

## **EFFECT OF INNOVATIVE TECHNOLOGY CHANGE ON EMPLOYEE COMMITMENT AT PUBLIC UNIVERSITIES IN KENYA. A CASE STUDY OF KISII UNIVERSITY**

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**Abstract:** *In the recent past, Kenyan public universities have experienced various changes emanating from internal and external forces and which have led to industrial strikes, financial shortfalls and high turnover of both teaching and non-teaching employee. The introduction of new technology systems such as ERP and online teaching modules have impacted the employees' ways of operation. This is coupled with competition from the increasing number of private universities which have better facilities, infrastructure and terms of service, hence, competing for students and human resource. The change management strategies that organizations adopt in order to cope with the changes in the environment have been of academic interest for many years, especially in the corporate world but little attention to public institution. This study sought to establish the effect of innovative technology change on employee commitment in public universities in Kenya with a case study of Kisii University. The study used a descriptive research design with target population of 130 Employees at Kisii University main campus. Descriptive statistical analysis tools such as means, frequencies and percentages were utilized to analyse descriptive data. The study findings showed that technology change has significant positive effect on employee commitment in Kisii University. From the regression model, it was revealed that the variables explained up to 83.0 % of the variation in the employee commitment in public universities in Kenya. The study concluded that all the variables had a significant influence on employee commitment and recommended for good planning when organizational changes are being implemented especially implementation of the technology to ensure that the effected changes influence employee commitment positively.*

**Keywords:** *employee commitment, innovative technology change, public university*

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### **1. INTRODUCTION**

Committed employees' is one of the greatest assets any organization can have and play a major role in overall business efficiency and profitability. Armstrong (2012) argues that greater levels of employee commitment lead to organizational benefits such as a continuous flow of improvements, cost and efficiency improvements and active employee participation. Committed employees' are believed to enhance an organization as they feel secure in their jobs, are well trained, feel part of a team and are proud thus enjoying doing their jobs (Agoi, 2017). Employee commitment also has important implications for recruitment. In today's fast changing and tough global environment, organizations are finding it difficult to function at optimum levels under the circumstances. Employee commitment is now considered a natural process for effective performance of

individuals and organizations (Armstrong, 2014). Organizations are striving hard to induce commitment in their employee and are using different means and method to enhance employee commitment. Human resource management practices and the organization structure should be managed in a way that is congruent with organizational strategy so that it can contribute positively to employee commitment (Collings, Mellahi & Cascio, 2017).

Organizational change is any action or set of actions resulting in a shift in direction or process that affects the way an organization works. Change is the process of becoming different. It can be deliberate and planned by leaders within the organization or change can originate outside the organization and beyond its control (Feleke, 2018). Change may affect the strategies an organization uses to carry out its mission, the processes for implementing those strategies, the tasks and functions performed by the people in the organization, and the relationships between those people. Naturally, some changes are relatively small, while others are sweeping in scope, amounting to an organizational transformation (Fisher, 2001). Moran and Brighton (2011) noted that the main change management strategies in an organization include but not limited to technological changes, leadership changes and organizational restructuring.

In Kenya, the change management has been embraced by local organizations and multinationals alike. This has been most evident in organizations undergoing processes such as mergers, acquisitions, restructuring and innovation among other change initiatives (Farah, 2018). Public universities in Kenya have experienced various changes in their external and internal environment, prompting responses from players in the management and higher education sub-sector with the objective of mitigating risks and taking advantage of opportunities (Mathooko, 2013). This has triggered research in the area of strategic management through application of clear and sustainable response strategies. Past research has been carried out on problems facing the public universities, especially focusing on financial sustainability, resources capabilities, political interference and research in view of changing environments and government policies.

Institutions of higher learning in contemporary world are undergoing some of the most drastic transformation in the wake of ever-changing environmental dynamics. Public Universities in Kenya today are operating in a highly turbulent and dynamic environment as a result of drastic changes emanating from both internal and external forces. For these institutions to survive in such an environment, their strategies need to focus on their customers (students, parents and industry) to deal with emerging environmental challenges which in turn pose managerial challenges.

