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Developing Modern Facility Management Concepts to Enhance Student's Enrollment: Best Practice for Ghana Communication Technology University (GCTU), Ghana

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Abstract:
This study presents a conceptual analysis of words and phrases in the Facility Management (FM) definition ISO 41011: TC 276, (2017). The study was made to give better understanding to this FM definition and to assist facility managers to execute their work successfully. One (1) research question was formulated for the study and the intuition of the author was used in selecting three (3) words, which are integration, improvement/change and productivity to be examined to generate understanding for the researcher and add to knowledge. A literature review on these key words was conducted to ascertain views of earlier researchers on integration in FM, change in FM and productivity in FM. This study revealed that facility management integrates people, place and processes in the built environment in order to save time, reduces cost, hasten implementation and bring competition into business services. The study also revealed that educational facilities like furniture and equipment get used up over time and require replacement intermittently to meet growing need and demand. Existing buildings with their fixtures and fittings also age over time and require periodic refurbishment to be put to efficient use. Another finding of this study was that key performance indicators (KPI) like "cost-effectiveness" and "client satisfaction are worldwide accepted measures for productivity in facility management because it is a "value added" service which cannot be stated directly like market goods.

Keywords: *Educational facilities, student, integrated facility management, facility change management, productivity, best practice*

1. Introduction

Facility management is not a completely new management concept (Okafor & Onuoha (2016). It relates to maintenance and property management specialties. It has just been expanded and broadened into facility management. Every function, which are now integrated under facility management umbrella, existed prior to the recognition of facility management. What facility management has achieved, which is new, is an understanding that, a range of business activities can add value to an organization's process with a coordinated and integrated attitude.

Absolutely, facility management has come to stay as a profession in Europe and other developed and developing countries of the world. Some surveyors do not see any difference between facility management and maintenance management or property management while others doubt the practicability of its principles (Okafor and Onuoha 2016). In Ghana the profession is gaining recognition and the International Facility Management Association (IFMA) chapter was formed in 2005 to give recognition to surveyors in this profession. (https://ifmaghana.org/)

The International Organisation for Standardization (ISO) is an international standard setting body founded in 1947 in London, United Kingdom, composing of representatives from various national standards organizations. This organization with its current headquarters in Geneva, Switzerland, promotes worldwide proprietary, industrial and commercial standards. In the year 2017, ISO came up with a definition for facility management, TC 267, to promote quality in this new field of profession. (www.iso.org-about). The ISO 41011: TC 267, (2017) definition of Facility Management states that:"*FM is an organizational function, which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of their core business.*"

The Ghana Communication Technology University formerly called Ghana Technology University College is a technology oriented institution of higher learning, committed to providing an educational experience of highest quality. It was established in November 2005 as a private institution, after accreditation approval, it was inaugurated on August 2006. In July 2020, the Ghana Communication Technology University (GCTU) bill was passed by Parliament of Ghana which changed the status of the university from private to public institution. Nearly eight thousand (8000) students are pursuing various programmes at this university including engineering, computer science, business administration and management. The University also runs a Graduate school which delivers post graduate programmes.

At the Ghana Communication Technology University (GCTU), students enroll to pursue Diploma, Bachelors' Degrees, Masters' Degrees and Doctoral programmes every year. These students need great faculty, wide range of

academic resources, but it is equally important to consider the experience and well-being of the students who enroll by providing adequate facilities. Asiabaka (2008), maintained that excellent education received by students bears direct relevance to the availability or lack of physical facilities and the general atmosphere in which learning takes place. Furthermore the researcher also listed school facilities to consist of all types of buildings and equipment for academic and non-academic activities, areas for sports and games, horticulture including trees, landscaping, roads and paths. These amenities also comprise furniture, fixtures and fittings, lavatory facilities, lighting, acoustics, storage spaces and parking space, security, transportation, ICT, cleaning materials, cafeteria and special amenities for the physically challenged persons.

The Ghanaian populace have understood education so much that, currently the levels of student enrollment in tertiary institutions, especially Public and Private Universities have increased tremendously (Atuahene, 2014). The socio-economic situation in the country is pushing everyone to strive for higher education, if you do not have a first degree you cannot get a good job with good salary, if you have a first degree it is not enough, you have to get a Master's Degree or Doctor of Philosophy (Ph.D.) to keep up with the competition.

