Implementing Digital Transformation in Public Tertiary Institutions: An Exploration of John Kotter's Change Management Model

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Abstract

This study explores John Kotter's Change Management model as guide for the implementation of digital transformation initiative of tertiary institutions. It analyses to what degree a well-thought-out change management can overcome resistance, offer support and stakeholder engagement, and facilitate sustainable rollout of digital platforms and solutions into the workings and activity frameworks of tertiary institutions. The study presents Kotter's eight-step model of conceptual and theoretical frameworks for digital HEIs' transformation. The study combines literature and empirical submissions to highlight technology-induced change management gaps in the universities, polytechnics and colleges of education, especially in the developing societies where infrastructure shortages, limited funds, and resistance hinder the implementation of digital initiatives. The study brings to the forefront the need for tertiary education to focus beyond technological innovations and embrace a systematic and explicit organizational change practices that involve digital coalition, competence development and enhancement, stakeholders' support and engagement, and digital enculturation. Incorporating the Kotter's model, tertiary education can overcome resistance, develop resilience, competitiveness, and quality of education in the digital era.

Keywords: *Digital Transformation, Change Management, Kotter's Eight-Step Model, Tertiary Institutions*

Background to the Study

Today, more than ever in the history of man, digital innovation and technology cut across almost every facet of human and economic activities. Recent development and advancement in technologies, the attendant adoption and integration of digital technologies such as internet, mobile devices, cloud computing, data analytics, media technologies are responsible for the revolution in how organizations carry out their activities and create values for products or services. The changes in organisations through digital technology use is opening up opportunities for creativity, improved work processes, flexibility and enhanced service delivery.

Digitalization cuts across different organizational, social, and economic domains, opening up and taking advantage of novel linkages, potential and possibilities between organisations and production actors (Rachinger et al., 2019). It is reshaping organisations, businesses and environments with new possibilities, potential and constraints (Skog, 2019), while prompting organisations of all kinds to review, reimagine and recalibrate existing methods, infrastructure and approaches to deal with the emerging digital landscape in providing products and services (Berente, et al, 200; Zaoui & Souissi, 2020).

The higher education dynamics, with evolving organs, expectations and working dynamics, make digital transformation an imperative to institutional offerings. The integration of digital technologies into teaching, research, administrative and operational activities is an indication of evident restructuring of higher educational institutions, their business models, service platforms and operations (Morakanyane, et al, 2020). In the universities, especially in the developing societies, where fewer infrastructure and resources hamper educational progress, such restructuring is aimed at augmenting the effectiveness of educational processes and products, refinement of institutional efficiency, and innovation and creativity promotion (Skog, 2019).

The transition of tertiary education into a digital-driven environment is fraught with issues like the mindset of the institutional leaders, coordination of drivers of change, possible resistance of teaching and non-teaching staff, infrastructural investment, and acquisition of new skills and capacities by the faculty members and other staff. (Dhawan, 2020). Digital transformation is multi-dimensional in nature with more than the just technological upgrades in the form of intranet and internet facilities, computers at fingertips, learning management system, etc., it demands a comprehensive change management approach with the that addresses the availability of contemporary tools, staff orientation alignment and capacity enhancement, and a blend of behavioural, cultural and organizational dynamics for efficient and lasting transformation (Belyh, 2019).

As Kotter (1996) posits, successful organizational transformation requires conscious planning, stakeholder-driven goals, and long-term execution to actually infuse the new systems into culture. Digital transformation thus in the case of universities, polytechnics, technical institutes and colleges of education requires the application of a formal change management approach as a

driving success factor. Applying this view to higher education highlights the need to approach digital transformation as a whole organizational development rather than as solitary technological effort that calls for faculty engagement, leadership commitment, and a shared vision for institutional development and quality deliverable.

Motivation for the Study

Most organizations including universities and other higher educational institutions implement digital solution as a response widespread adoption of digital tools and platforms to leverage on digital possibilities and opportunities for value creation and stakeholders' satisfaction. The attendant changes occasioned by digital transformation initiatives are often approached primarily as matters of technological adoption rather than organisation-wide change requiring structured implementation and management framework.

