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Antecedents of Change Management Determinants on Operational Efficiency of Public Universities in Kenya

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Abstract

Operation efficiency of many public universities in Kenya has been poor. Hence, the study examined the antecedents of change management and operational efficiency of public universities in Kenya. The specific objectives were to examine the effect of change leadership, technological factors and resource allocation on operational efficiency of public universities in Kenya. The study was a literature-based review. It was found that the antecedents of change management can include change leadership, technology factors and resource allocation. The extent of the change leadership, technology factors and resource allocation influence the direction of the change administration. The study concluded that change leadership includes bringing together the resources allocated toward meeting the change efforts. The effectiveness of the change leadership has a positive impact on the operation efficiency. The change leadership is to develop strategies and policies that can be used for any strategy implementation. The effectiveness of change leadership provides high leadership commitment, accountability and change management expertise. Technological change has an impact on all organizations and impacts operational efficiency positively. Technological change is a critical requirement for strategic planning in change management. The introduction of the technology is deemed to improve users' efficiency, thus increasing operating efficiency. Resource allocation is one of the critical determinants of change management and influences operation efficiency positively. The resource allocation is based on budgetary allocation, financial considerations and scheduling available resources. The study recommended that change leadership in the universities needs to understand why the organization needs to change/critical purposes. The leadership needs to be practical to ensure employees follow the change plans to prevent deviating from the change process. The employees need to be enlightened on the organization's technological changes to ensure that changes are implemented thoroughly and smoothly. The universities need to allocate financial resources for strategic planning implementation. An organization should plan ahead of the change process and the resource required to ensure that it determines the changes that need to be made and how long it will take to get them done. Resource allocation need to be effectively and economically to accomplish goals.

Keywords: *Change management, change leadership, technological factors, resource allocation, operational efficiency, public universities, Kenya*

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1.0 Introduction

Operational efficiency is key to any organization's success in the World. Operation efficiency can be defined as the ability of an organization to reduce waste in time, effort and materials as much as possible while still producing a high-quality service or product (Chen, Ma, Yan & Wang, 2021). Operational efficiency is a measurement of resource allocation and can be defined as the ratio between an output gained from the business and input to run a business operation. When improving operational efficiency, the output-to-input ratio improves. Operating efficiently means using resources like time, people, equipment, inventory and money in an optimized way to serve the business and gain the maximum benefit (Osumba & Sang, 2021). The performance of an organization is stimulated significantly by developing mechanisms to enhance efficiency. The efficiency of the universities can be based on the graduation rate, retention rate and enrolment, among others. Change management can influence an organization's efficiency (Bosire, 2018; Nyamburah, 2020; Sukirman, Hidayah & Suryandari, 2018). Change is an inevitable continuous process that establishes organizations' long-term direction and performance (Nyamburah, 2020). An organization has to constantly align itself with the external environment by reacting to an external event or by realigning the business in which it operates.

Change management is a systematic approach to transforming an organization's goals, processes, or technologies (Chen, Ma, Yan & Wang, 2021). Change management aims to implement strategies affecting change, controlling change and helping people adapt. A central idea of all change management is that no change ever happens in isolation (Bosire, 2018). In one way or another, change impacts the whole organization and everyone in it. Nevertheless, with good change management, everyone can be encouraged to adapt to and embrace the change and the new way of working (Noto, Belardi & Vainieri, 2020). Successful change management relies on four core principles: understand, plan, implement, and communicate. No organization can afford to stand still. There are always new challenges to meet and better ways of doing things. Change management can be determined by change leadership, technological change and resource allocation (Bosire, 2018; Nyamburah, 2020; Kinoti, 2015; Chen, Ma, Yan & Wang, 2021; Glover, Sumberg, Ton, Andersson & Badstue, 2019).

Change leadership refers to identifying the people responsible for overseeing and implementing the proposed changes. It involves bringing together the resources allocated toward meeting the change efforts (Mansaray, 2019). To successfully promote the benefits of the change, the leadership needs to understand those benefits or strengths. The change management leadership needs to understand why the organization needs to change/critical objectives, the benefits of the change to the organization, the impact on the employees and what will be needed to do to achieve the change (Alqatawenah, 2018). Organizations need to ensure that they follow the change plans put in place to prevent deviating from the deadline and the budget set for the change process. Change management leadership ensures they do not execute the planned change blindly since the operating environment is turbulent and unpredictable sometimes (Coban, Ozdemir & Pisapia, 2019).

Technological change has an impact on all organizations. The result of technological change for all organizations is a critical requirement for strategic planning in change management (Preece,

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2020). It is noted by Glover, Sumberg, Ton, Andersson and Badstue (2019) that technological change forces change in essential managerial functions. There is increased responsibility on management for organization outcomes leading to added emphasis on planning, decision-making, control, and coordination. The technological change anticipated to take place in an organization can influence the extent of change management. The employees need to be enlightened on the organization's technological changes to ensure that changes are implemented thoroughly and smoothly. Everyone in the organization should understand the technological change to be well executed. The most significant role of change management is to have the desired impact from those changes (Kimutai, 2017). Technological change will force changes in essential managerial functions leading to more emphasis on planning, decision-making, control, and coordination.