The categories of students are those under the age of twenty-five (25) and those above the age of 25 classified as "matured students" who are in full time jobs. These student workers attend evening and weekend classes to upgrade their acquired skills. Several Private and Public Universities have therefore sprung up to meet the increasing demand for further education, due to this, facility management is also evolving within these tertiary universities.

Jalaliet al., (2011), stated that one of the most important factors that universities need to fulfill is to review regularly the quality of education and services given to students to make them satisfied as primary customers of universities. Similarly Odediran et al., (2015), in researching on facility management practices in Nigerian Public Universities also concluded their research by saying that facility management (FM) is very important, yet it is considered as an adhoc activity in the Nigerian Educational University. This perception is not different in Ghanaian Universities and GCTU is not left out of this snare which confirms Seniwoliba, (2014:pp. 12) claims that "…*the increasing demand for tertiary education coupled with rate of higher education population growth in Ghana without any expansion and improvement of existing physical facilities such as lecture halls, residential facilities and laboratories for science education has created a state of malaise hindering the enhancement of efficient and effective higher education systems*".

Furthermore, Odediran, et al., (2015), mentioned that management responsibilities in FM require collective efforts and management processes which involve planning, organizing, decision-making, leading, coordinating and controlling. These processes have to be highlighted and explained to administrators to promote efficiency.

The case for best practice in GCTU is maintaining good quality education and provision of facilities to its students, as well as, learning how to tackle any challenges that relate to the condition and availability of facilities for students, because "if students go elsewhere so does enrollment drop."

This study reviews modern facility management concepts including the most current concept, ISO: 410011definition,to identify phrases and words used by the quality experts and to come out with a best practice framework that can serve as a guide for effective facility management processes and procedures at the GCTU.

1.1. Problem Statement

In concluding their research on facility management in educational institutions, Okafor &Onuoha (2016: pp.31) stated that, "*in a University, the desired goal is a conducive environment that will encourage education, research and outreach*". Abdullah & Yusoff, (2018: pp. 10) also mentioned, that "*facilities can be a medium of interaction among students and university stakeholders and should therefore not only be maintained, but also need to be managed in line with the need of changing university education*".

Facility development and management is therefore, changing to be in line with the modern university setting with its technological demands. Physical observation made on GCTU campus in 2019, revealed that the University lacks modern academic facilities needed to make the environment in which learning takes place conducive. Most of the buildings on campus with their facilities were all built in the 1940's when the University was a Telecommunication Training School (GTUC online, 2019). Facility management is therefore facing challenges in GCTU, because it is an institution with limited space for students in their lecture rooms, inadequate furniture at the study bays and lecture halls to meet student capacity demand. There is also frequent movement of lecture room flip chairs causing recurrent furniture break downs and subsequently leading to increasing maintenance cost. There is also inadequate hostel accommodation, toilet facilities, catering services, storage facilities and special facilities for the disabled. Staff and students of GCTU, will need to fully understand the issue of planning, coordination and controlling in the concept of facility management.

This study is to evolve a best practice framework to guide facility management activities in the University. A better understanding of the facility management concept, ISO 41011: TC 267, (2017) and its component words and phrases will enhance and improve the provision of facilities for students. Specific interest will be in a literature survey on modern facility management concepts and their contribution towards increased student enrollment in Universities.

1.2. Aim & Objectives

The aim of this study is to develop a best practice framework that can measure productivity in facility management delivery at Ghana Communication Technology University. To achieve this aim, the following detailed objectives will be pursued:

- Determine which key words were used in the (FM) ISO: 41011 TC 267 definition, evaluate its meaning to expand knowledge and improve the provision of academic and non-academic facilities for students.

- Develop a best practice framework to improve facility management at the Ghana Communication Technology University (GCTU).

1.3. Research Question

This work is motivated by the need for educational administrators and facility managers to provide physical facilities and make them available for academic and non-academic activities necessary to contribute to functional learning. Therefore, research question can now be formulated as:

How can the concepts of integration, improvement and productivity mentioned in the ISO: 41011 definition of Facility Management be part of procedural process to help improve facility management practices in GCTU?