While digital technologies are increasingly being deployed for classroom teaching, collaborative and personalized learning, research, administration, decision support, and communication between departments, faculties and organs of tertiary institutions, the intersection of digital transformation and change management model remains insufficiently explored. The increasing adoption of digital technologies primarily leads to heightened research interest and focus on digital transformation, with few of such studies on how change management frameworks can be systematically applied to ensure effective academic and administrative activities, operational efficiency, and institutional goal achievement in the public higher education context (Holmes et al., 2019). There is an obvious skew of available empirical studies on digital transformation to the private sector, with relatively little focus on public-sector institutions. The unique leadership structures, funding models, and stakeholder expectations, which make change dynamics of public enterprises distinct from those of private organizations present a research gap which needs to be addressed.

The present study approaches digital transformation of public tertiary institutions as a change management issue rather than purely technological. It explores the John Kotter's change management framework as a scalable and practical model for guiding digital transformation efforts of public university, polytechnics, etc. especially in the developing societies, like Africa nations. The aim is to demonstrate how John Kotter's change model can be applied to help the

higher educational institutions in navigating resistance, facilitating staff engagement and disposition, and ensuring effective integration of digital technologies into academic and administrative components with a view to enhancing both educational outcomes and organizational resilience.

Literature Review

Digital Transformation

Digital transformation refers to the strategic adoption of digital technologies to reconfigure organizational models, processes, and value delivery. In the private sector, it is often described as leveraging new technologies to remain competitive and sustain business performance (Berman, 2012; Mergel et al., 2019). In the public sector, however, the term extends to creating new ways of working with stakeholders, restructuring service delivery, and fostering new forms of institutional relationships (European Commission, 2013).

Digital transformation is a term that captures technological possibilities used to transform business and organizational strategies to create more value, deliver quality and effective services and satisfy stakeholders, customers or clients (Schallmo & Williams, 2018). It is a deliberate and gradual building of an organisation's operational, tactical and strategic actions towards work practices and processes, business strategies and style (Mazzone, 2014) in the continuous engagement of organisations within cycle of digital innovation, processes and outcomes to augment or design product offerings and services (Skog, 2019; Vaska et al., 2021).

Two propelling factors of digital transformation are technology diffusion and digital disruption (Riemer & Johnston, 2019; Baiyere & Hukal, 2020). Technological diffusion describes how markets and industries gradually adopt new technologies, shaping production, consumption, and organizational practices (Stoneman & Battisti, 2010). Digital disruption has two theoretical bases: "*disruptive innovation*, i.e., innovations that lead to the decimation of a rival entity, either a product, a company or even an entire industry and *digital innovation*, re-arranging or re-combining digital technology to create new outputs" (Baiyere & Hukal, 2020). Digital disruption depicts the evolving digital innovation changes, involving the separation of blending of processes, tools and resources or generating new ones for value creation (Skog et al., 2018). It is also described as "the alteration of a domain-specific paradigm due to the digital attributes of an

innovation or changes to the established modalities of operation or functioning in a given context due to the influence of digitalization" (Riemer & Johnston, 2019).

Ultimately, digital transformation is not an end in itself but a journey toward digital maturity, the point at which an organization demonstrates sustained capacity to integrate and optimize digital tools for strategic advantage (Gurbaxani & Dunkle, 2019; Ifenthaler & Egloffstein, 2020). With this, digitally matured organisations stand to benefit enormously from automation and decentralized functions, reduced costs, and value creation (Carla, 2020).

Digital Transformation in Higher Education

In the context of tertiary institutions, digital transformation encompasses "a broad spectrum of initiatives, such as the adoption of online learning platforms, the use of data analytics to inform decision-making, the implementation of automated administrative processes, and the enhancement of digital literacy among students and educators (Dhawan, 2020; Kaputa et al, 2022)". The COVID-19 pandemic experience and the post-covid initiatives further accelerated the urgency of these changes, highlighting the necessity for institutions to be agile and resilient in the face of unprecedented disruptions (Al-Lily et al., 2020; Dhawan, 2020).

In this digital age, higher education institutions implement digital solutions to facilitate processes and procedures being utilized for their offerings with a view to creating value for the services they render and meeting up with the global expectation of providing memorable and convenient learning experiences to students, fulfilling teaching experience to educators and meaningful job encounter to other categories of personnel (Belenko et al., 2020). The importance of digital resource utilization stems from the stakeholders' reliance on information assets - students need information on course registration, examination; educators and instructors need information for knowledge acquisition, curriculum delivery and knowledge management, academic councilors may need up-to-date transcripts; bursary staff may need information on current and past budgetary expenses to determine fee structures, scholarship funds; academic managers may need access to payroll for processing salaries etc. (Sastry, 2020). Thus, digital transformation in tertiary institutions is imperative to modernize educational delivery, enhance operational efficiency, and meet global educational standards (McCarthy, 2023). Effective information management results from the integration of the various functional systems into one overall

information system and how people interact with information, the institution's information environment and the way people use information (Davenport, 1997 as cited in Siti & Hamrila, 2009).