Resource allocation is one of the critical determinants of change management. Resource allocation is assigning and managing assets to support an organization's strategic planning goals (Akbar, Sang, Khan, Mahmood, Qadri, Hu & Xiang, 2019). Resource allocation includes having a mechanism to manage assets to make the best use of them during organizational changes. Change management planning includes ensuring that the necessary resources, as well as the budget and timeline for implementing change, are put in place (Kho, Gillespie & Martin-Khan, 2020). An organization needs to plan ahead of the change process and the resource needed to ensure that it determines the changes that need to be made and how long it will take to get them done. Resource allocation is important because it enables an organization's change to be implemented smoothly without any delays.

Public Universities in Kenya are owned by the state as provided by the Universities Act 2012. There are 34 public universities in Kenya. The mandate of universities includes, inter alia, the dissemination of knowledge, generation of knowledge through research and application of knowledge. According to Cheruiyot, Namusonge and sakwa (2018), the operation efficiency of public universities in Kenya has been low. The misappropriation of funds and corruption has been rampant in many public institutions in Kenya. Despite the Ethics and Anti-Corruption Commission (EACC) being at the forefront of ensuring no embezzlement of funds and corrupt practices occur in institutions, graft cases in public institutions, including universities, have continued to be the subject of reports in the local and international media. For instance, Moi University 2020 was accused of embezzlement and misappropriation of funds, including making payments to workers (EACC, 2021). Financial misappropriations have also been reported at the Maasai Mara University, with funds running into tens of million said to have been lost (EACC, 2021). Hence, based on this background, the study examined the antecedents of change management and operational efficiency of public universities in Kenya.

1.1 Statement of the problem

The operation efficiency of many public universities in Kenya has been poor. The misappropriation of funds and corruption has been rampant in many public institutions in Kenya (Cheruiyot, Namusonge & Sakwa, 2018). Fraud cases have continued to be reported in institutions of higher learning, painting a picture of massive losses in the concerned institutions (Guto, 2020). For instance, Moi University 2020 was accused of embezzlement and the presence of ghost workers (EACC, 2021). Moreover, financial misappropriations have been reported at the Maasai

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Mara University, with funds running into tens of million said to have been lost (EACC, 2021). The Maasai Mara University Vice-Chancellor and four others were arrested and arraigned in court over allegations of defrauding the university Ksh. 177 million. Based on the reviewed studies, the antecedents of change management and operational efficiency of public universities in Kenya is under researched. For instance, Bosire (2018) examined the determinants of strategic change management practices among county governments in Kenya. Nyamburah (2020) studied change management implementation practices and the performance of public universities in Kenya. Kegoro and Makori (2020) examined the effect of technological initiatives on the operational performance of public universities in Kenya. Kimutai (2017) conducted a study on change management strategies and organizational effectiveness in public universities in Kenya. Kinoti (2015) examined the effects of change management on employee performance in the co-operative bank of Kenya limited. Thus, based on the sampled studies presented, the current study was worthy of being conducted. The study examined the antecedents of change management and operational efficiency of public universities in Kenya

1.2 Research Objectives

The general objective of the study was to look at the antecedents of change management and operational efficiency of public universities in Kenya. The specific objectives included;

- i. To determine the effect of change leadership on operational efficiency of public universities in Kenya
- ii. To examine the effect of technological factors on operational efficiency of public universities in Kenya
- iii. To examine the effect of resource allocation on operational efficiency of public universities in Kenya

2.0 Literature Review

The section included the theoretical and empirical review.

2.1 Theoretical Review

The study was based on coordination theory, technology acceptance model and allocation of resource theory

2.1.1 Coordination Theory

The proponents of the coordination theory were Kevin Crowston, Joseph Rubleske and James Howison in 1994. The view reports that effective coordination of the activities in an organization increases operational visibility, potent for enhancing competitiveness and operation efficiency. Effective coordination of the activities is found when the department's communication is satisfactory, provides the correct data to the right people, and allows teams to be more autonomous (Crowston & Osborn, 1998). The important thing about visibility involves making the data visible to all the stakeholders. Promoting visibility is important because it promotes confidence and togetherness among the shareholders (Kaipia, 2007). The leadership needs to understand the employee's needs when a change occurs and this increases the organization's efficiency (Shang &

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Liu, 2009). The importance of coordinating the activities is that it ensures organizations re-evaluate areas of inefficiency and reduce risks such as damaged products and mistakes (Olson, Malone & Smith, 2001).

