e-learning in TVET Institutions

Research Statements	1=SD		2=D		3=U		4=A		5=SA		M	SD
	F	%	F	%	F	%	F	%	F	%		
The management has the ability and capacity to incorporate methods and address e-learning system	19	6.3	31	10.3	16	5.3	147	48.7	89	29.5	3.85	1.143
Top management improve their skills in applying e-learning policy to their daily duties & functions	32	10.6	123	40.7	47	15.6	60	19.9	40	13.2	2.84	1.241
Management has adequate knowledge and experience to take up risky options	15	5.0	38	12.6	5	1.7	169	56.0	75	24.8	3.83	1.091
Management has professional competence to implement e-learning	12	4.0	40	13.2	21	7.0	139	46.0	90	29.8	3.84	1.111
Management characteristics have positive and significant influence on implementation of e-Learning	6	2.0	15	5.0	24	7.9	187	61.9	70	23.2	3.99	.831
Valid N (listwise)	302											

Table 1: Top Management's Characteristics

Likert scale of 1=SD (Strongly Disagree) 2=D (Disagree) 3=U (Undecided) 4=A (Agree) 5=SA (Strongly Agree); Researcher's Survey Data, (2021)

Top management's characteristics was hypothesized through perceived Management's ability and capacity, knowledge and experience; and professional and educational level. The results show that 78.1% of the respondents agreed that the institutional management has the ability and capacity to incorporate methods and address e-learning system (M= 3.85, SD= 1.143). Regrettably, approximately 51.3% of the respondents disagreed on top management improve their skills to apply e-learning policy to their daily duties and functions assigned (M= 2.84, SD= 1.241). This shows that management may have the capacity to effectively implement e-learning as they have inadequate policies to guide them in their daily activities. Therefore, training management are urgently required for effective implementation of e-learning to restructure and progress e-learning in TVET institutions. For effective and efficient implementation of e-learning framework, the top management needs unfathomable understanding in order to progress implementation. These findings are echoed by Felicio (2013); de Melo and de Medeiros (2020); and Shalender and Yadav (2019) who report that organizational managements' characteristics and levels of awareness considerably influence the degree of institutional risk levels. Equally important, Mubarok, et al., (2020) note that effective and efficient implementation of policies requires implementers that understand, have intention and the capacity to implement those policies.

Additionally, 80.8% of the respondents expressed their feeling that the management has adequate knowledge and experience to take up risky options on implementation e-learning in the institution (M= 3.83, SD= 1.091). Furthermore, 75.8% of the respondents asserted that the institutional management has professional and educational competence to implement e-learning education system (M= 3.84, SD= 1.111). Therefore, 85.0% of the respondents suggested that top managements' characteristics have positive and significant influence on implementation of e-Learning in TVET institutions. These results show significant association between managers' characteristics and strategic options on effective implementation of e-learning system. The findings are in agreement with earlier findings by Hudson, et al., (2019), who expressed the extent to which public policies attained depend on advancement of their implementation process. Similarly, Díaz-Fernandez, et al., (2020) also suggested that institutional performance is a total reflection of top management's characteristics that influences strategic choices. With the interviews conducted, respondents were asked to rate the responsiveness of top management's strategic decisions with regard to e-learning implementation. 'Most respondents said that the top management is somewhat responsive and this is only when they have received a directive from the Ministry of Education to implement e-learning system.'

#### 4.1.2. Managements' Tactical Decisions and Implementation of e-Learning in TVET Institutions

Research Statements	1=SD		2=D		3=U		4=A		5=SA		M	SD
	F	%	F	%	F	%	F	%	F	%		
Top management frequently mobilize resources and re-prioritize e-learning activities on time	19	6.3	31	10.3	16	5.3	147	48.7	89	29.5	2.47	1.248
There is good ICT infrastructure investment of e-learning activities in their annual budgets	40	13.2	150	49.7	14	4.6	61	20.2	37	12.3	2.69	1.275
Institutional internal arrangement are clear and robust for implementation of e-learning programmes	59	19.5	154	51.0	20	6.6	48	15.9	21	7.0	2.40	1.170

Table 2: Management's Tactical Decisions

Likert scale of 1=SD (Strongly Disagree) 2=D (Disagree) 3=U (Undecided) 4=A (Agree) 5=SA (Strongly Agree); Researchers' Survey Data, (2021)

