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IMPROVING MAINTENANCE MANAGEMENT PROCESSES AND RESOURCE ALLOCATION AT SUPERANNUATION HALL, UNIVERSITY OF CAPE COAST

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Abstract: One of the core values of the Superannuation Hall of the University of Cape Coast is to establish a conducive environment that fosters academic excellence. In achieving this core value, there is a need to restructure the maintenance management processes of the Hall to provide timely and quality maintenance services to students. This restructuring is prompted by the observed instances of delayed responses to students' maintenance requests, which in turn have resulted in reduced students' satisfaction and confidence in the Hall's maintenance system. This paper aimed to identify the causes of delays and provide recommendations to improve the maintenance management system of the Hall. The conceptual framework introduces the Continuous Improvement Model, which was adopted to seek an improvement in the current maintenance management system of the Hall. The Continuous Improvement Model originated in Japan and it emphasizes steady improvement. The model involves continuous learning, employee engagement, and planned improvement cycles. It has been successfully implemented in various sectors and can be applied to improve maintenance processes, making them more responsive to maintenance requests. The application of the Continuous Improvement Model in maintenance management includes planning, implementation, monitoring and evaluation, and feedback and corrective action stages. The model helps reduce delays in responding to maintenance requests by fostering a culture of continuous improvement and involving all stakeholders.
The research approach used was action research. Observation and the use of secondary data on maintenance works at Superannuation Hall were used. An observation checklist was used to guide the data collection process, focusing on various maintenance management functions. The findings highlight issues such as inadequate staffing levels, delays in the procurement process, delays in the supply of Hall consumables, weak inventory control, and end-user neglect. The recommendations include transferring additional technical staff, improving the procurement process, establishing an effective inventory control system, educating students, and enhancing maintenance supervision. Implementation of these recommendations will lead to improved maintenance services, reduce costs, and a positive impact on the University's reputation. Ultimately, students at Superannuation Hall will benefit from a better living environment and enhanced support for their maintenance needs.

Index Terms: Maintenance Process, Continuous Improvement, Reducing Maintenance Delay

INTRODUCTION

Superannuation Hall of the University of Cape Coast was established with the objective of providing alternative accommodation for both local and international students. However, in recent times, there has been a growing concern regarding the delays in responding to maintenance requests at the Hall. Students have expressed dissatisfaction with the timeliness of maintenance responses, leading to a decline in satisfaction and trust in the maintenance system. This issue has significant implications for the overall well-being and quality of life of the residents of Superannuation Hall.

In practice the Hall is expected to attend to students' maintenance requests within two to three days, however, for the past 18 months, it takes 7 days to 10 days and in some instances over 21 days to respond to some students' maintenance requests. This has led to agitations by students and mistrust of the system to the extent that quite a significant proportion of students have stopped making requests for maintenance repairs/replacements.

When maintenance requests are not responded to promptly, students may experience inconveniences and frustrations, which can disrupt their academic pursuits and overall well-being. Furthermore, a lack of timely maintenance can lead to the deterioration of facilities and a compromised living environment, affecting the reputation of the university and its commitment to student welfare.

To tackle these challenges, this research aims to unearth the causes of delays in responding to maintenance requests at Superannuation Hall and propose recommendations to improve the maintenance management system. By delving into the underlying causes and proposing effective solutions, the paper seeks to contribute to the enhancement of maintenance services, ultimately ensuring a better living environment for the students at Superannuation Hall. The potential causative factors for delays in responding to the maintenance needs of rooms are varied and this research seeks to unearth the causative factors of delays in responding to students' maintenance requests.

The main objective of the investigation was to examine the causes of delays in responding to maintenance requests of students at the Superannuation Hall. The study was guided by the following research questions:

1. What is the current maintenance management process of Superannuation Hall?
2. What recommendations can be made to improve the maintenance process of Superannuation Hall?

This paper on Improving Maintenance Processes and Resource Allocation at Superannuation Hall, University of Cape Coast, is necessary for several reasons and these are:

1. **Student Satisfaction and Trust:** The increasing complaints from students regarding the delays in maintenance response have resulted in decreased satisfaction and trust in the maintenance system. Addressing these concerns is crucial for maintaining a positive living environment and ensuring students' well-being.