The integration of digital technologies such as learning management systems, virtual classrooms, and digital libraries are to significantly improve the quality of education by providing personalized learning experiences, increasing student engagement, and facilitating access to a vast array of resources (Gkrimpizi et al., 2023; Alenezi, 2023). It streamlines administrative processes, reducing bureaucracy and operational costs, thus enabling institutions to focus more on their core academic functions. Bukukbaykal (2015) posit that advancement in technology has created new opportunities and challenges in the field of education. Tongkaw (2013) discovered that most higher education institutions are drastically integrating technology use in several activities including administration, teaching, learning and research. Effective management in tertiary educational institutions requires information that are obtained, processed and managed. Raw data and information in various forms comes from various corners on regular basis and generally educational institutions use various automated tools to process the same.

Application of digital tools and resources in higher education institutions not only redefined activities in teaching, learning and research but also in information sourcing, administrative services, management of students' records, as well as communication among teachers, students and others (Bello & Johnson, 2011). Higher education institutions implement digital transformation projects for the purpose of enhancing their core purposes of teaching and learning and for effective information management and knowledge sharing (Misra et al., 2018).

According to Krishnaveni and Meenakumari (2010), the needs of the students as customers of higher education that trigger digital transformation of the sector are admission enquiry, online admission application, registration and enrolment, hostel accommodation details, course allotment and availability of information such as courseware, lecture schedule, course materials in electronic form, attendance monitoring, online access to performance details, etc. Digital technologies and platforms such as Learning Management Systems (LMS), virtual classrooms, and digital libraries were found to offer flexible learning environments that cater for diverse student needs and learning styles, facilitate personalized learning experiences, increase student

engagement, and improve academic performance, thus making education more accessible and effective (Sangrà et al., 2012).

The growing demand for digital skills of would-be employees in the enterprising labour market, point to the for tertiary institutions to embrace digital technologies for the teaching and learning processes, offer up-to-date curricula, utilize innovative teaching techniques, and foster essential skills such as digital literacy, critical thinking, and problem-solving (World Economic Forum (2020). According to Oliveira and Martins (2011), the adoption of information technology in public universities contribute to improvements in admissions, registration, and record-keeping and other administrative processes that are critical to achieving increased productivity and cost savings.

According to Bălăcescu and Vasilescu (2014), universities and other tertiary institutions with relevant digital capabilities in terms of people, technology, process and platforms are perceived as more prestigious and innovative. Such institutions lead digital innovation of tertiary ecuacation and often embark on innovative digital solutions, attract more research-oriented staff and students, secure grants and have good relationship and partnership with industry actors and leaders

Change Management

While a change is the project, initiative or solution being introduced in the organization to improve the way work gets done, solve a problem, or take advantage of an opportunity (Creasey, 2022), change management as the application of a structured process and set of tools for leading the people side of change to achieve a desired outcome (Hiatt, 2006;). It encompasses the systematic approach to transitioning individuals, teams, and organizations from their current state to a desired future state (Wang & Sun, 2015) and involves the implementation of processes, tools, and techniques to manage the human side of change, addressing resistance, fostering acceptance, and ensuring successful outcomes (Cameron & Green, 2015). The purposes are to minimize disruptions, maximize benefits, and optimize performance during periods of transition (Belyh, 2019).

The blend of structured change management approach and competence is key to effective implementation of any meaningful digital transformation efforts that take cognizance of the entrenched institutional culture, people disposition and alignment of goals in tertiary institutions. Such change approach should particularly capture how resistance will be addressed, facilitating buy-in of institutional leaders, building momentum, developing human competence, ensuring effective change communication and promoting continuous improvement, stakeholder engagement, and organizational culture alignment to facilitate smooth and effective change implementation (Vial, 2019).

There is empirical evidence of rapid adoption of digital tools in higher educations. But most of these studies focus only on the technological aspect of change and not on the human and organizational aspects of change. There are few empirical studies that explore how systematic change management frameworks can ensure digital transformation in higher education. Holmes et al. (2019) argue that this divide is essential since public organizations possess unique governance, cultural, and financing realities compared to private enterprises.