The coordination of communication to the extent to which end users or customers have visibility of the overall delivery process is fundamental in developing the sustainability of the projects (Crowston & Osborn, 1998). The theory was relevant to the current study. Effective coordination of activities is critical in improving organizational efficiency. The theory reports that effective coordination of the activities in an organization increases operational visibility, which is potent for enhancing competitiveness. Visibility creates platforms for the stakeholders and other employees to share their ideas and even criticize any actions they think are harmful to them or the organization. The importance of coordinating the activities is that it ensures organizations re-evaluate areas of inefficiency and reduce risks such as damaged products and mistakes. Thus, the theory informed the variable change leadership.

2.1.2 Technology Acceptance Model

The proponent of the Technology Acceptance Model (TAM) was Fred Davis in 1989. The model shows that adopting modern technology to cope with the changing environment is crucial for enhancing efficiency (Dasgupta, Granger & McGarry, 2002). The acceptability of the technology is determined by two main factors: perceived usefulness and perceived ease of use (Davis, 1989). Perceived usefulness is the degree to which a person believes that using a system will improve his or her performance. Perceived ease of use refers to the degree to which a person believes a system's use will be effortless. The introduction of the technology needs to be adopted when deemed to improve the users' efficiency and is easy to utilize (Money & Turner, 2004). A complicated technology reduces the morale of the users and a lot of time is taken to understand it and, in the process, the users' performance reduces (Chuttur, 2009). The nature of the technology adopted in an institution needs to be friendly to everyone; otherwise, it will not change the performance significantly (Davis & Venkatesh, 2006). The attitude of an individual is not the only factor that determines the use of a system but the impact on the overall performance.

Technology advancement in the organization is critical in increasing performance. Even if an employee does not welcome the introduced technology, the probability of using it is high (Kim, Chun & Song, 2009). The most crucial factor to consider before introducing technology in an organization is the easiness of its application and the extent to which it will improve the users' efficiency. Organizations have to invest in technology if they want efficiency to be maximized. Information systems can reduce the number of levels in an organization by providing managers with information to supervise more significant workers and give lower-level employees more decision-making authority (DeLone & McLean, 2002). The model was deemed relevant to the study. The importance of the model is that it establishes that technology needs to be adopted in an organization when it is deemed to improve the users' efficiency and is easy to use. The adoption of modern technology is expected to enhance efficiency. The importance of modern technology is that even if an employee does not welcome the introduced technology, the probability of using it is high. Thus, the model informed variable technological factors in the study.

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2.1.3 Allocation of Resource Theory

Peteraf and Barney developed the theory in 2003. The theory reports that an efficient allocation of resources increases the efficiency of an organization. Resource allocation includes having a mechanism to manage assets to make the best use of them during organizational changes. Resource allocation is important because it enables an organization's change to be implemented smoothly without delays. The allocation occurs when an organization produces goods and services that people value most to avoid wastage. More resources must be allocated to the more efficient sectors or departments (Liefner, 2003). Sectors producing maximum output with minimum inputs need to be allocated more resources. On the other hand, the inefficient sectors and production and input is almost the same need not be allocated more resources. The allocation of more resources to the most efficient sectors will maximize the organization's efficiency and enable it to gain a competitive advantage (Hartman & Boyd, 2008). The sufficient allocation that entails budgetary allocation and financial consideration are potent in determining the sustainability of a project. An organization needs to plan ahead of the change process and the resource needed to ensure that it determines the changes that need to be made and how long it will take to get them done.

The theory establishes that the dynamic allocation of funds enables institutions to plan and allocate sufficient time to the factors of production for optimal output. Institutions continually develop mechanisms that help allocate financial resources in their budget control system (Alvarez & Barney, 2005). The theory assumes that optimal output production depends on the inputs' efficiency and the extent to which the scarce resources are utilized. Thus, it is vital for the management of various sectors in an organization to develop ways to maximize the efficiency of the factors of production, such as introducing new technology and training employees, among others. The theory was relevant to the current study. The theory shows that scarce resources can be utilized efficiently to achieve a higher output by allocating more resources to the most efficient departments or sectors. Organizations have limited resources and thus, efficient allocations will maximize the output. Effective resource allocation can enhance the operational efficiency of the universities in Kenya. Effective allocation can include budgetary allocation, financial considerations, project evaluation cost, and financial availability. Thus, the theory informed variable resource allocation in the current study.

2.2 Empirical Review

2.2.1 Change Leadership and Operational Efficiency

Nyamburah (2020) conducted a study on change management implementation practices and the performance of public universities in Kenya. The research adopted qualitative and quantitative research methods, specifically descriptive explanatory design. The target population was 129 subjects sampled through stratified random sampling. The study used primary data collected using a survey questionnaire distributed by the researcher to the respondents. The quantitative data was analysed for descriptive and inferential statistics using SPSS software. The regression analysis results revealed that change management leadership, planning, communication and monitoring

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have a significant effect on the performance of public universities. The study recommended that the management of Kenyan Universities need to put more emphasis on change management leadership, change management communication and monitoring as implementation practices.