2. Facility Management Concept

2.1. Definition of Concept

Concepts as defined by Laurence & Margolis, (2007) are abstract ideas or general concepts that happen in the mind, in speech, or in thought. These authors further explained concepts to be fundamental building blocks of thoughts and beliefs and they play an important role in all aspects of cognition. Margolis & Laurence, (2012) further mentioned that the study of concepts has served as a guide to an emerging interdisciplinary approach called intellectual science. A concept is a principle or an idea according to the Cambridge Dictionary (2019), this meaning is similar to the thoughts shared by authors above.

2.2. Old Facility Management (FM) Concept

Nor, et al (2014) mentioned that one could not avoid the claim that FM roots lie in the custodial role of a building superintendent/caretaker who is largely concern with operational issues of maintenance, cleaning, and tenant security. In organizations FM roots lie in outsourcing of their noncore services to enable them concentrate on their core services (Oladokun, 2011). Facility management also became well accepted into the work force when open offices and computer technology evolved in the United States. (Nor et al 2014, Roper et al, 2011).

In their research Roper and Borello, (2014) also stated that the Facility Management profession although have been practiced for decades, is still considered a relatively new profession. They added that when the term facility management (FM) originated in the late 1970s, the two primary drivers *were the acceptance of open-office concepts* across Europe and the United States and the *integration of computing technology into the general workforce.* These two concepts most importantly changed the landscape of workplaces, opening designs and providing a new focus for management as they moved out of hard-walled offices to oversee their employees and managers also began to transmit information electronically. In Ghana today, most institutions have started using the open office concept to create space for their staff. The GCTU workspace since 2013, have accepted the open office concept with some administrative offices like, Admissions and Academic Affairs, Human Resource, Quality Assurance Departments warmly embracing it. Most of these departments deal directly with students therefore, the open office concept is very interactive for students and parents. Information Technology is also well integrated into the work process to serve students better. For example they can log into GCTU web page, access their results, and browse to do their research work.

Facility management in GCTU has also evolved from having a building superintendent to handle cleaning and maintenance issues, to acceptance of open offices and transmitting information electronically. This confirms Nor, et al (2014),allegation that the root of the FM profession lies with caretaker duties relating to cleaning and maintenance. It can be observed that caretaker duties are associated with illiterates or semi illiterates offering janitorial service and ground maintenance. This operational duty in an organization is without any significant respect, staff in this category is treated with disrespect, given low remuneration and there is poor recognition of the importance of their services.

FM as a profession has therefore suffered setbacks from its initiation until now. Educated persons came into the FM profession only when workplace open offices and information technology were accepted and adopted in United States. Property managers, Estate Managers, Facility managers, Architects, Engineers among others are now trained in their fields of study to replace the old "caretaker" name as well as expand the scope of work for the profession.

2.3. New Facility Management (FM) Concept

Since exposure was given to the FM profession in United States many professionals are now being offered training to acquire skills necessary to provide better services. Several researchers have also adopted varied understanding of the FM profession in the last decade to foster best practice. (Nor, et al, 2014).

Achoru, (2015) stated that FM is a management concept encompassing the seven principles of management being planning, organizing, controlling, motivating, coordinating, communicating and directing. These principles are coordinated to enhance the practice of facilities management. In the opinion of the researchers, FM is not just the management of assets like building and maintenance; it embraces all activities within a corporate body outside the mainstream of the firm. Therefore, in an adoption of open office concept for an office, the facility manager needs to plan with the office users before execution of work. When designs for partitions are agreed upon, then communication and invitation are made to the service contractors by the facility manager to submit quotations for consideration. Within a small workspace, several activities need to be coordinated and directed by the FM professional.

Nor et al, (2014),elaborated that the growth in the complexity of buildings and the significance cost of their operations have led to a need to introduce strategic management functions, this will raise the image of the discipline together with other support roles such as the management of human resources and information technology.