Theoretical Application of John Kotter's Change Management Model to Digital Transformation of Public Tertiary Institutions

Numerous models of change management are available for implementing and navigating organisational changes, and offering frameworks to address the complexities of change and ensure successful outcomes. Similarly, many theories including Disruptive Innovation Theory , Diffusion of Innovation Theory, Technology Adoption Models, etc. are often applied in explaining how digital technologies displace traditional practices and how new technologies spread through populations. While these theories are valuable, they often prioritize technology adoption over organizational change dynamics. In contrast, John Kotter's change management framework, directly addresses the people side of transformation, making it a stronger fit and thus utilized for the current study.

John Kotter's (1996) model is an eight-step change management framework, renowned for its structured and comprehensive approach to organizational change, which offers a valuable framework for guiding change efforts such as digital transformation. Within the context of higher education, Kotter's framework provides a useful guide for implementing digital transformation,

where institutional culture, resistance, stakeholder diversity, bureaucratic processes and resource constraints often pose significant challenges to digital initiatives.

The eight phases – "*Create sense of urgency, build guiding coalitions, develop a vision and strategy, communicate the vision, empower broad-based action, generate short-term wins, consolidate gains, and anchor new approaches within the organizational culture*" were designed and to help organisation effectively implement changes (Kotter, 1996). The applicaton of Kotter's change model to digital transformation of public higher educational institutions of developing countries will address the uniqueness of these institutions, possible limitations and how to how to take advantage of digital offerings and possibilities for academic, administrative, and operational processes and outcomes.

Step 1: Establishing a Sense of Urgency

The starting point is building awareness that digital transformation is not optional but essential for institutional survival and growth. Digital change leaders in tertiary institutions can create urgency by highlighting the risks of inaction, such as declining competitiveness, student dissatisfaction, and inefficiencies in administration, while also showcasing opportunities like enhanced teaching, data-driven decision-making, and global visibility (Mitcheltree, 2023; Pollack & Pollack, 2015).

Creating urgency can be done by emphasizing the trend in external pressures such as the rapid growth in technology, increasing competition from other institutions, and changing expectations from students, faculties and others (Uyen, 2022). Presenting trends and statistics that reveal the way technology is revolutionizing learning across the globe can be used to emphasize the threat of lagging behind unless digital transformation is implemented. Further, digital change agents in the institutions can identify internal problems such as outdated infrastructures, inefficient administrative mechanisms, and a lack of ability to provide modern learning experiences that point to the need for digital transformation (Gkrimpizi et al., 2023).

Engaging key stakeholders like faculty, staff, students, and administrative personnel is essential to obtain buy-in from them. Change leaders should have effective communication and strong interactions with stakeholders on how digital transformation can boost teaching and learning

experience, operation, and overall institutional performance. doing this may feature personal stories and feedback of successful transformation in other institutions (Huong & Yokozawa, 2023). The essence of this step is to ensure that everyone understands the need for digital changes and how successful digital transformation could be mentally and physically rewarding. This will make them to be more included to support and participate in the process of transformation.

Step 2: Forming a Guiding Coalition

Building urgency must then be followed by building a coalition of change agents who are willing and committed to drive the change. The change agents will be able to define the change, dispel fear, and help in generating momentum across the institution. The coalition must comprise individuals who not only possess positional power but also the knowledge and reputation to initiate and maintain the change (Kang et al. 2020). These could be vice-chancellor or rector, provost, deans of faculties, ICT center directors, chief record officer, information officers, and early technology-adopting faculties. Representation in the form of authoritative voices among students can also ensure that the transformation is tailored to the hopes and requirements of the end beneficiaries of the services of the institution. Their mutual legitimacy and credibility help in reducing resistance, articulating shared goals, and sustaining momentum (Kang et al., 2020).

The steering coalition must work together and create a shared vision, outlining the desired future state of the institution and the benefits that digital transformation will bring to students, faculty, and staff for digital transformation. An inspiring clear vision helps in aligning effort to provide collective leadership, which is critical in identifying and defeating resistance, coordinating available resources, and ensuring that the required momentum for change is sustained among change agents.

Step 3: Developing a Vision and Strategy

Having a clearly articulated vision on digital transformation helps to enable alignment of activities and communicates the direction of change (Sittrop & Cheryl, 2021). The vision should ultimately define the reason for digital change or the adoption of a digital solution (Appelbaum et al., 2012), for instance, enhancing learning achievements, enhancing administrative efficiency, and facilitating innovation. This could involve, for example, creation of a digital transformation vision statement, and shared throughout the institution; and creation of a strategic plan with explicit

objectives, timelines, and resource commitments for digital initiatives. The vision itself should be an understandable, concise, and motivational statement of what the future will be when digital transformation has been accomplished in full. It should motivate and excite the stakeholders by framing the benefit and positive effects of the change.

