CHAPTER SIX

INNOVATIVE METHODS OF MANAGING TERTIARY INSTITUTIONS

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ABSTRACT

The management of tertiary institutions has undergone significant transformation through innovative methods in recent years. This study provides an overview of key innovative management approaches that have shaped the landscape of higher education administration. The integration of artificial intelligence (AI) has streamlined administrative processes and enhanced student services through AI-powered chatbots. Data-driven decision-making using big data analytics has facilitated evidence-based strategies in enrollment management, resource allocation, and student success prediction. Lean management principles borrowed from industry have optimised operational efficiency and reduced waste in tertiary institutions. Digital transformation strategies, including cloud computing and online learning platforms, have improved accessibility and collaboration while supporting remote learning initiatives. Stakeholder collaboration involving faculty, students, industry partners, and policymakers has fostered innovation and inclusivity in management practices. Continuous professional development programmes for leadership have promoted strategic thinking and adaptability among educational leaders. These innovative management methods are essential for addressing challenges, driving sustainable growth, and ensuring quality education delivery in tertiary institutions. The study concludes that by embracing innovation, leveraging technology, nurturing partnerships, fostering student success, and upholding ethical standards, tertiary institutions can fulfil their mission of knowledge creation, dissemination, and societal impact in a rapidly evolving world. One of the recommendations was to integrate sustainability principles into management strategies, operations, and decision-making processes.

KEYWORD: Innovative Method and Tertiary Institution

INTRODUCTION

Education is the greatest tool for enhancing the development and sustainability of nations. Education can enhance the sustainable development of nations if it is functional (Asiyai, 2019). Stakeholder engagement, operational efficiency, financial sustainability, and instructional quality must all be carefully balanced while managing postsecondary

institutions. Technological innovations, globalisation, altering student demographics, and evolving societal expectations have all contributed to a remarkable evolution of higher education in recent years. Thus, the intricate problems that contemporary universities and colleges encounter frequently prove too much for conventional management techniques to keep up with. The concept of an innovative method of management for tertiary institutions embodies a proactive approach that integrates cutting-edge strategies, tools, and practices to address these challenges effectively. It goes beyond the conventional frameworks of administration and governance, embracing creativity, adaptability, and continuous improvement as core principles. According to Sauphayana (2021), innovation in educational management in institutions of higher learning has become increasingly popular worldwide. The innovation and improvement of current methods, structure, approach, or process management, unique to the most significant level of development, contributes to the achievement of organisational objectives. In educational innovation, methods and strategies of teaching and learning are challenged to support the success of teachers and students (Oluwuo, 2021).

CONCEPT OF TERTIARY INSTITUTION

Tertiary education is more commonly called postsecondary education or higher education. According to the University of the People (2024), a tertiary institution means any academic pursuit beyond a high school education. Tertiary institutions provide advanced academic and professional training (Altbach, 2019). These institutions play a crucial role in shaping the intellectual and professional development of individuals, contributing to the advancement of knowledge and the betterment of society.

Because they provide options for postsecondary education beyond secondary education, tertiary institutions are essential to the educational landscape. These establishments, which include colleges, universities, and technical schools, offer a variety of professional and academic curricula customized to fit the requirements of students seeking advanced degrees. The value of specific knowledge and skill development in preparing people for a range of jobs and societal roles is highlighted by postsecondary education. According to UNESCO (2015) tertiary education serves as a crucial stage in lifelong learning, fostering intellectual growth, critical thinking, and innovation. It offers a platform for deeper exploration of academic disciplines, research endeavours, and practical training, thereby equipping students with the competencies needed for the workforce or further academic pursuits. Tertiary institutions typically offer undergraduate and postgraduate degrees across a wide array of fields, ranging from liberal arts and sciences to engineering, business, and healthcare. According to Okono (2023), students who study in tertiary institutions can be referred to as undergraduates or postgraduates, depending on their programmes.

CLASSES OF TERTIARY INSTITUTION

According to Altbach (2019), tertiary institutions can be broadly classified into several types, which include:

- **Universities**
Universities are the most well-known and comprehensive type of tertiary institution. They typically offer a wide range of academic programmes, from undergraduate degrees to postgraduate studies, including masters and doctoral programmes (Altbach, 2019). One of the most effective characteristics of universities as a type of tertiary institution is the university library, which is the Centre for research material storage. (Okon, Bassey, Jato,

2023)

- ### Colleges

Colleges are a prevalent category of postsecondary educational establishments, typically emphasizing undergraduate education and providing bachelor's degree courses. In addition to offering a more comprehensive education, colleges may specialize in particular academic fields like business, engineering, or liberal arts.