Whilst examining the practice of FM in Nigeria, Oladokun, (2011) mentioned that organizations have seen the need to concentrate on their core business activities and allow the coordination and management of all its non-core specialist services to be handled by a facility manager. Furthermore, the writer mentioned that the spread of FM is attributable to the global embracement of the practice of outsourcing services in the public and private sectors. However, it is not all public and private institutions/organisations that have embraced the outsourcing services hundred percent (100%). The percentage of involvement and embracement varies because non-core business activities can be handled by facility managers who have been employed in-house either as staff or as outside service providers. In GCTU the core activities are academic work, whilst non-core business activities like property management, security and transportation are not fully outsourced but cafeteria services and health services have been outsourced.

Achoru, (2015) in his own way identified the roles of facilities management as property management, property maintenance, space planning, office service, structured planning and management of space against other policies which sustain the efficiency of its principal activities. Achoru, (2015) also mentioned that generally, facilities management involved three (3) major sectors, which are:

- The Premises - comprising real estate, plant and machinery, maintenance, space planning etc.
- The Support services - comprising information technology and human capital.
- The Subsidiary sectors - should include infrastructural management and energy management as well as health and safety environmental issues Achoru, (2015).

FM therefore has a broad spectrum which is related to everything in the workspace. There is a need to create awareness about this all-important profession that relates to property/real estate, machinery and anything that has to do with it.

2.4. Facility Management Concept (ISO 41011: 267) 2017

The International Organisation for Standardization (ISO) defines rules and standards to aid in tasks for virtually all products that people use, including rules and standards about how products are made and how quality controls test should be performed (www.yourdictionary.com/iso).

ISO: 41011:TC 267, (2017) defines facility management as "an organizational function which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of core business". Brochner et al., (2019) mentioned that this recent definition of FM is the driving force for modern facility management concept. It recognizes management functions in FM, therefore, it is an administrative function which has to be taken seriously. It is also an organization task which brings people together in their work environment to enable them perform their daily activities.

3. Methodology

This study presents a conceptual analysis of FM definition ISO: 41011: TC 267, words and phrases in this current definition were identified and analysed. Conceptual analysis primarily helps a researcher understand the meaning of an idea or concept as well as in determining how that idea or concept relates to other logical problems. (libguides.usc.edu)
One (1) research question was formulated for the study and the intuition of the author was used in selecting three (3) specific words that are indicative of the research question (Kosterec, 2016). The presence of these words were examined with respect to the research questions only, the relationship between these words were not examine. Kosterec, (2016: pp225) claims that *"the role of intuitions in detection conceptual analysis (CA) is substantial, but they are not indispensable. Intuitions can be used to detect whether a relation among terms is possible. But we can also find the answer in knowledge that is already available or proceed by combining both of these sources of evidence".* Table 1 is an explanation of the phases used in the conceptual analysis:

Conceptual Analysis	Research Work
Making an attempt to understand the meaning of facility management concepts and determine how they relate to logical problems	Collection: Literature survey process of several facility management concepts
Choosing a concept for examination and doing a detective analysis by looking at the occurrence of selected terms within a text or texts.	Detective Analysis: Selecting FM ISO 41011 definition. Using intuition to identify and detect "integration", "change" and "productivity" as key words in the definition
Examine the presence of the three words with respect to the research question not their relationship	Evaluation: The assessment and analyses of these three words to generate understanding and increase knowledge as well as make recommendations for best practices to improve educational facilities for students in GCTU

Table 1: Explaining the Conceptual Analysis Phases for This Research Work
Source: Author's Work (2020)

4. Conceptual Analysis

The three terms "integration", "changing/improving" and "productivity" used in ISO 41011: TC 267, (2017) definition are reflected upon.

4.1. Concept of Integrated Facility Management (IFM)

Integration is defined as "to mix with and join society or a group of people, often changing to suit their way of life, habits and customs or to combine two or more things in order to become more effective" (Cambridge Dictionary, 2020). More recently, FM processes have been associated with this concept of "combining two or more things in order to become effective". The British Institute of Facilities Management (BIFM) in 2010 defined FM as "the integration of processes within an organisation to maintain and develop the agreed services that support and improve the effectiveness of its primary activities". By ISO TC 267 definition, "integrating people, place and processes in the built environment" can be explained further as:

- Integrating People: People acquire new educational levels that have to reflect in their life style and through facility management, they have to be adopted into their varied built environment.
- Integrating Places: Existing buildings also age over time and require refurbishment. New buildings are also constructed for future development, all of which have to be combined into existing building environment for efficiency.
- Integrating Processes: Planning processes go stale and require current technological strategies for organizing and directing to enhance productivity. The integration of these principles of business administration, architecture, and behavioural and engineering sciences with future development of technologies will bring efficiency.