Murage (2022) conducted a study on transformational leadership and the performance of public universities in Kenya. The study adopted a quantitative research design. The study findings showed that transformational leadership, such as individualized consideration and inspirational motivation, have a significant effect on the performance of public universities in Kenya. The study recommended that Human Resources should develop policies and practices relating to transformational leadership and performance. This can be done by developing training and development programs for leaders or managers in public universities that allow for teamwork and knowledge sharing with subordinates to increase employee engagement in their organizations. Organization leaders should arouse employees' curiosity about work and enhance their performance through intellectual stimulation. The following specific recommendations are made in line with the findings of the study; Managers in public universities intending to boost their organizations performance through transformational leadership should focus on the three transformational leadership behaviors of inspirational motivation, intellectual stimulation and individualized consideration which were found to be significant for organizational performance.

Aondo, Ngui and Okeyo (2020) examined the relationship between transformational leadership style and the performance of chartered universities in Kenya. The positivistic philosophy approach was adopted with a cross-sectional survey research design. Respondents comprised university teaching staff and non-teaching staff in Kenyan chartered universities. The questionnaires were distributed equally in all participating institutions. The results showed that the transformational leadership style has a positive and significant effect on performance. The study recommended that the university management board should embrace transformational leaders to manage and run the universities. This is due to the fact that the practices of transformational leadership influence organizational performance and no organization can elude the confrontation of change. Effective leadership is vital to redressing the spasmodic business environment while sustaining the firm's competitive position in the marketplace.

Kinoti (2015) sought to evaluate the effects of change management on employee performance at Co-operative Bank of Kenya limited. The study used a case study research design. The presentation of findings was of qualitative form. The study found that the way in which a manager makes decisions, delegates" responsibility and interacts with employees could affect the entire organization. The study also found that embracing technology improved the organizations operations by offering a technology platform, significantly improving employee performance. The study concluded that the kind of leadership style incorporated at Co-operative bank is an autocracy, which has a touch of democracy as well, as senior management at times consults the employees in decisionmaking but makes the final decision itself. In addition, changes in organizational structures promote employee performance due to effective supervisory relationships and workflow, which consequently influence productivity. Based on the findings, the study recommended it is essential for the management to create awareness of the new developments on how services and products are delivered among the targeted customers and orientation of the new

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technology and developments on employees. This can easily be achieved through in-house training and organizing open forums among the employees, customers and stakeholders.

Osakina (2013) undertook a study to determine the challenges that faced organizational change management in the Kenya police service. One of the main challenges discovered is leadership, whereby the findings indicate that poor leadership during the change process results in poor organizational performance. Change leadership involves bringing together the resources allocated toward meeting the change efforts (Mansaray, 2019). To successfully promote the benefits of the change, the leadership needs to understand those benefits or strengths. The change management leadership needs to understand why the organization needs to change/critical objectives, the benefits of the change to the organization, the impact on the employees and what will be needed to do to achieve the change (Alqatawenah, 2018). Organizations need to ensure that they follow the change plans put in place to prevent deviating from the deadline and the budget set for the change process. Change management leadership ensures they do not execute the planned change blindly since the operating environment is turbulent and unpredictable sometimes (Coban, Ozdemir & Pisapia, 2019).

Gathoni and Gachunga (2016) aimed at determining the effects of change management strategy on performances in Public Universities in Kenya with reference to the Technical University of Kenya. The study adopted a case study research design. The population was divided into set or strata and which was mutually exclusive. The study population was 215 employees of the Technical University of Kenya. A stratified random sampling technique was used to select the sample size of 140 respondents consisting of University Management Board Staff. The study found that through effective leadership, leaders clearly outlined the strategy for change in TUK, were clear on the university mission for change, and articulated a management vision for change that influenced performance at TUK to a great extent. The study recommended that the institution's management should enhance the utilization of a change communication strategy as it had a greater positive impact on the performance of the Technical University of Kenya.

2.2.2 Technological Factors and Operational Efficiency

Kegoro and Makori (2020) sought to determine the effect of technological initiatives on the operational performance of public universities in Kenya. The study was anchored on technology acceptance theory. A cross-sectional research design was utilized. Random sampling technique was adopted to select public universities. A systematic sampling technique was also adopted to select study respondents who comprised lecturers and administrators in public universities. From a total population of 43 respondents selected from 3 public universities, a sample size of 39 respondents was determined using the Israel formula. The results revealed a significant positive relationship between technological initiatives and the operational performance of public universities in Kenya. The study concluded that university management should prioritize embracing technological initiatives such as equipping employees with ICT skills, activation of websites, development of new academic programs, and automation of library and teaching services for enhanced operational efficiency and effectiveness. The study recommended that, for the enhanced operational performance of universities, management of public universities should

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allocate adequate financial resources to facilitate employee training, procurement of modern ICT tools such as computers as well as customized software for enhanced customer service delivery.