- ### Polytechnics and Technical Institutes

Technical and polytechnic schools are postsecondary establishments that prioritize applied and vocational education, offering students real-world training and skills that are applicable to the workplace. These schools frequently provide bachelor's degrees in subjects like applied sciences, technology, and engineering in addition to diploma and certificate programmes.

- ### Community colleges and junior colleges

In addition to two-year associate's degree programmes and vocational and technical training, community colleges and junior colleges are postsecondary educational establishments. These establishments frequently act as a link between secondary education and four-year colleges, enabling students to finish their first two years of study at a lower cost.

- ### Vocational and Technical Schools

Vocational and technical schools are tertiary institutions that focus on providing specialised, job-oriented education and training. These schools offer certificates, diplomas, and sometimes associate's degrees in fields such as healthcare, skilled trades, information technology, and other applied disciplines.

- ### Online and Distance Learning Institutions

According to Okono and Enang (2020), learning is an act of gaining experience, knowledge, skills, and values. In recent years, the landscape of tertiary education has expanded to include online and distance learning institutions, which offer flexible, technology-enabled educational opportunities. These institutions cater to students who may not be able to attend traditional, campus-based programmes due to geographical, personal, or professional constraints.

RESOURCES IN TERTIARY INSTITUTION THAT NEEDS TO BE MANAGED AND CONTROLLED

In order to ensure academic quality, it is good to encourage operational efficiency, and guarantee sustainable growth. It is obvious that tertiary institutions must effectively manage and regulate their resources. Effective control mechanisms and strategic management are necessary to maximize the institution's overall effectiveness and optimize its many resources, which include financial, human, material, time, and technical resources. Key assets in higher education that require management and oversight include the following:

HUMAN RESOURCES
CONCEPT OF HUMAN RESOURCES

The group of individuals who work for a company, industry, business sector, or economy is referred to as its "human resource." The knowledge and abilities that people possess, or human capital, is a more limited notion. Kenton (2024) defined human resources (HR) as the division of a business that is charged with finding, recruiting, screening, and training job applicants. It also administers employee benefit programs. Soto (2022) mentioned that human resources, often referred to as HR, encompasses all of the activities related to the ongoing administration of current employees.

INNOVATIVE WAY TO MANAGE HUMAN RESOURCES IN TERTIARY INSTITUTION

Managing human resources in tertiary institutions requires innovative approaches to address the diverse needs of faculty, staff, and students while aligning with the institution's goals and values (Su, 2021). Here are some innovative strategies:

- **Flexible Work Arrangements:**
Introduce flexible work options such as telecommuting, compressed workweeks, or job sharing. This accommodates diverse work styles, promotes work-life balance, and increases employee satisfaction.

- **Peer-to-Peer Mentoring Programmes:**
Establish mentoring programmes where experienced faculty or staff mentor newcomers. This fosters knowledge sharing, professional development, and a sense of community within the institution.

- **Data-Driven Decision Making:**
Utilize data analytics to assess HR metrics such as employee engagement, turnover rates, and training needs. Insights from data can guide strategic HR decisions, ensuring resources are allocated efficiently and effectively.

- **Cross-Functional Collaboration:**
Encourage collaboration between departments and disciplines to facilitate interdisciplinary research, teaching, and administrative projects. This promotes innovation, enhances learning experiences, and breaks down silos within the institution.

CHALLENGES TO MANAGE HUMAN RESOURCES IN TERTIARY INSTITUTION
Managing human resources in tertiary institutions presents various challenges that require careful consideration and strategic planning. Here are some common challenges:

- **Faculty Retention and Turnover:**
High turnover rates among faculty members due to factors such as limited career advancement opportunities, heavy workloads, and dissatisfaction with institutional support can disrupt continuity in teaching and research (Feldman & Turnley, 2018).

- **Demographic Changes:**
Tertiary institutions must adapt to demographic shifts, including an ageing workforce, generational differences in work preferences, and increasing diversity among students and staff (Milkovich & Boudreau, 2019).

- **Workload Management:**

Faculty and staff often face heavy workloads, balancing teaching responsibilities, research commitments, administrative duties, and service obligations, leading to burnout and reduced job satisfaction (Bentley, 2020).

- **Changing Regulatory Environment:**

Tertiary institutions must comply with evolving regulations related to employment law, immigration policies, health and safety standards, and accreditation requirements, adding complexity to HR management (Kleiner & Chapman, 2018).