Cashman and Wakefield (2018), stated that Integrated Facility Management (IFM) is a method of consolidating many (or all) of office-related services and processes under one contract and management team. With this approach everything is integrated into one solution, numerous external service partners will work with many service deliveries. Spence, (2018) also confirmed the importance of IFM by saying that, it streamlines efficient work and task management. Integrated facilities management reduces operating costs because additional costs associated with multiple service providers are reduced by moving to a single contract.

4.1.1. Integrated Facilities Management for Students and University Authorities

Integrated Facility Management (IFM) in Universities reduces the risk of offering outmoded facilities to students, which they do not like, because varied suppliers bring in their latest technological ideas to share and supply state of the art items. University authorities have the flexibility to offer new technology and innovative facilities because there is also competition between outsourced contractors.With IFM existing buildings, which have become outmoded over time are refurbished, planning processes which have gone stale and require current technological strategies for organizing and directing are all integrated in the University environment to enhance productivity.

4.2. Concept of Change in Facility Management

Brochner et al, (2019) stated that there are always changes in the built environment in terms of new construction, refurbishment of existing structures. In their opinion, people also change by acquiring or increasing their educational levels that have to reflect in their life styles. Roper and Borello, (2014) stated that there are new drivers of change in work places therefore facility professionals across the world also have to change to be strategic and more involved in business decision making. This is to elevate the FM profession to a new level of expert who is prepared to help guide the organization environmentally, socially, and, of course, financially.

In successfully implementing change throughout an organization, it is crucial to assess if the change to be executed is necessary before one starts the process. Involving an expert to do an evaluation to know how the changes will affect facility decisions is important. Changes that are to be implemented must bring added value and be completely necessary, because not all benefits have to be financial but all benefits must be quantifiable. Once established that the change is going to bring about greater benefit to the organization to either staff or clients or both, then there is a case to proceed and start the process.

Finch, (2011) mentioned that for change management to be successful there is the need to engage expertise to successfully see the change management through, from start to finish. From a facility management perspective there are two points to consider. Successful change management comes about from experts with a proven track record bringing their expertise to bear, they will bring lessons they have learned over the years to the new programme. A facility manager must schedule all necessary programmes for change but at the same time care must be taken to avoid repetition in processes. New changes would not be necessary if the business or organisation falls apart in the process (Finch, 2011).

Effective change management in GCTU implies that the facility manager of the university should consider the need for changes in facilities to enhance student enrollment. The change has to add value and has to be of great benefit to the University Community. The Property manager's evaluation of all obstacles to changes in physical resource, human resource will help in the delivering of alterations and modifications.

4.2.1. Facilities Change Management for Students and University Authorities

Educational facilities like material resources are consumables as mentioned by Salvy, (2008). This implies that they are used up with time and have to be replaced. Facility managers are always facing the problem of planning to replace broken chairs and tables in offices and lecture rooms as well as adapting to existing buildings to meet educational requirement. Maintaining these educational facilities to enable them attain their extensive and most cost-effective life span

has also been a burden. In GCTU lecture rooms chairs have to be replaced every year because of the frequency of breakages. Most of the infrastructure in GCTU are old and used up, these include the Engineering block, B Block, Hostel blocks A, B and C. These buildings are over forty (40) years, their space capacities can no longer accommodate staff and students because of increased enrollment. Students lack adequate space to use as study rooms, television rooms, computer laboratories and other ancillary activities which are essential to academic work. However, facility professionals where recruited in 2012 and facility change management started in 2015, with the renovation of these structures on campus to include more conference rooms, auditoriums with air conditioners, in built speakers, projectors, audio systems with microphones. With technological changes in the 21st century, students in GCTU still desire modern information technology (IT)equipment to keep up with their colleagues in other universities.