Meyer and Allen (1997) developed a three-component model that considers the types of employee commitment typically displayed by employee during a change process and categorise these elements as 'Affective', 'Normative' and 'Continuance commitment'. Affective commitment refers to as the degree to which employee are psychologically attracted to the organization that they work for through feelings such as loyalty, affection, belongingness (Arfat & Riyaz, 2013). Arfat (2018) noted that continuance commitment makes employee remain with their organization because of the perceived high cost associated with leaving. Normative commitment is based on employee feeling that they ought to continue employment with their organization due to the receipt of benefits that activates a need to reciprocate (Shore *et al.*, 2008). Normative commitment reflects a feeling of obligation to continue (Alfalla-Luque, Marin-Garcia & Medina-Lopez, 2015).

### **Statement of the Problem**

Many universities these days are facing the problem of managerialism a public sector reform strategy based on strong forms of executive control and 'universal' management practices), the detrimental behavioral upshot of which is, academicians exhibit lower levels of commitment which eventually transform into organizational

stiffness (Bashir & Gani, 2020) and that wide range of universities suffer from 'strategic dissonance' as they want to amalgamate educational activities in order to sustain their institutional identity and reputation, but at the same time they also want to decentralize to serve distinct market sectors and expand their revenue base.

In the recent past, Kenyan public universities have faced challenges such as industrial strikes, financial shortfalls and high turnover of both teaching and non-teaching employee. Okello *et al.*, (2022) noted that employee absenteeism and high employee turnover ratio elevate expenses and lower productivity which are directly linked to low employee commitment as a result of decreased employee motivation. Kisii University introduced online learning to ensure continued studies and controlled the spread of COVID-19. The university has also been implementing ERP systems to enhance service delivery. Thus the advent of the new technology in the university has not been without effect on the staff. Therefore, this study seeks to determine the influence of innovative technology change on employee commitment at Kisii University.

### **Objective of the Study**

To establish the effect of adoption of innovative technology change on employee commitment in public universities in Kenya. A case study of Kisii University.

## **2. LITERATURE REVIEW**

### **Theoretical Framework**

Kotters change management theory was developed by John Kotter (1996) and presented in his book 'Leading Change' which was based on years of research that showed that there's only a 30% change of effective organizational change implementation. According to Kotter, the eight-step model is helpful for understanding and managing change. Each stage acknowledges a key principle identified relating to people's response and approach to change, in which people see, feel and then change. Kotter's eight step change model can be summarized as: 1) increase urgency – inspire people to move, make objectives real and relevant; 2) build the guiding team - get the right people in place with the right emotional commitment, and the right mix of skills and levels; 3) get the vision right - get the team to establish a simple vision and strategy; 4) communicate for buy-in - involve as many people as possible; 5) empower action - remove obstacles, enable constructive feedback and lots of support from leaders, reward and recognize progress and achievements; 6) create short-term wins - set aims that are easy to achieve, in bite-size chunks; 7) don't let up - Foster and encourage determination and persistence, encourage on going progress reporting and highlight achieved and future milestones; finally, 8) make change stick-reinforce the value of successful change via recruitment, promotion, new change leaders and then weave change into culture.

### **Empirical Review**

Quinn (2004) views organizational change as a shift in conditions from their normal state to a new state. This shift can range from minor shifts in procedures or technology to a radical change. Currently, organizations must contend with a highly dynamic and technological environment without which, they will experience insurmountable difficulties in trying to achieve sustainable development without innovating. Organizations must therefore develop new styles of operation and new market-oriented products and services. Competitive edge is acquired because firms generally differ because they can develop competencies in diverse technologies (Nesta & Dibiaggio, 2003).