It is noted by Glover, Sumberg, Ton, Andersson and Badstue (2019) that technological change forces change in essential managerial functions. There is increased responsibility on management for organization outcomes leading to added emphasis on planning, decision-making, control, and coordination. The technological change anticipated to take place in an organization can influence the extent of change management. The employees need to be enlightened on the organization's technological changes to ensure that changes are implemented thoroughly and smoothly. Everyone in the organization should understand the technological change to be well executed. The most significant role of change management is to have the desired impact from those changes (Kimutai, 2017). Technological change will force changes in essential managerial functions leading to more emphasis on planning, decision-making, control, and coordination.

Bosire (2018) conducted a study on determinants of strategic change management practices among county governments in Kenya. The study utilized a descriptive research design. The target respondents were the forty-seven County governments in Kenya. Primary data was collected from the County executive using mail questionnaires. The study found that determinants of strategic change management practices include organisational leadership, strategy implementation, resource allocation and organizational culture. The study found that the determinants have a significant effect on strategic change management in Kenyan County governments. It was concluded that attaining strategic change is not a solely independent process but entails coordinating different factors such as human resources, organizational culture, leadership and strategy implementation. The study recommended that county governments and other organisations should ensure that adequate resources for the process of change is available, organisational culture is favourable, leadership is the organisation is effective and that good strategic implementation approaches are adopted so as to enhance strategic change management.

Shisia, Sang, Matoke and Omwario (2014) aimed to find the relationship between strategic innovation and the performance of public universities in Kenya. The population for the study was the public universities in Kenya from which the sample was selected. The researcher adopted a descriptive survey design. Data to establish the relationship was obtained with the use of structured questionnaires. Data analysis was done using a multi-hierarchical regression model. The study established a positive relationship between strategic innovation and the performance of public universities in Kenya. The study recommended the need for the management to align strategic innovation strategy with the broader business strategy.

A study was conducted in Indonesia by Sukirman, Hidayah and Suryandari (2018) to examine the effect of information technology and internal control on fraud prevention in universities. The study adopted the descriptive research design. The population in the study included employees of Universitas Negeri Semarang, Indonesia. The research sample consisted of 90 respondents. The sampling technique in the study was convenience sampling. The study found that information technology influences internal control, and internal control influences fraud prevention. The study further indicated that information technology affects fraud prevention. Information technology is

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one of the critical determinants of change management. The study recommended that the university improve its information technology and internal control ability.

Another study was conducted in Nigeria by Hussaini and Bashir (2021) to examine the effect of information and communication on fraud prevention and detection in deposit money banks in Nigeria. The study employed a simple random sampling technique to select respondents among Banks staff. A total of 1650 structured questionnaires were used for the study. The respondents' demographic data and research questions were analyzed using descriptive statistics (frequency and percentage), while inferential statistics (ANOVA) was used to test the hypothesis. The study's findings revealed a significant effect of information and communication on fraud detection. More specifically, the study's outcome revealed that adequate quality of information, communication effectiveness, fraud investigation, effective monitoring, and efficient fraud disclosure were the effects of information and communication on fraud detection in deposit money banks in Nigeria.

Kimutai (2017) sought to find out the change management strategies and organizational effectiveness at the University of Eldoret. A descriptive study approach was used in the study. The target population was 78 senior staff members of the university of Eldoret. A sample of 65 senior staff of the University of Eldoret was selected by stratified random sampling to participate in the study. The data collected from questionnaires were categorized according to the study themes of change management strategies and organizational effectiveness. The study concluded there is a significant relationship between office automation and the organizational effectiveness of the University of Eldoret. Office automation positively influences organizational effectiveness. The study recommended that there is a need for the university to automate all the university activities as automation positively influences organizational effectiveness.

2.2.3 Resource Allocation and Operational Efficiency

Chepkosgei and Atambo (2018) examined the influence of resource allocation on strategic planning implementation in public universities. The study adopted a case study design that involved an in-depth investigation of whether the implementation of strategic planning has played a crucial role in the performance of Rongo University. The data was collected using questionnaires. Descriptive statistics was used to analyze data and the regression analysis with the aid of SPSS. The study findings showed that resource allocation is a crucial determinant of change management and significantly affects performance at Rongo University. The university allocates financial resources for strategic planning implementation, monitors and audits all the resources allocated by the government and other donor agency, provide for proper utilization of available physical resources, and has a well-trained human resource to support strategic plan implementation. However, the organization has not adopted information technology in its day-to-day operation. The study concluded that resource allocation positively influences the strategic planning implementation of Public Universities.