FINANCIAL RESOURCES
CONCEPT OF FINANCIAL RESOURCES

Within the context of personal, business, or governmental management, the concept of "financial resources" is a cornerstone that is essential to maintaining growth and stability. These resources cover a broad range of assets, money, and tools that people, companies, or governments use to pay their bills, spur economic expansion, and ensure their future. According to the University of York (2022), financial resources are the funds and assets that finance an organization's activities and investments. In simple terms, financial resources are the monies that keep a business operating, and there are several ways a business will raise and use its financial resources.

INNOVATIVE WAY TO MANAGE FINANCIAL RESOURCES IN TERTIARY INSTITUTION

The needs for high-quality research, education, and infrastructure are driving up pressure on tertiary institutions around the globe to manage their finances more efficiently. The complex difficulties colleges face are frequently too big for traditional approaches to financial management to fully handle. To improve financial sustainability and allocate resources optimally in tertiary education settings, novel methodologies present interesting alternatives.

One innovative approach involves leveraging technology to streamline financial processes and improve transparency. By implementing advanced financial management software and data analytics tools, institutions can gain real-time insights into their expenditure patterns, identify cost-saving opportunities, and allocate resources more efficiently. According to Patel & Brown (2024), strategic partnerships with external organizations present another avenue for tertiary institutions to diversify their revenue streams and access additional financial resources. Collaborations with industry partners, government agencies, and philanthropic foundations can offer funding opportunities for research projects, infrastructure development, and student scholarships. Innovative approaches to financial management offer promising avenues for tertiary institutions to optimize resource allocation, diversify revenue streams, and ensure long-term financial sustainability. By leveraging technology, forging strategic partnerships, adopting sustainable practices, and exploring alternative revenue models, universities can navigate financial challenges effectively while advancing their core missions of teaching, research, and community engagement (Smith & Johnson, 2023).

CHALLENGES TO MANAGE FINANCIAL RESOURCES IN TERTIARY INSTITUTION

Managing financial resources in tertiary institutions poses several challenges due to the complex nature of budgeting and expenditure in academic settings. Firstly, these institutions often face unpredictable revenue streams, relying heavily on tuition fees,

government funding, and research grants, which fluctuate from year to year. Another significant challenge is the rising costs of education, including expenses related to technology upgrades, faculty development, and compliance with regulatory requirements. These escalating costs can strain institutional budgets, leading to tough decisions regarding resource allocation and potentially impacting the quality of education and student support services. Furthermore, the increasing competition among tertiary institutions for funding and students exacerbates financial pressures, forcing institutions to innovate and differentiate themselves to attract resources and remain financially sustainable. Moreover, the global economic landscape and political factors can significantly impact tertiary institutions' financial stability (Jones, 2024).

Furthermore, the COVID-19 pandemic has introduced unprecedented challenges for managing financial resources in tertiary institutions. The sudden shift to remote learning necessitated investments in technology infrastructure and student support services, while revenue losses from reduced enrollment and cancelled events have strained budgets. Institutions have had to navigate uncertainties regarding future enrollment trends, international student recruitment, and fundraising efforts amidst the ongoing pandemic, adding another layer of complexity to financial planning and management (Jones, 2024).

MATERIAL RESOURCES
CONCEPT OF MATERIAL RESOURCES

The definition of material resources varies depending on context and perspective, encompassing both tangible and intangible elements that can be utilised or transformed for various purposes. Tatomir (2023) mentioned that the production of houses, appliances, vehicles, and other consumer products used on a daily basis all rely upon the use of material resources. Material resources consist of a combination of natural and manufactured products. Because the majority of manufactured products rely upon natural resources, products derived from nature, such as fossil fuels, stone, soil, wind, air, and solar energy, typically represent the main focus of studies of material resources. Material resources are different from work resources such as people and equipment, which use time rather than material to complete tasks (Ma, 2024).Resources can be conceptualized in two ways: substantively or relationally.

INNOVATIVE WAYS TO MANAGE MATERIAL RESOURCES IN TERTIARY INSTITUTION

Innovative ways to manage material resources in tertiary institutions encompass a range of strategies aimed at optimizing resource utilization and enhancing educational outcomes. The following are some innovative approaches to managing material resources in tertiary institutions, as noted by Osuji and Catherine (2021):

- **Asset Tracking Systems:**
Implementing digital asset tracking systems using RFID (Radio Frequency Identification) or IoT (Internet of Things) technology can help institutions monitor the location and usage of materials in real-time. This data can inform decision-making regarding resource allocation and prevent loss or misuse.