As the world becomes a global village through the innovation of various technologies, technology becomes a tool that organization cannot survive without. To remain effective, efficient and competitive, organizations must adopt and utilise current innovative technologies (Gulati, Johri & Serwetz, 2018). The need for various technologies should emanate from organizational functions and the need to ensure the organization carries out its functions to the satisfaction of its clients with minimal costs and losses.

Technology has become an indispensable tool if organizations want to be competitive and efficient. Gulati *et al.*, (2018) posit that organizations adopt different types of technology because of the following reasons: enhancing process efficiency, security spiral, explore new avenues, enhance mobility, advance learning possibilities, and analyse employee experience. They further argue that the following reasons drive the adoption of technology at the workplace: improved business outcomes by reducing costs, enhancing efficiency, products and services, promoting cooperation, efficient communication, availability of new data for analysis, access to huge amounts of data and information, and promotion of disruptive innovation.

Wanza and Nkuraru (2016) determined the influence of organizational change on employee performance at the University of Eldoret. The study reported that various aspects of organizational change such as technological changes, organizational leadership, structure and culture affected the performance of employee. The influence of technological changes, organizational leadership, structure and culture on organizational performance was significant. It was revealed that when the variables were adopted, employee productivity was enhanced at various levels.

Loosemore (2016) asserts that it was estimated that almost 40% of Australian jobs will be lost due to new technology in the next 10 to 15 years. Loosemore further reports artificial intelligence will lead to reduced office jobs. In answering the question of whether innovative technology has created more jobs opportunities, Deloitte (2015) determined that innovative technology contributed to increased job opportunities in England and Wales. It further reported that in some industries such as agriculture and cleaning services, technologies replaced human beings.

Kipyegon (2018) conducted a study to determine the challenges and prospects of ERP systems in the newly chartered public Universities in Kenya. The ERP systems are one of the innovative technologies adopted in public Universities to enhance business processes such as management and administration. It was revealed that management support was fundamental in the successful implementation of ERP yet the Universities never prepared adequately for change. This is because they did not involve end-users, they failed to modify the system to match individual university requirements and inadequate training of end-users. On the same note, Tortorella and Fries (2015) determined that the ERP system in public universities in Southern Brazil enhances the academic process of the university.

### **3. RESEARCH METHODOLOGY**

This study adopted a descriptive research design with a case study. According to Creswell (2017) a descriptive research design is one where the researcher illustrates and explains the situation as accurately as may deem possible by having an in-depth analysis of the events and drawing informed decision about it. Selection of case study design for this study is based on the aforementioned virtues and the need to have a detailed investigation of the influence of organizational change on employee commitment at Kisii University.

The study target population comprised all 272 staff at Kisii University main campus. The target population comprises of management, lecturers and other support employees. Sampling was conducted to establish the

sample size for the study. A sample is a portion or part of the population of interest (Kothari, 2012). The purpose of sampling is to gain understanding about some features or attributes of the whole population based on the characteristics of the sample (Zikmund *et al.*, 2010). The study first divided the population into five strata's namely teaching staff, Administration staff, Technical staff and supporting staff. The researcher used stratified random sampling in order to achieve the desired representation from various sub groups at Kisii University. In stratified random sampling, subjects are selected in such a way that the existing subgroups in the population are more or less reproduced in the sample (Tracy, 2012). In the ideal stratification, each stratum is homogeneous internally and heterogeneous with other stratum and stratification is also important when the researcher wants to study the characteristics of each certain population subgroup (Cooper & Schindler, 2013). Nassiuma (2000) formula was used as shown;

$$n = N (cv^2) / Cv^2 + (N-1) e^2$$

Where

n= sample size

N = population (272)

CV= coefficient of variation (take 0.6)

e= tolerance of desired level of confidence (take 0.05) at 95% confidence level)

$$n = 272 (0.6) / 0.6 + (272-1) 0.05^2$$

$$n=130$$

This study collected primary data using structured questionnaire which were self-administered to ensure better response rate. The questionnaire were design based on the objectives of the study. The pilot study was conducted to ascertain whether the research instruments meet the validity and reliability requirements. After the collection of data, it was coded and keyed in the Statistical Program for Social Sciences (SPSS) version 22. The data was subjected to descriptive and inferential analysis statistical tools. Bivariate correlation and multiple regression analysis were used to determine the relationship between organizational change management strategies and employee commitment whereas means, frequencies and percentages was used to describe and give the general overview of the data.