Resource allocation is one of the critical determinants of change management. Resource allocation is assigning and managing assets to support an organization's strategic planning goals (Akbar, Sang, Khan, Mahmood, Qadri, Hu & Xiang, 2019). Resource allocation includes having a mechanism to manage assets to make the best use of them during organizational changes. Change

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management planning includes ensuring that the necessary resources, as well as the budget and timeline for implementing change, are put in place (Kho, Gillespie & Martin-Khan, 2020). An organization needs to plan ahead of the change process and the resource required to ensure that it determines the changes that need to be made and how long it will take to get them done. Resource allocation is important because it enables an organization's transition to be implemented smoothly without delays. Karanja (2017) sought to assess the influence of strategic financial allocation on the performance of the private university in the case of United States International University-Africa. The descriptive research design was embraced. The study employed the use of questionnaires to obtain relevant information from respondents. The study revealed that resource allocation processes shape what initiatives the organization funds; hence organizational resources are powerful tools to reach a superior market position. The study established that strategic resources are critical in implementing strategies in an organization. The study recommended the management of private universities should pay great attention to strategic financial allocation since it affects performance. The organization should install resource allocation processes as they shape what initiatives the organization funds.

Sadiq (2019) sought to establish the effect of resource allocation strategy on the performance of water services boards in Kenya. The study adopted both descriptive and correlational designs. The target population was employees of the water services board in Kenya. The researcher used a stratified random sampling technique to select a sample size of 150 employees. Data was collected using semi-structured questionnaires. The study findings indicated that resource allocation strategy has a positive and significant effect on performance. Strategic staff development, strategic financial resources, strategic infrastructural development and strategic technological deployment positively influence performance. The study recommended that the water services board should ensure that they have the right resources in the organization and allocated well for the proper purpose and at the right time. The water services board management needs to provide strict accountability measures for its staff so that all resource allocation decisions are thoroughly vetted and that there is a monitoring system for all allocations.

Njiru (2018) conducted a study to examine factors that enhance the implementation of projects in manufacturing companies in Nairobi City County, Kenya. The study's specific objectives were to investigate how resource allocation, stakeholder participation, leadership support, and communication influence project implementation. The study was anchored by stakeholder, resource-based views, and cybernetics theories. The study adopted a descriptive research design. The target population was 49 manufacturing companies from the industrial area of Nairobi City County. The targeted respondents were 294. The study used a stratified sampling method to ensure that all cases are well represented and a simple random sampling method to select the respondents. The sample size was 169 respondents. Data was collected using questionnaires and analyzed using descriptive statistics and regression analysis. The study established a positive and significant relationship between resource allocation, stakeholder participation, leadership support and communication on project implementation. The study concluded that allocating resources help managers bring together more productive and effective project teams and workgroups and enables them to appraise their schedules and easily estimate resource availability in real-time.

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Venkatesh, Renuka, Malathi and Umarani (2019) sought to identify critical factors influencing the resource allocation in Indian construction projects in the private and public sectors. Questionnaires were used to collect the data. The collected data was analyzed using the descriptive statistical method. The findings revealed that some of the critical factors: procurement of materials, the skill of employees, quality of materials, cost of the raw materials, are essential factors that influence resource allocation. The study concluded effective allocation of resources positively affects the projects' performance. Shihemi (2016) sought to establish how budgetary allocation and capacity building influence project performance under SFIC programme in Otiende Subcounty in Nairobi County, Kenya. The study utilized the Yamane formula to arrive at a sample size of 98 respondents and purposeful sampling was used to sample 10 respondents from the university administration. This study used primary data collected via a questionnaire and secondary data collected via published reports and other documents. The study found that budgetary allocation and capacity building influence project performance in a positive way.

Kathungu (2016) sought to investigate the effect of budget utilization on the financial performance of county government projects in Kenya. The study used a structured questionnaire for collecting data. The findings of the examination revealed that joint budget utilization, including the budgeted county expenditure to the budgeted county revenues, actual county expenditures to substantial county revenues and county resources to the county poverty index, had a positive influence on the financial performance of the projects within the counties. The study recommended that a properly structured budget composition, including experts, provide insights on the proper budgeting inclusions and consultations with a periodic update of the county capital structure and how to maximize well the input of donations and grants advanced. Shuqair and Abdel-Aziz (2018) conducted a study on efficient and strategic resource allocation for sustainable development in Jordan. Questionnaires were used to collect the data. The study results indicated that efficient and strategic resource allocation has a positive and significant effect on sustainable development. The study recommended that resources should be allocated according to the priorities and objectives concept. These priorities and objectives should always be determined according to the locals in the concerned area and in a way that is environmentally considerate, socially integrated and economically strengthening.

Asante and Zwi (2017) examined factors influencing resource allocation decisions and equity in the health system in Ghana. Data was gathered through semi-structured qualitative interviews with health authorities at national, regional and district levels and with donor representatives and local government officials. The data was analyzed using descriptive and inferential statistics. The study found that factors influencing resource allocation decisions and equity in the health system in Ghana include population size, poverty level, human resources and infrastructural developments. Most of the hospitals with areas with high population and poverty levels receive more allocations. The study concluded there is a need for a more transparent resource allocation system in Ghana based on needs, population size and poverty level.