- **Green Initiatives:**
Adopting sustainable practices such as energy-efficient buildings, water recycling systems, and waste management programmes not only reduces costs but also minimizes the environmental impact of resource usage.

- **Vendor Partnerships:**

Establish partnerships with vendors or manufacturers for bulk purchasing, maintenance contracts, or equipment leasing. This can lead to cost savings, access to specialized expertise, and timely upgrades.

- **Collaborative Consumption:**

Encourage collaborative consumption initiatives such as equipment sharing platforms, where students and faculty can borrow or share items like textbooks, laboratory equipment, or technology devices.

CHALLENGES TO MANAGE MATERIAL RESOURCES IN TERTIARY INSTITUTION

As mentioned by numerous scholars, including Iyanda and Opele (2015), the following are some of the challenges to managing material resources in tertiary institutions:

- **Inadequate Funding:**

Insufficient funding is a significant constraint on effective material resource management in tertiary institutions. This can hinder the procurement of necessary equipment, materials, and infrastructure, ultimately impacting the quality of education and research.

- **Poor Infrastructure:**

Dilapidated infrastructure, including outdated equipment, libraries, and laboratories, can hinder research activities and findings. The lack of modern facilities and equipment can also lead to inefficiencies in resource utilization.

- **Inadequate Staffing:**

The shortage of skilled manpower to manage ICT equipment and facilities effectively can hinder the efficient use of resources and impact research activities.

- **Power Failure:**

Incessant power failures can disrupt research activities, rendering equipment dysfunctional and making it difficult to conduct meaningful research.

TIME RESOURCES
CONCEPT OF TIME RESOURCES

The importance of time resources or management lies in its ability to assign meaning to time, letting people make the most of their time. According to Lutkevich (2023), time management is the coordination of tasks and activities to maximize the effectiveness of an individual's efforts. Essentially, the purpose of time management is to enable people to get more and better work done in less time. Time and resources play a crucial role in decision-making processes. According to Le Boeuf and Shafir (2019), individuals tend to allocate time differently based on their perception of its scarcity or abundance. This perception can significantly impact their decision-making strategies, affecting everything from personal choices to professional commitments.

INNOVATIVE WAYS TO MANAGE TIME RESOURCES IN TERTIARY INSTITUTION

Managing time resources effectively in tertiary institutions is crucial for ensuring productivity, achieving academic excellence, and promoting a balanced work-life environment. Exploring innovative ways to manage time resources can lead to enhanced

efficiency, reduced stress, and improved overall outcomes within tertiary institutions (Kim & Park, 2022).

- **Integration of Artificial Intelligence (AI) in Management Systems:**

AI has revolutionized management processes in tertiary institutions. It streamlines administrative tasks, enhances decision-making, and provides personalized learning experiences

- **Implementing Lean Management Principles:**

Lean management principles borrowed from industry have found applicability in tertiary institutions.

- **Embracing Digital Transformation:**

Digital transformation strategies encompass cloud computing, mobile apps, and online learning platforms. This shift enhances accessibility, promotes collaboration, and supports remote learning.

- **Strengthening Stakeholder Collaboration:**

Collaborative management involving stakeholders such as faculty, students, industry partners, and policy makers foster innovation and inclusivity.

CHALLENGES TO MANAGE TIME RESOURCES IN TERTIARY INSTITUTION

Managing time resources in tertiary institutions poses unique challenges due to the dynamic nature of academic schedules, diverse student populations, and administrative responsibilities. Here is an exploration of these challenges:

- **Complex Academic Schedules:**

Academic schedules in tertiary institutions are complex, with multiple courses, seminars, and extracurricular activities overlapping. This complexity leads to difficulties in optimizing faculty and student time (Adams, 2020).

- **Faculty Workload and Time Allocation:**

Faculty members often face challenges in balancing teaching, research, and administrative responsibilities within limited time frames (Brown and White, 2019).

- **Student Engagement and Time Management:**

Students in tertiary institutions struggle with time management, balancing coursework, part-time jobs, and extracurricular activities (Lee, 2021).

- **Administrative Burden and Time Constraints:**

Administrative staff in tertiary institutions often deal with a high volume of tasks, including admissions, financial aid, and campus logistics. This administrative burden can lead to time constraints and inefficiencies.

- **Technology Integration and Time Management:**

While technology offers tools for efficiency, its integration can also pose challenges in terms of training, maintenance, and compatibility issues (Kim, 2022).