#### 4. RESULTS AND DISCUSSIONS

##### Response Rate

The study targeted a total of 130 respondents from sampled employee. Table 1 indicates that out of the 130 questionnaires administered, 107 were returned. The overall response rate was found to be 81.6 %, which was very high. On the other hand, 18.4 % of the respondents did not respond. This response rate was attributed to the fact that the researcher administered the questionnaires personally and took ample time to conduct the study. This response rate was therefore considered representative of the respondents to provide information for analysis and derive conclusions.

Table 1: Response Rate

Response rate	Frequency	Percentage
Responded	107	81.6
Did not respond	23	18.4
<b>Total</b>	<b>130</b>	<b>100</b>

### Reliability Test Results

This survey used Cronbach alpha model for internal consistency based on the correlation to test scaled items. According to Brown (2002) Cronbach’s alpha reliability coefficient normally ranges between 0 (if no variance is consistent) and 1 (if all variance is consistent). The closer the coefficient is to 1.0 the greater the internal consistency of the items in the scale. An alpha ( $\alpha$ ) score of 0.70 or higher is considered satisfactory (Gliem & Gliem, 2003). The results of the pilot test are as shown on Table 2. The individual Cronbach’s Alphas for the study variables were 0.886 and 0.893 respectively which were above the required cut-off minimum value of 0.7; therefore, all the items in the questionnaire were reliable.

Table 2: Reliability test

Variables	Number of Items	Cronbach's Alpha
Employee commitment	6	0.886
Technology change	6	0.893

### Descriptive

Table 3: Adoption of Innovative Technology

Statement	Mean	Std. D
Adoption of innovative technology has contributed to better performance	3.39	1.097
Adoption of innovative technology has contributes to the creation of new jobs	3.46	1.136
Adoption of innovative technology has enhanced and increased efficiency	3.47	1.102
Adoption of innovative technology has increased work morale among employee	3.31	1.038
Adoption of innovative technology has contributed to decreased workload	3.45	1.077
Adoption of innovative technology has made the organization stand out	3.21	0.788
Staff are informed of any changes relating to innovative technology before they are implemented	3.34	1.002

Table 3, presents the results on the level of innovation technology for public universities and especially at Kisii University. From the results it was found that; Adoption of innovative technology has contributed to better performance 3.39 and standard error 1.097, Adoption of innovative technology has contributes to the creation of new jobs 3.46 and standard error 1.136, Adoption of innovative technology has enhanced and increased efficiency 3.47 and standard error 1.102, Adoption of innovative technology has increased work morale among employee 3.31 and standard error 1.038, Adoption of innovative technology contributed to decreased workload 3.45 and standard error 1.077, Adoption of innovative technology has made the organization stand out 3.21 and standard error 0.788 and Staff are informed of any changes relating to innovative technology before they are implemented 3.34 and standard error 1.002. All the constructs of technology change were found to influence employee commitment in public universities in Kenya institutions since their descriptive values had values greater than the middle / mean value on the likert scale. Similarly, Wanza and Nkuraru (2016) and Kipyegon (2018) found a positive perception of technological changes on employee.