2.3 Conceptual Framework

A conceptual framework is a diagrammatical representation that shows the relationship between dependent and independent variables. Figure 1 presents a conceptual framework

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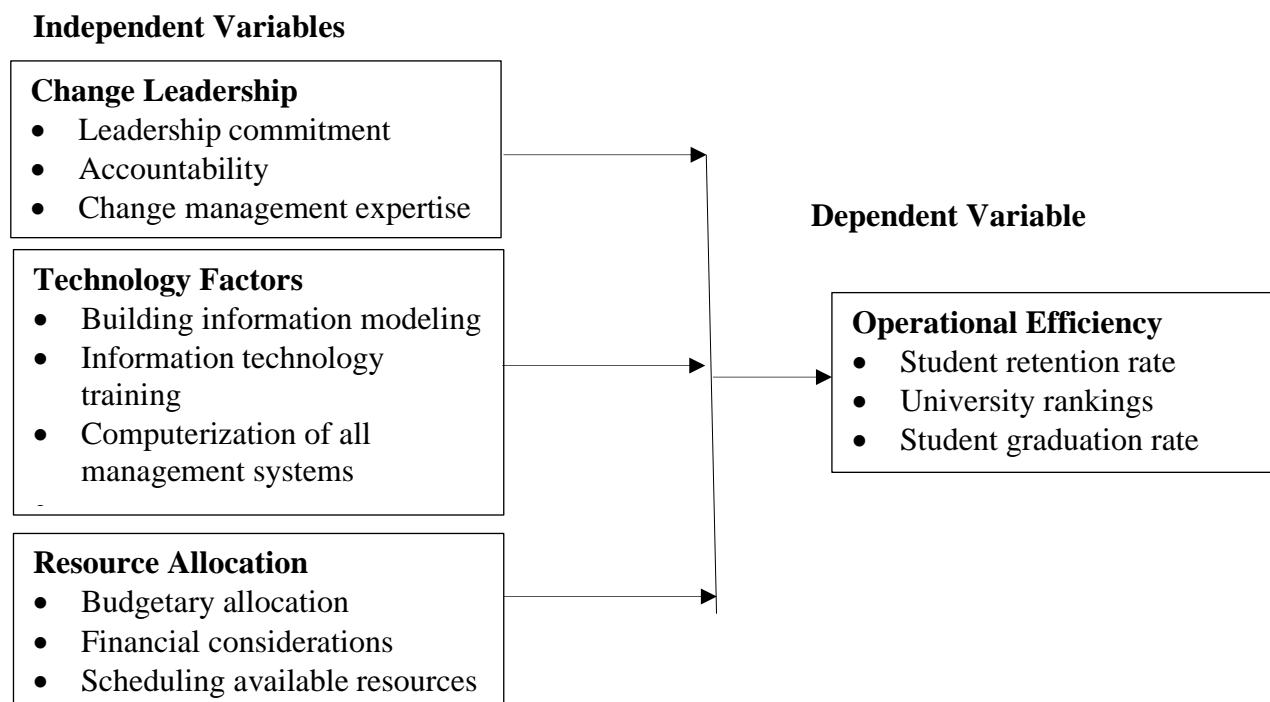


Figure 1: Conceptual Framework

3.0 Research Methodology

The study was a literature-based review. The conclusion and recommendations of the study were based on the deductions from the preceding studies. The study reviewed studies from various perspectives to ensure comprehensive information is obtained to make in-depth inferences.

4.0 Findings

The study found that the antecedents of change management can include change leadership, technology factors and resource allocation. The extent of the change leadership, technology factors and resource allocation can influence the direction of the change administration. A central idea of all change management is that no change ever happens in isolation and is forced by both internal and external factors. Successful change management relies on understanding, planning, implementing and communicating. No organization can afford to stand still due to many factors that influence daily operations. Change leadership, technology factors and resource allocation influence the operation efficiency of an organization. Change leadership includes identifying the right people accountable for overseeing and implementing the proposed changes. The change management leadership understands why the organization needs to change/critical purposes, the benefits of the shift in the organization, the impact on the employees and what will be required to achieve the change. The leadership is to ensure employees follow the change plans to prevent deviating from the change process. Change management leadership ensures they do not execute the planned change blindly since the operating environment is sometimes turbulent and

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unpredictable. The effectiveness of change leadership provides high leadership commitment, accountability and change management expertise. Change leadership tend to focus on organizing, monitoring and stimulating collaboration among employees.

Technological change has an impact on all organizations. The result of technological change for all organizations is a critical requirement for strategic planning in change management. The technological changes that have taken place in an organization have to be communicated to all employees to make them aware and thus can translate to higher organizational efficiency. The most significant role of change management is to have the desired impact from those changes. Technological change will force changes in essential managerial functions leading to more emphasis on planning, decision-making, control, and coordination. The technology factors include building information modeling, information technology training and computerization of all management systems. The introduction of the technology needs to be adopted when deemed to improve the users' efficiency and is easy to utilize and any changes to that technology need to be communicated to all. A complicated technology reduces the morale of the users and a lot of time is taken to understand it and, in the process, the users' performance reduces. The technological factors have a considerable effect on operation efficiency because even if an employee does not welcome the introduced technology, the probability of using it is high. Thus, the changes in technology influence change management. Organizations invest in technology to maximize efficiency. Adopting modern technology is expected to enhance any organization's efficiency positively.