4.3. Concept of Productivity in Facility Management

In facility management, output means coordinated services delivered by an external provider, it is not a straight forward approach to the economic concept of "value added" services which are measured in the market (Brochner, 2016)

4.3.1. Measuring Service Productivity

There is a consensus that the measurement of productivity in the service sector is more difficult than for manufacturing because services are intangible and many of them are varied as compared to output and inputs in production (Brochner, 2016). Output and inputs changes are often difficult to determine for services therefore there are greater productivity measurement challenges associated with health care provision, education services and other non-market services. It follows from this study that measurement of service productivity at GCTU will be more difficult, since output which in this case are how student feel (satisfaction level) when they are provided with internet connectivity, new furniture and equipment among others are not measurable.

Measuring productivity has an obvious relation to performance management (Brochner, 2016). There are numerous performance management measures for FM which are used in organizations. Among these measures are KPIs like "cost-effectiveness" which isan important indicator, followed by "client satisfaction." Cost-effectiveness is another KPI that is comparatively easy to relate to productivity (Brochner, 2016). In the case of GCTU, KPI's applicable are student satisfaction levels depending on what service is being offered at any given time. The ratio of one lecturer per number of students will also be a good KPI in evaluating the quality or effectiveness of output.

Productivity in Facility Management can be delivered as a direct and indirect service. Direct services include general internal cleaning, maintenance, trash disposal, guard and security, reception, laundry and related services to support operations within facilities. (NACE description of Class 8110). In GCTU the number of times that trash is collected by the Waste Management Companies can be assessed on weekly basis. Likewise lecture halls and offices which are cleaned can be checked daily and monitored by supervisors. Indirect productivity on the other hand refers to the outcome of FM on the direct productivity of customers. Co-production is just one mechanism that links direct and indirect productivity. There are many studies based on personal assessments of how the office environment, primarily indoor climate and workplace design, affects individual labour productivity (Brochner, 2016). When you enter an office or lecture room with new furniture and cleanliness you feel refreshed and excited. Similarly when an air conditioner is fixed in a lecture hall or office your body feels cool. It is this feeling that is an indirect product of facility management.

4.4. Best Practice in Gctuto Enhance Student Enrollment

In practicing facility management in GCTU, it is obvious that integrated facility management (IFM) is facing challenges because integrating people, place and processes in the built environment has planning and administration problems requiring improvement to enhance efficiency. These support services also have several external service partners working with various service deliveries. The coordination and management of these non-core specialist services is handled by a facility manager (Head of property) and other qualified professionals. These persons have the requisite knowledge and skills in computer science, security and transport management, like the Heads of Information technology Support Services, Security and Transport. There are four (4) professional caterers with their staff who cook at student food joints and the cafeteria, as well as, a school nurse who provides first aid health services to students at the infirmary and transfers emergency cases to the hospital. Since IFM in work schedule brings up better competition and access to field service vendors at a lower cost this study will advise management to integrate some these support services like IT, Security, Transport and Property Management under one Department. GCTU management in future should also continue outsourcing(sub-contracting) services like catering to service contractors to bring competition into the trade. In enhancing student enrollment GCTU, planning processes will be successful if it involves infrastructural developments to refurbished old buildings, construct new buildings, furnish offices and lecture rooms with modern furniture, equipment as well as modern fittings and fixtures.

5. Discussion and Results

How can the concepts of integration, improvement and productivity mentioned in the ISO: 41011 definition of Facility Management be part of procedural process to help improve facility management practices in GCTU?