Table 4: Employee Commitment

Statement	Mean	Std.D
I would wish to continue working in this university	3.49	1.147
I feel that I fit well in this organization and am satisfied with my work	3.46	1.067
I feel valued in as an employee in this university	3.60	1.063
I am satisfied with Physical conditions at work	3.57	1.003
I have set personal targets to achieve at my work	3.50	1.063
I have opportunities to grow as a person and be myself	3.37	1.003

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Table 5: Correlation Analysis

		Employee commitment	Technology change
Employee commitment	Pearson Correlation	1	
	P-Value		
Technology change	Pearson Correlation	0.829**	1
	P-Value	.000	

From table 5, it can be observed that the correlation between the independent variable and the dependent variable was high and positive at 0.829\*\* for Technology change and employee commitment. The implication was that the high correlation between employee commitments implied the presence of an association between the technology change and employee commitment. The interpretation was that technology change in the organization has a high influence on employee commitment.

**Regression Analysis**

The multiple coefficients R had a value of 0.816 that implied that there was a strong relationship between technology change and employee commitment. The values of R lie between 0 and 1 and are used to measure the strength of relationship between variables (Mugenda & Mugenda, 2003).

*Table 6: Regression Summary Test*

R	R Square	Adjusted R Square	R Change	F Change	df1	df2	Sig. Change	F	Durbin-Watson
.903	.816	.806	.816	83.006	4	75	.000		1.644

Table 6 presents the results on the level of association on the; null hypothesis that innovative technology change has no significant effect on employee commitment in public universities in Kenya. This shows that innovative technology strategies adopted contributes about 81.6% variations on employee commitment in public universities in Kenya. Thus, the null hypothesis of no relationship was rejected in this case.

*Table 7: Coefficient Table*

Variables	Coefficients	Std. Error	t-statistic	p-value
Technology Change	0.404	0.072	5.571	0.000
(Constant)	0.520	0.179	2.901	0.005

From table 7, the regression coefficient of technology change was found to be 0.404. This value shows that holding other variables in the model constant, an increase in technology change by one unit causes the employee commitment in public universities in Kenya to increase by 0.404 units. The value of the coefficient is also positive. The positive effect shows that there is a positive relationship between technology change and employee commitment in public universities in Kenya. The findings of the study predicted that technology change had a positive and significant influence on employee commitment in Kisii University. Accordingly, employees that are provided with training in technological change get increasingly committed to their organization. Similar studies have indicate a positive effect of new technology adoption on employee commitment. Kipyegon (2018) in a study aimed at determining the challenges and prospects of ERP systems in the newly chartered public Universities in Kenya revealed that when employee are involved in decision making and implementation of new technology, they tend to support the new changes. Contrary, Loosemore (2016) noted that some employee may fail to support implementation of new technology due to the fear of loss of their jobs.

**5. CONCLUSIONS**

The aim of the study was to determine whether technology change influences employee commitment. From the findings obtained in this study, it was concluded that there is a positive and significant correlation between



technology change and employee commitment in Kisii University in Kenya. This means that when technology change is low, then employee commitment within organization will decrease. Failure to implement technology change may cost the university a lot in terms of decreased commitment. The findings that, technology change had a positive influence on employee commitment in public universities in Kenya were good implication that an increase in technology change increase employee commitment public universities and other institutions of higher learning in Kenya. This study thus concludes that technological change increases employee commitment. However, it is worth to not that inclusivity of employee in decision making and implementation of the changes contributed to the positive take of technology change.

## Recommendations

Based on the findings the study recommends the following:

That the management of academic institutions should adopt policies that involve the implementation of technology changes. The Public institutions of higher learning and especially Kisii University should also come up with strategies to ensure that the technology change of these organizations is improved. These public universities in Kenya should come up with plans to invest in new technologies to ensure employee commitment. The study recommends organization to ensure that employee are involved in decision making especially that involved changes which will directly affect the employee. Employee participation clears any fear of the new change which they may have hence crating a positive attitude on the new changes.

From the regression model, it was revealed that the variable included in the study explained 83.0% of the variation in the employee commitment in public universities in Kenya. This study, therefore, recommends the improvement of this model by exploring more variables that would be relevant in explaining the variation some of which have been mentioned above.

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