TECHNOLOGICAL RESOURCES
CONCEPT OF TECHNOLOGICAL RESOURCES

Technological resources mean any and all technologies that produce, manipulate, store, communicate, or disseminate information. These resources include, but are not limited to, wired and wireless data, video and voice networks, computers for processing information, and other devices for storing and archiving information. Murungi (2015) mentioned that technological resources are a collection of resources used for creating, storing, managing, and communicating information. These technologies can be used to support teaching, learning, research activities, collaboration, learning, and inquiry. Every technological system makes use of seven types of resources: people, information, materials, tools and machines, energy, capital, and time.

INNOVATIVE WAYS TO MANAGE TECHNOLOGICAL RESOURCES IN TERTIARY INSTITUTION

In today's rapidly evolving technological landscape, managing resources effectively is crucial for tertiary institutions to stay competitive and deliver high-quality education. Adopting an innovative approach to managing technological resources can significantly enhance efficiency, productivity, and student satisfaction. The following are innovative ways to manage material resources in tertiary institutions effectively:

- **Resource Utilization Analytics:**
Implementing advanced analytics tools to gather real-time data on the utilization of technological resources such as computers, software licenses, and laboratory equipment. Analyzing this data can provide insights into usage patterns, peak hours, and areas of underutilization, allowing institutions to optimize resource allocation.

- **AI-Driven Predictive Maintenance:**
Leverage artificial intelligence (AI) algorithms for predictive maintenance of technological assets. AI can analyze equipment performance data, identify potential issues before they escalate, schedule proactive maintenance, and minimize downtime, ensuring uninterrupted availability of resources.

- **Virtualization and Remote Access:**
Implementing virtualization technologies can create virtual desktops and labs. This allows students to access software applications and resources remotely, reducing the need for physical infrastructure and enhancing flexibility for distance learning programmes.

- **Partnerships for Resource Sharing:**
Fostering partnerships with industry stakeholders, neighbouring institutions, and research organizations to support resource sharing initiatives. Collaborative agreements can facilitate access to specialized equipment, shared software licenses, and joint research projects, maximizing resource utilization and cost-effectiveness.

CHALLENGES TO MANAGE TECHNOLOGICAL RESOURCES IN TERTIARY INSTITUTION

- **Budget Constraints:**
Limited funding poses a major challenge to acquiring and maintaining up-to-date technological resources. Budget constraints can lead to outdated equipment, insufficient software licenses, and inadequate infrastructure, impacting the quality of education and the student experience (Bates, 2019).

- **Technological Obsolescence:**

Rapid technological advancements often result in the rapid obsolescence of hardware and software. Keeping pace with these changes requires continuous investment in upgrades, replacements, and training, placing a strain on resources and expertise within institutions (Altbach& Knight, 2020).

- **Cybersecurity Risks:**

The proliferation of digital resources and online platforms exposes institutions to cybersecurity threats such as data breaches, ransomware attacks, and phishing scams. Managing cybersecurity risks requires robust policies, infrastructure, and ongoing vigilance to protect sensitive information and maintain operational continuity (Frye & Hemphill, 2021).

- **Resource Allocation Dilemmas:**

Balancing resource allocation among different departments and programmes can be challenging. Competing priorities, varying needs, and limited resources can lead to inequities in access to technology, hindering the equitable delivery of education and research capabilities (Becker &Fornaciari, 2018).

SUMMARY

This chapter of the book proves that the journey towards innovative management in tertiary institutions is not merely a trend but a necessity in today's rapidly changing educational landscape. The innovative method of management for tertiary institutions represents a paradigm shift towards a more dynamic, adaptive, and purpose-driven approach to higher education. By embracing innovation, leveraging technology, nurturing partnerships, fostering student success, and upholding ethical standards, tertiary institutions can fulfill their mission of knowledge creation, dissemination, and societal impact in a rapidly evolving world.

RECOMMENDATIONS

- It is advisable to placing students at the center of management strategies by adopting student-centric approaches to curriculum design, teaching methodologies, support services, and engagement initiatives. Provide personalized learning experiences, mentorship programs, career development resources, and opportunities for experiential learning, internships and community engagement.
- Embracing a culture of continuous improvement and learning by regularly evaluating and refining management practices. Implement performance metrics, benchmarks, and feedback loops to assess progress, identify areas for improvement, and celebrate successes.
- Integrating sustainability principles into management strategies, operations, and decision-making processes.

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