Analysis of management's tactical decisions on implementation of e-learning in Table 7 shows an overwhelming majority, 78.1% of the respondents agreed that top management frequently mobilize resources and re-prioritize e-learning activities on time. However, 62.9% revealed that ICT infrastructure investment of e-learning activities is not satisfactory as reflected in the institutional annual budgets. Similarly, 70.5% suggested that institutional internal arrangements were not clear and healthy for effective implementation of e-learning programmes. With interviews held to sampled participants, 67.2% of the respondents felt that management tactical decisions with regard to financial and infrastructure, technology and institutional arrangement were inadequate for e-learning implementation. This is reflected by the low number of online programmes being implemented which were below 10 as cited by 92.4% of the responses. Although 61.6% of the respondents indicated the presence of operational evaluation office in place, e-learning evaluations were conducted once every year. One area according to Ogaja and Wanyoike (2015) where strategies often fail is in the public sector especially universities. Similarly, TVET institutions are not different from universities. The current findings reflect implementation gaps of e-learning in TVETs in Kenya. They clearly show that institutional internal environment has strong and positive association with implementation of tactical decisions but amplified by implementers' characteristics. However, the current findings deviate from the results observed by Dezsó, et al., (2012) who reported that tactical decisions have little or no effect on implementation of strategies as they can be changed quickly in the course of implementation process. Tactical decisions however, have either short-term or long term consequences. Additionally, Kibuku, et al., (2020) found that poor tactical decisions were as a result of inadequate policies in learning institutions. With interviews administered, 'one respondent attested that lack of follow-up of the e-learning programmes mounted hence they do die a natural death along the line. In addition, inadequate resources for e-learning have been a major challenge of the implementation of e-learning system in TVET institutions.' Similarly, lack of clear expectations set out for the implementers by the top management has resulted in insignificant implementation of e-learning. This typically reflects lack of policies on e-learning system.

#### 4.1.3. Model Summary on Top Management Strategic Decisions

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.973 <sup>a</sup>	.946	.942	.33113

a. Predictors: (Constant), Independent Variables

Table 3: Model Summary for Top Management's Strategic Decisions  
Researchers' Survey Data, 2021

In determining variable contribution to top management's strategic decisions on implementation of e-learning, findings in Table 4 demonstrate model summary statistics and results reveal that the model could predict 94.2% of effective implementation of e-learning in TVET institutions. The R value was 0.973 which shows that the correlation coefficient between top management's strategic decisions and effective implementation of e-learning. Furthermore, the model shows the outcome size of the analysis which was a huge magnitude (Larson-Hall, 2010). Its square value was .946 and its adjusted square was .942. This signifies that 94% of the variation on effective implementation of e-learning in TVET systems could be explained by taking management's characteristics and their tactical decisions into account. In line to Larson-Hall (2010) with reference to the quantity of the adjusted R square, it can be deduced that top management's strategic decisions could justify 94% variance of effective implementation of e-learning to a greater extent. In line to Felicio (2013), top management characteristics are associated with organizational options especially with regard to

technology choices. Therefore, the current results indicate that top management's strategic decisions significantly influence effective implementation of e-learning in TVET institutions. Similarly, Hudson, et al., (2019) argue that the extent to which public policies are attained depends on advancement of their implementation process. However, Mazmanian and Sabatier (1983) observed that successful implementation depends on the nature of the problem, features of policies and environmental contingents. In this study, Mazmanian and Sabatier Theory proves ideal when approaching implementation issues from policy angle. Mubarak, et al., (2020) suggested that successful implementation of decisions are more likely when approached from the context and content of policy. Therefore, Top managements should clearly draft the objectives of e-learning and support them through clever tactical tactics with the help of policies.

#### 4.1.4. Analysis of Variance for Top Management's Strategic Decisions

Finally, the study evaluated results from the ANOVA analysis and findings are illustrated in Table 4

ANOVA <sup>a</sup>						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	538.874	20	26.944	245.730	.000 <sup>b</sup>
	Residual	30.811	281	.110		
	Total	569.685	301			
a. Dependent Variable: Effectiveness of e-learning implementation						
b. Predictors: (Constant)						

Table 4: ANOVA Results for Top Management's Strategic Decisions  
Researchers' Surveyed Data, 2021

Top management's strategic decisions (managements characteristics and management's tactical decisions) had significant positive regression weights, indicating managements with greater strategic choices were expected to have effective implementation of e-learning, after regulating other constructs in the model. Therefore, ANOVA F statistic tests (245.730) in the model as a whole was significant. It can be assumed that there was a statistically significant difference between groups as determined by one-way ANOVA ( $F(20,281) = 245.730, p = .000$ ). In other terms, the overall independent variables predict the dependent variable better. This is why top managements with robust characteristics and tactical decisions were expected to have more effective implementation of e-learning, after regulating the other variables in the model ( $r = .946$ ), and the model could predict 94.2% of effective e-learning implementation by the top management.

## 5. Conclusions and Implications

The research concludes that:

In investigation of top management's strategic decision significantly influence effective implementation of e-learning in TVET institutions ( $R^2 = .942, F(20,281) = 245.730, p = .000$ ) as the overall model ANOVA F statistic tests (245.730). Therefore, management with robust characteristics and tactical decision were expected to have effective implementation of e-learning in TVET institutions ( $R^2 = .942$ ), and this accounts for 94% of e-learning implementation variance.

Therefore, TVET institutions urgently need to improve on the level of awareness by conducting regular training on e-learning implementation. They should empower strategic implementers and restructure effective communication and feedback on the status of e-learning strategic options taken from time to time. But, their perception sums it all hence top management should re-evaluate their attitudes and offer appropriate leadership style that brings implementers together to discuss technology issues. Moreover, their characteristics should reflect the status quo of strategic choices. The study also concludes that tactic decisions are very important for effective implementation of policy issues such as e-learning.

## 6. Recommendations

The study concludes that:

- The top management should have appropriate characteristics, improve their professional and educational experience from time to time to effectively handle technology issues that are ever changing especially implementation of e-learning.
- The management should improve on tactical decisions for effective implementation of e-learning

## 7. Acknowledgement

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## 8. References

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