2. **Identification of Underlying Causes:** By conducting a comprehensive analysis of the maintenance management practices and critical factors, this paper aims to bring to bear the underlying causes of the delays. Understanding these causes is essential for implementing effective solutions and preventing similar issues in the future.

3. **Improvement of Maintenance Services:** To contribute to the enhancement of maintenance services at Superannuation Hall. By addressing the identified challenges and implementing the proposed measures, the maintenance system can be improved, resulting in a more timely and efficient response to students' maintenance requests.

4. **Cost Reduction and Resource Optimization:** Inadequate maintenance processes and resource allocation can lead to inefficiencies and unnecessary costs. By optimizing resource allocation and improving maintenance processes, this paper aims to reduce maintenance costs while ensuring effective service delivery.

5. **Academic Institution Reputation:** Superannuation Hall is part of the University of Cape Coast, and the reputation of the institution is influenced by the quality of its student accommodation facilities and services. Timely and efficient maintenance services contribute to a positive reputation and attract prospective students.

LITERATURE REVIEW

Maintenance

Maintenance is defined as the collection of all technical and administrative procedures designed to keep or restore an item to a state where it can continue to perform its function. (Choka, 2012; Ikupolati, Komolafe, & Dawam, 2014). The technical component of maintenance focuses on improving maintenance operations, reducing the amount and frequency of maintenance, minimizing the impact of complexity, minimizing the amount of supply support needed, determining the optimal frequency and scope of preventive maintenance to be performed, enhancing and ensuring maximum utilization of maintenance facilities, and improving the maintenance organization. On the other hand, the management aspect of maintenance discusses all the management activities that determine the maintenance objectives or priorities (defined as targets assigned and accepted by the management and maintenance department), strategies (defined as the methods adopted in order to achieve maintenance objectives), and responsibilities and implement them through means such as maintenance planning, maintenance control and supervision, and several methods aimed at improving the maintenance objectives. These methods include; exercising technical and managerial control over maintenance programs, the organization's financial standing also serves as guidance for maintenance activities (Adolfo, 2007; Mikler, 2015).

Adenuga, Iyagba, and Ogunsanmi (2007), are of the opinion that maintenance-free buildings are highly desirable but difficult to achieve, and much may be done to lessen the amount of maintenance work required in the future. The researchers added that building maintenance is frequently overlooked in the industry, particularly in the public sector, because the development of new structures is prioritized above the upkeep of existing ones. The management process for maintenance includes strategic planning, setting goals, managing resources, allocating people and financial resources to achieve the maintenance objectives, and finally evaluating outcomes of the maintenance process (Hissom, 2009). From the above researchers, it can be said that maintenance management can be defined as the organizational process of actions performed to maintain or restore an item to a state where it can fulfill its function.

Maintenance Management System

The goal of maintenance management is to guarantee that programs are executed as successfully as possible while incurring the lowest costs possible. It consists of a number of approaches for organizing, planning, regulating, directing, monitoring, assessing, and reporting on maintenance activities. It is a strategy to get organized so that the right operations are scheduled and carried out at the right time in an effective and cost-effective manner. In order to offer the highest quality of service at the lowest cost, it is crucial to utilize staff and resources to the fullest. Although the maintenance function of an organization is often viewed as an expense account with performance metrics created to track direct expenses (Pelantova & Cecak, 2018), it is very essential for maintaining a dependable maintenance practice and providing quality services to customers (Tsang 1999; Sharma 2011). Effective maintenance management practices and procedures are very crucial for the entire business (Alsyouf, 2007). In order to help the organizations, achieve its maintenance objectives and strategy, the maintenance function should offer suitable maintenance services. The service should be provided in accordance with the agreed-upon service standards, which include response time, work quality, and cost-effectiveness (Hani, 2014). McAllister and Wilson (2002) also opined that establishing a maintenance management system that works will mean that both human resources and other resources are readily available. To meet these standards and the maintenance function, maintenance works must be clearly identified, plans put in place to execute works, provide resources (people, equipment, materials, spare parts, information, and knowledge), carry out the work, and then evaluate the results (Hani 2014).