Resource allocation is one of the critical determinants of change management. The resource allocation can be based on budgetary allocation, financial considerations and scheduling available resources. Change management has to consider an organization's budgets much. The organization allocates financial resources for strategic planning implementation and provides for the proper utilization of available physical resources. Resource allocation includes having a mechanism to manage assets to make the best use of them during organizational changes. An organization plan ahead of the change process and the resource required to ensure that it determines the changes that need to be made and how long it will take to get them done. Resource allocation is important because it enables an organization's change to be implemented smoothly without delays. Resource allocation assign and schedules available resources are most effectively and economically possible to accomplish a particular project/ goal. Resources make organizations run effectively and this increases efficiency. Allocating resources can be challenging, but an organization can acquire the appropriate help through careful practice. It is not easy to implement a strategy when resources are not available. Resources can include human resources, time frame, remuneration, and finances in terms of sufficient funds. Organizations with managers familiar with the firm's resource capability will outperform other organizations by increasing the organization's efficiency.

5.0 Conclusion

It is concluded that the antecedents of change management can include change leadership, technology factors and resource allocation. The extent of the change leadership, technology factors and resource allocation can influence the direction of the change administration. Change management has a positive effect on operational efficiency. The operation efficacy of the

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universities can include student retention rate, university rankings and student graduation rate. No organization can afford to stand still due to many factors that influence daily operations. Change leadership, technology factors and resource allocation influence the operation efficiency of an organization.

Change leadership includes bringing together the resources allocated toward meeting the change efforts. The effectiveness of the change leadership has a positive impact on the operation efficiency. The change management leadership understands why the organization needs to change/critical objectives, the benefits of the change to the organization, the impact on the employees and what will be required to do to achieve the change. Change management leadership ensures they do not execute the planned change blindly to avoid resistance. The change leadership is to develop strategies and policies that can be used for any strategy implementation. The effectiveness of change leadership provides high leadership commitment, accountability and change management expertise.

Technological change has an impact on all organizations and impacts operational efficiency positively. Technological change is a critical requirement for strategic planning in change management. The technological changes have to be communicated to all employees to make them aware. The most significant role of change management is to have the desired impact from those changes. Technological change will force changes in essential managerial functions leading to more emphasis on planning, decision-making, control, and coordination. The technology factors include building information modeling, information technology training and computerization of all management systems. The introduction of the technology is deemed to improve users' efficiency, thus increasing operating efficiency. The technological factors have a considerable effect on operation efficiency because even if an employee does not welcome the introduced technology, the probability of using it is high. Adopting modern technology enhances efficiency if it is well-welcomed by all in an organization.

Resource allocation is one of the critical determinants of change management and influences operation efficiency positively. The resource allocation can be based on budgetary allocation, financial considerations and scheduling available resources. Resource allocation includes having a mechanism to manage assets to make the best use of them during organizational changes and this can spur efficiency in the short and long term. Resource allocation assign and schedules available resources are most effectively and economically possible to accomplish a particular project/ goal. The communication of resource allocation makes organizations run effectively. The effectiveness of resource allocation increases the operational efficiency of an organization since the funds are used based on the budgets.

6.0 Recommendations

Based on the study's findings, it is recommended that change leadership in the universities needs to understand why the organization needs to change/critical purposes. The administration also needs to examine the impact on the employees and what will be required to do to achieve the change. The leadership needs to be practical to ensure employees follow the change plans to prevent deviating from the change process. Change management leadership ensures they do not

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execute the planned change blindly since the operating environment is sometimes turbulent and unpredictable. The leadership needs to understand when to change or avoid change and be goal-oriented, decisive and competitive. The change management can commence with leaders' consultation with employees and considering their views. The management has to develop a change management plan that guides the workers on which path to take to reach a permanent change.

The employees need to be enlightened on the organization's technological changes to ensure that changes are implemented thoroughly and smoothly. Everyone in the organization should understand the technological change to be well executed. The introduction of the technology needs to be adopted when deemed to improve the users' efficiency and is easy to utilize and any changes to that technology need to be communicated to all. Technological changes need to influence change management. Organizations have to invest in technology if they want efficiency to be maximized. The adoption of modern technology is expected to enhance efficiency.

The universities need to allocate financial resources for strategic planning implementation. There is a need to provide for the proper utilization of available physical resources. An organization should plan ahead of the change process and the resource required to ensure that it determines the changes that need to be made and how long it will take to get them done. Resource allocation should assign and schedule available resources most effectively and economically possible to accomplish a particular project/goal. The change management can check the budgetary allocation before choosing a strategy. It is not easy to implement a strategy when resources are not available. Resources can include human resources, time frame, remuneration, and finances in terms of sufficient funds. Resources have to be available for strategy implementation.

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