Step 4: Communicating the Vision

Effective communication of the strategy and vision that goes into the implementation of the digital transformation is critical (Kang et al. 2020). This will involve communicating with stakeholders, explaining in simple language how the digital transformation supports the mission and values of the institution, as well as how it will serve students, staff, and faculty. Through the aid of several channels of communication, including company memos, company newsletters, and social media, it is possible to make the message spread through a large population and create a shared sense of purpose. This will help in creating an effective digital transformation roadmap inclusive of stakeholders and making change smooth (Ahmad et al., 2022). The goals should be aimed at increasing learning chances, operational efficiencies, accessibility, digital literacy, etc. Communication should emphasize alignment with institutional values and be such that the advantages for students, staff, and faculty are substantive.

Step 5: Empowering Broad-Based Action

Encouraging sufficient and desired involvement in digital transformation projects depends on "how obstacles that have been identified and predicted are removed and how those who are responsible for spearheading the change are empowered to take initiative (Kang et al., 2020)". This entails addressing opposition to change head-on and making sure sufficient resources and assistance are accessible for use (Uyem, 2022). For example, putting in place extensive training and development programmes to improve faculty and staff's digital literacy, providing strong technical support and resources to facilitate the adoption of new digital technologies, and creating an atmosphere that encourages experimentation and innovation while welcoming learning from failures. Initiatives for digital literacy, faculty development programmes, and rewards for creativity can all promote involvement.

Step 6: Generating Short-Term Wins

Early victories create credibility and maintain enthusiasm for change. Short-term victories offer a means to build momentum and demonstrate the value of digital transformation (Kotter, 1996). The victories should be visible, unambiguous, and clearly linked with the change initiative (Vaska et al., 2021). Change agents of digital transformation in higher education may set up pilot projects exemplifying the value of digital technologies, i.e., a new learning management system or web-based student services portal, marking and promoting early wins to build confidence and support for further changes, and praising and rewarding individuals and teams who achieve these early wins. Celebrating such wins and rewarding contributors entrenches commitment to the overall change agenda.

Step 7: Consolidating Gains and Producing More Change

Maintaining digital change requires building on the momentum of short-term wins and victories (Kotter, 1996). This entails enhancing procedures on a constant basis, growing projects that are effective, and integrating modifications into the institutional culture (Sittrop & Cheryl, 2021; Uyen, 2022). Here, efforts and attention should be geared towards expanding the scope of successful pilot change projects to include more areas of the institution, continuously monitoring and improving digital initiatives based on performance and feedback, and promoting continued innovation and adaptability of staff to keep up with technological advancements.

Step 8: Anchoring New Approaches in Culture

For the digital solutions entrenched in the transformation initiative to endure, digital practices must become ingrained in institutional culture and well embedded in operational manuals of all organs. This entails "aligning reward systems with digital adoption, including innovation into evaluation criteria, and incorporating digital competences into faculty development (Appelbaum et al., 2012)". The institution will develop in tandem with technology advancements and culture of continuous learning and flexibility will endure.

Conclusion

Management of digital technology and transformation in process terms within tertiary institutions is both advanced and inevitable for the sustainability and pertinence of institutions. The rapid velocity at which the global knowledge economy is developing, along with shifting demands from

society, employers, and students, requires universities and colleges to embrace digital transformation not only as a technical upgrade but as an organisational strategy shift.

Aside from its conceptual application, Kotter's model emphasizes the human element of change with the argument that only when people, as opposed to mere systems, are motivated, capable, and committed to embracing new ways of operations, can change be sustained. For universities in low-resource contexts, this model is particularly valuable as it provides a framework for balancing scarce resources, stakeholders, and technology opportunities in a way that facilitates innovation, diversity, and institutional excellence.

Tertiary institutions need to deliberately adopt systematic models such as Kotter's Change Management Model to spearhead digital transformation. This will ensure technological integration is not viewed as an ad-hoc initiative but as a strategic, institution-wide change process. Besides the implementation of technologies, institutions need to incorporate digital practices into policies, reward structures, performance assessment, and day-to-day activities. Cultural alignment in these policy areas will ensure sustainability and continuing improvement.

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