From the above researchers, it can be deduced that for a maintenance management system to be effective the maintenance culture must be restructured towards proactive preventive maintenance strategies and continuous improvement whiles adopting more cost-effective maintenance work methods. It is also clear that in order to achieve significant improvement in the maintenance system there should be adequate and capable technical staff to satisfy the changing needs of customers.

Mikler, (2015), points out that an effective maintenance management system deals with the identification, planning, scheduling, and execution of maintenance work and evaluation of maintenance activities and these are the primary processes that make up the maintenance function. A system for selecting and allocating suitable resources and control mechanisms is required for the proper execution of maintenance works. The application of a maintenance management system must be complemented by other activities of the organization such as; efforts in strategic planning, budgetary planning, technical training, and commercial activities in order to have a complete impact.

Hani (2014) summarizes the advantages of a maintenance management system as follows:

i. decreased maintenance and service interruptions due to improved equipment effectiveness.
ii. decreased large repairs and improved overall equipment reliability
iii. improved plant performance
iv. planning and scheduling more effectively will lead to higher staff productivity and enhanced worker safety.
v. lowered maintenance expenses and this keeps maintenance costs under control.
vi. Effective maintenance data.
vii. consistent supply of parts, supplies, equipment, and tools
viii. precise records on work completed and costs incurred
ix. accurate records on equipment performance data for more effective financial and capital improvement planning

To Mikler (2015), the maintenance functions can be grouped into four main functions namely;

1. **Maintenance Work:** this is the process of identifying the work, planning, coordinating, scheduling, and carrying it out.
2. **Work Organization**, this includes setting goals, organizing, and managing the resources (people, materials, tools, shops, instruments, technical information, strategies, contracted services, etc.) required for operation. The work organization system is a set of procedures used to define, organize, schedule, and carry out all supporting tasks in order to guarantee that all required resources are accessible when needed. It consists of capacity assurance, budgeting, routine and system development, human resource management, and contracting.
3. **Performance Measurement:** This includes performance evaluation and audits; A performance measurement system is necessary for any organization in order to accurately track costs and evaluate the efficacy and efficiency of ongoing operations.
4. **Supporting Systems:** which include information gathering, reward systems, risk management, training, investment plans, growth and innovation, and assets management.

Micthell, Robson & Prabu, (2002) summarized the following as key elements of an effective maintenance management system:

1. Supervision and practice
2. Work control planning
3. Work measurement
4. Maintenance assets history

Eti Ogaji and Probert (2006) are of the opinion that the following are the best maintenance management practices that allows an organization to achieve a competitive advantage over its competitors:

1. Procurement of Maintenance Inventory
2. Effective Maintenance Strategies
3. Work Flow and Control System
4. Financial Optimization
5. Continuous Improvement Strategies

From the review of literature on maintenance management practices, the works of researchers such as Mikler, 2015; Micthell, Robson & Prabu, 2002 and Eti Ogaji & Probert, 2006, in relation to key functions for effective maintenance management can be summarized as follows:

1. Maintenance Planning and Organizing
2. Maintenance Work Order
3. Equipment Records
4. Maintenance Material/Spare parts and Inventory Control
5. Maintenance Monitoring and Evaluation
6. Maintenance Budgeting
7. Maintenance Reporting
8. Continuous Improvement

Conceptual Framework: Continuous Improvement Model

The Continuous Improvement Model underpins the study as it provides guidelines for improving the maintenance management process of Superannuation Hall. The aim of adopting the Continuous Improvement Model is to make the maintenance process of the Hall more responsive to the maintenance requests of students. The concept of continuous improvement (CI) began in Japan after the Second World War (Maarof & Mahmud, 2016). In Japan, the term Kaizen means to 'change for the better'. It was initially used by the Toyota Production System. This was the first company to implement 'Kaizen' which is a continuous improvement in their production line.