In answering the research question above for this study, it has been established that the concepts of integrated facility management (IFM), change management and productivity have not been incorporated in planning and other procedural processes in GCTU, therefore FM practices need support and better understanding. The table 2 is an implementation framework for best practice:

Conceptual Framework for Integrated Facility Management (IFM)	Conceptual Framework for Change	Conceptual Framework for Productivity
Integrated FM with staff and students enjoying office and learning environment that is reflecting current innovative and technological processes.	Changes in the built environment, human resources, planning processes should reflect dynamism and add value	Productivity in FM are measured as direct and indirect services. These are not goods that can be counted at the market
Best practice in integrated facility management for GCTU	Best practice in facility change management for GCTU	Best practice in measuring productivity for GCTU
All non-core specialist services like Transport, Security, Information Technology and Property Management should be under one directorate to reduce cost and bring competition. Old buildings like hostel blocks A, B, C, Faculty of Engineering blocks which are over forty (40) years have to be refurbished to reflect modernization GCTU should out-source its cafeteria, health, security and cleaning services to bring competition and enhance efficiency Planning processes which have gone stale have to be revived to include current technological strategies. Student should be able to apply for admission online, register online, request for certificates online and have interactive lectures online by whatsapp or zoom platforms.	Change will be effective if all facility professionals of GCTU being the Heads of Security, human Resource, and Information Technology are involved in decision making. Changes in the built environment which are necessary for students and add value are the provision of projectors and projector screens, air conditioners, internet connectivity, Wi-Fi services and well equipped laboratories with computers and electronic accessories.	On daily, weekly, monthly basis direct services like cleaning and arrangement of chairs should be measured by physical inspection of places. Lecture- student ratios, student satisfaction levels and cost effective are good assessment for indirect services and should be used.
The experience and well-being of students who enroll are taken care of by providing adequate academic and non-academic facilities	The quality of life students enjoy in their built environment for academic work is enhanced tremendously	Students being primary customers of the University should be satisfied with the quality of educational services provided through regular review and assessment

Table 2: FM Framework for Best Practice in GCTU
Source: Author's Work (2020)

Explaining the table further, facility management practices in GCTU will improve if life style, learning and office environment for staff and students reflects their different education levels. Stale planning processes where furniture and equipment are purchased without funds to pay suppliers have to be revised and properly planned by Finance and Procurement departments. There is also the need to merge current innovative and technological procedures into planning processes to bring efficiency. Old architectural buildings like the Faculty of Engineering and Computing blocks need to be refurbished, new buildings like the Graduate School block, should also reflect latest technology. Similarly, there are new lecture hall furniture which have to be purchased to replace old and damaged ones periodically. Administratively non-core specialist services should be put under one directorate to avoid duplication of work by external service partners who work with individual departments

Improvement in facility management practices at GCTU will also require that facility professionals in the Property Department and other specialist departments embrace modernization and innovative ideas. Electrical materials which are energy efficient have been introduced into markets to replace old fluorescent bulbs, energy consuming air conditioners and refrigerators among others. The change management in GCTU will be successful if facility professionals are involved in business decision making. If there is a need to engage expertise to successfully see the change management through, from start to finish it should be considered by the facility manager. Assessment of change to be implemented before commencement is also vital to help the manager see if it will add value.

Improvement in FM practices at GCTU will also come if measurement of productivity in the University is executed on daily, weekly, monthly and yearly basis. Direct service like general interior cleaning, maintenance, trash disposal, security and reception duties have to be assessed as often as possible. Similarly indirect service which is the outcome of direct service, like feeling refreshed when you enter clean office or lecture room with new furniture as well as feeling cool within an air conditioning space also require assessment on weekly basis. Student- lecturer ratios and other key

performance indicators (KPIs) like "cost-effectiveness", "client satisfaction", and "student satisfaction" are all measures for productivity and quality which have to be used to bring efficiency in the University Community.

6. Conclusion

Integrated Facility Management (IFM) need to be fully functional with all non-core activities put under a single directorate in GCTU because IFM saves time, reduces cost and hasten the implementation competition, whilst at the same time bringing competition into the business services. Facility change management should be given much attention because innovative technologies have evolved in built environment which have not been implemented at the University to improve the work activities. The Property Department of GCTU has to commence productivity measurement of all educational and non-marketable services provided. This will enable them advice management on the satisfaction levels of services like internet connectivity, janitorial services, security, food services provided, availability of lecture hall furniture and equipment among many other university related services to enhance student enrollment. The study revealed that educational facilities get used up with time and have to be replaced intermittently to meet growing need and demand.
It is recommended that further study will highlight the consumable nature of educational facilities and the need for consistent replacement and revitalization to enhance student enrollment.

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