Kaizen is an existing culture of the people of Japan which means steady improvement and this contributed as an instrument of change in the productivity of Toyota Japan (Omotayo, Awuzie, Egbelakin, Obi & Ogunnusi, 2020a). Omotayo Kulatunga & Awuzie, (2022) asserts that continuous improvement has not only been successfully implemented in the manufacturing sector but other sectors such as; the health sector, Agriculture, Governance, and Quality Management, among others. This model has transformed into a major part of the lean management paradigm (Omotayo et al, 2022).

Definitions of Continuous Improvement

Sanchez and Blanco (2014) studied various definitions of Continuous Improvement as far as 40 years ago. The following are some of the definitions derived from his study;

1. Deming (1982), from a production and human resource perspective defined continuous improvement as 'improving constantly and forever the system of production and services.
2. Imai (1992) defined continuous improvement as 'finding a better way of doing the job and improving existing standards. From Imai's point of view, finding a better way of doing the job, requires the non-ending training/skilling of all personnel involved. He also perceived this as a major ingredient to maximize an organization's productivity.
3. Boer and Gertson (2003) defined continuous improvement as a 'planned organized and systematic process of on-going incremental and company-wide change of existing practices aimed at improving company performance'.

From the above definitions, it can be deduced that for a comprehensive definition of continuous improvement the following must be present;

i. Sustained changes
ii. Company-wide process
iii. Culture of change (ie a learning environment for change)
iv. Planned process improvement
v. Improvement cycle
vi. Employee engagement and improvement

Demings (1982), developed the mechanism to create a manufacturing workforce to bring about continuous improvement. Figure 1, illustrated the CI Model by Demings (1982).

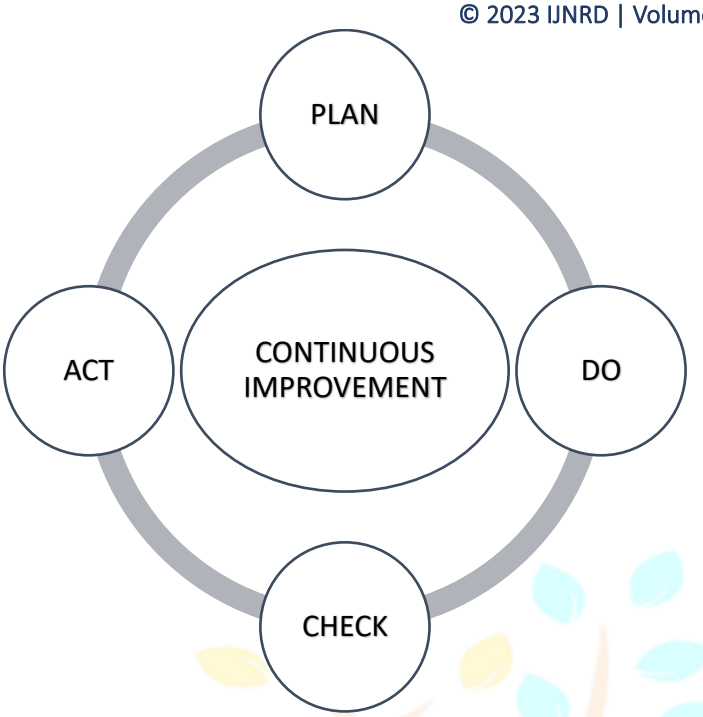

figure 1: Continuous Improvement (CI) model by Demings (1982)

Phase I: Plan stage- this begins with the identification of the problem(s) and is followed by a plan to reduce or eliminate the identified problem(s).
Phase II: Do- this is the first testing stage of the plan. This stage determines the effects and benefits of the plans put in place for a larger implementation.
Phase III: Check- at this stage, there is a need to check and analyze the outcomes of the previous stage and identification of any challenges.
Phase IV: Act- The final stage is taking corrective actions to remedy existing challenges. Further challenges may be identified and the PDCA process continues in an interactive manner.

The Continuous Improvement Model was chosen because it is a model that has been tested and proven to ensure a more proactive process to improve the existing maintenance process of the Hall. This will equip the Management and Staff of the Hall to provide a more responsive maintenance process and attend promptly to the maintenance requests of students and other clients. This will assist the Hall in constantly investigating what could be different, better, or more efficient through continuous learning culture that encourages management and staff to take positive paths, learn new skills, and think creatively when it comes to meeting the maintenance needs of students.

Limitation of Continuous Improvement Model
The following are key limitations to the Continuous Improvement Model
1. Lack of stakeholder engagement.
2. Failure to implement a culture of Continuous Improvement.
3. Without a solid understanding of how to proceed, it is very difficult to improve the existing process.

Application of the Continuous Improvement Module to Reduce Maintenance Delays at Superannuation Hall

Plan (Maintenance Planning, Policy, and Resource Management)
In relation to Figure 2 below, in the Plan arena, a lot is expected of the Management of the Hall. Management is expected to be committed to formulating policies relating to reducing the delays in responding to the maintenance requests of students. At this stage, Hall Management should actively engage staff and other stakeholders of the Hall through Maintenance Management Improvement Team. The continuous maintenance improvement agenda should be communicated to all staff and other stakeholders for their input and continuous involvement. All these should be done through the instrumentality of an established maintenance management improvement team. This team should ensure continuous improvement plans are implemented. At this stage, management is expected to come out with strategies, standards, and resources to respond promptly to the maintenance requests of students. At this stage, the focus of Hall

Management should be on skill and competencies and all other relevant information needed to achieve the maintenance objectives of the Hall. Employee training should focus on both technical and information-based training to equip staff to handle maintenance works effectively and safely.

The Do: Implementation Stage

The next stage after the planning phase to the right of the model, is the implementation of the plans, strategies, and standards set by Management. At this stage, the middle-level management (Administrative Assistants, Maintenance officer, Presiding Hall Assistant, and other Supervisors) should be actively empowered to effectively supervise all staff down the line of the maintenance process. At this stage testing and gathering of data of small but incremental changes from the previous system and the current should be measured. Staff are also expected to exhibit the required competencies to ensure a timely and successful accomplishment of maintenance requests.

Check (Maintenance Monitoring and Evaluation)

The Hall should be focused on conducting regular inspections and ensuring maintenance works are conducted in relation to the set continuous maintenance improvement strategies through routine auditing to increase all round maintenance performance to identify any deviations from the maintenance objectives. This arena provides Management information about either the failures or successes of the implemented plan(s). Finally, all maintenance activities should be regularly monitored, evaluated and recommendations made for continuous improvement.

Act (Maintenance Feedback and Corrective Action)

The last stage is the continuous interaction among the planning and policy stage, the maintenance management improvement team, and the development of an effective maintenance culture. The import of the interaction is to provide feedback that will aid in consolidating continuous maintenance improvement measures to reduce delays in responding to students' maintenance requests. The interaction should be done in tandem with the general implementation stage. This would be executed by the established maintenance improvement teams charged with evaluating the Hall's maintenance system and making recommendations to standardize all undesired outcomes in line with the maintenance objectives of the Hall.

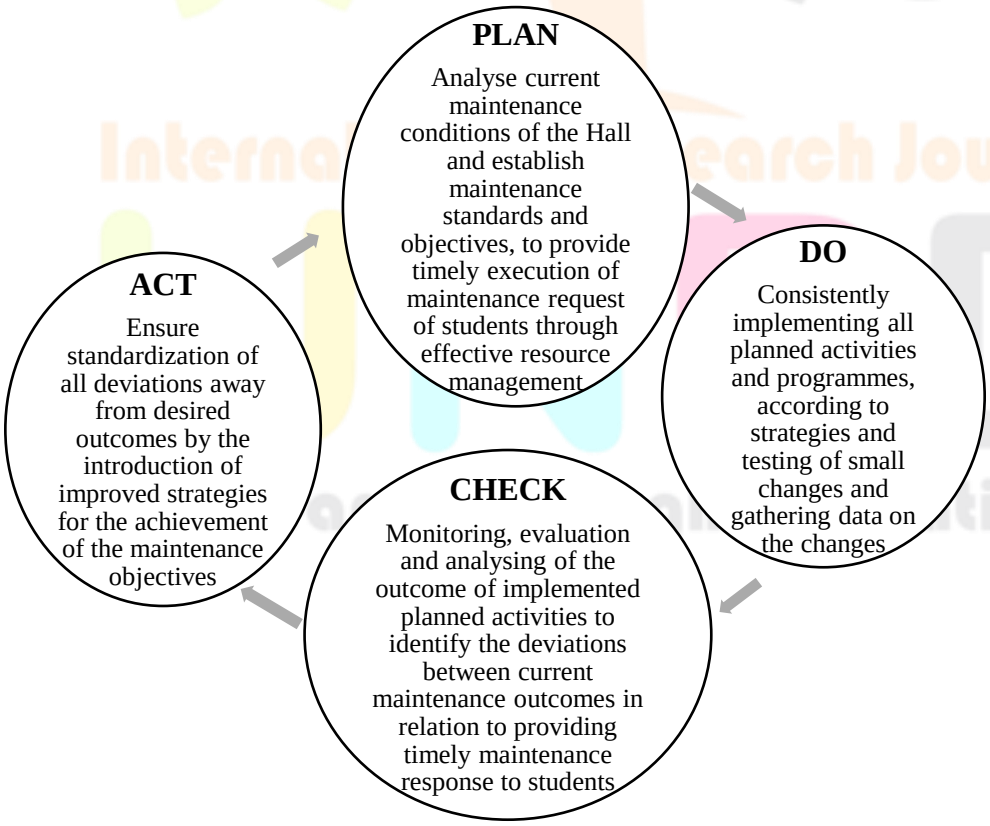

figure 2: application of continuous improvement model to reduce the delays in responding to students' maintenance requests

RESEARCH METHODOLOGY

Observation and secondary data on maintenance works of the Hall were used. An observation checklist was used to gather information about the current maintenance situation of the Hall. This was also complemented by secondary data on maintenance works of the Hall and other related information such as budgets, and inventory systems among others. In reference to the maintenance management functions outlined by (Mikler, 2015; Micthell, Robson & Prabu, 2002 and Eti Ogaji & Probert,2006). A twenty-one-item observation checklist was drawn and used as a guide for the observation process. The methods for conducting this research involved a systematic and rigorous approach to ensure accurate analysis and meaningful recommendations. The following steps outline the Methodology employed in this paper:

1. **Problem Identification:** The initial phase involved identifying the issue of delays in responding to maintenance requests at Superannuation Hall. This problem was recognized based on increasing student complaints and a decrease in satisfaction and trust in the maintenance system.

2. **Data Collection:** The data collection process included a combination of primary and secondary data. Primary data was collected through observation of maintenance practices at Superannuation Hall, while secondary data consisted of existing reports, maintenance records, and other documents.

3. **Analysis and Findings**: The collected data was analyzed to identify the causes of delays in responding to maintenance requests. This analysis involved categorizing the critical factors, examining maintenance management practices, and assessing the impact of various factors on response time. The findings were derived from a systematic evaluation of the collected data.

4. **Recommendations:** Based on the analysis and findings, a series of recommendations were developed to address the identified issues and improve the maintenance system of the Hall.

FINDINGS

1. Maintenance Personnel Strength and its impact on operational efficiency

table 1: maintenance personnel at superannuation hall

Maintenance Officer	1
Plumber	1
Electricians	3
Mason	2
Carpenter	1
Total	**8**

The Hall has a maintenance officer, a plumber, three electricians, two masons, and a carpenter. The comprehensive study conducted on the maintenance operations at Superannuation Hall has shed light on a critical concern: the current staffing levels of the maintenance personnel. The findings revealed that the existing workforce is inadequate to effectively meet the demands, particularly in the specialized area of plumbing. This insufficiency in personnel has far-reaching implications for the overall operational efficiency in relation to the maintenance process of the Hall. The study highlights that the lack of skilled plumbers and support staff significantly hampers the timely response to maintenance requests. As a consequence, delays in addressing maintenance issues have become a recurrent challenge, adversely affecting the smooth functioning of the facility and inconveniencing its students.

2. Maintenance Personnel Competencies and Attitude

The maintenance personnel consistently demonstrate a commendable level of competence that aligns with the specified standards. Their technical skills and expertise are well-suited to handle the diverse range of maintenance tasks encountered within the facility. Furthermore, their positive attitude towards executing maintenance works is evident, reflecting their dedication and professionalism. It is important to note that the delays in responding to maintenance

requests are not attributable to any lack of competence or capability on the part of the maintenance personnel. Their expertise and skill sets are robust, enabling them to tackle complex maintenance issues with efficiency and precision. The delays, instead, can be attributed to other factors that require attention and remedial measures.

3. Maintenance Work Order

The current maintenance workflow is facilitated through a work order system that relies on the recording of requests in complaint books and maintenance job cards. While the system itself does not directly contribute to delays in responding to maintenance requests, there are opportunities for improvement in the tracking and evaluation of completed work, which can lead to enhanced efficiency and effectiveness in overall maintenance operations. The existing work order system serves as a reliable mechanism for capturing and documenting maintenance requests. However, the process of tracking and evaluating the status and completion of these requests could benefit from enhancements. By implementing enhancements to the system, Superannuation Hall can achieve better visibility into the progress of maintenance tasks, ensure accountability, and facilitate timely follow-up actions.

4. Availability of Maintenance Works Data and Reports

The availability of maintenance work data and reporting plays a crucial role in ensuring effective tracking, evaluation, and improvement of maintenance activities within an organization. However, it has come to the attention of Management that the maintenance officer fails to provide monthly reports detailing the executed works. This lack of regular reporting hampers the ability to monitor performance and identify areas for improvement.

5. Maintenance Budget

The allocation of sufficient financial resources to the maintenance budget is crucial for ensuring prompt response to maintenance requests and minimizing delays in maintenance operations. Unfortunately, the current budget provision for maintenance is inadequate, directly impacting the ability to address maintenance needs in a timely manner. A well-funded maintenance budget is essential for maintaining the overall functionality, safety, and reliability of equipment, facilities, and infrastructure. It will enable the Hall to proactively address maintenance issues, perform regular inspections, conduct preventive maintenance, and swiftly respond to unexpected breakdowns or repairs.

6. Delays in the Procurement Process

The procurement of maintenance materials and tools is essential to support the efficient functioning of the maintenance unit. However, when the procurement process encounters delays, it disrupts the workflow and hampers the ability to promptly acquire the necessary resources for maintenance tasks. This, in turn, leads to prolonged time in responding to maintenance requests, potential disruptions in operations of the Hall, and causing inconvenience to students. The occurrence of delays in the procurement process for maintenance materials, tools, and consumables significantly impacts the timely execution of maintenance works.

7. Delay in the Supply of Hall Consumables

The issue of delays in the supply of materials also extends to delays in responding to maintenance requests in students' rooms. When there are delays in obtaining the necessary materials for repairs or maintenance, it directly impacts the response time for addressing maintenance issues in students' rooms. Delays in material supply can lead to prolonged waiting periods for repairs or maintenance. For example, if there is a leak in a student's room that requires a specific replacement part, such as a valve or pipe, the delay in acquiring that specific material can result in an extended timeframe before the issue is resolved. This can cause inconvenience and discomfort for the student, affecting their living conditions and overall satisfaction.

8. Subpar Inventory Control System

The current inventory control system within the Hall has led to various inefficiencies and difficulties in accessing the necessary maintenance supplies. A well-functioning inventory control system is vital for ensuring that the maintenance unit has the right materials and supplies readily available when needed. However, the current inventory management practices within the Hall result in several challenges. These include stockouts of critical items, excessive inventory of certain items, and difficulties in locating specific materials.

9. End-User Neglect and Misuse

The issue of end-user neglect and misuse within the Hall exacerbates maintenance complaints and hinders the timely resolution of maintenance faults. Some students fail to report maintenance issues, and improper facility usage further contributes to the deterioration of the premises. The neglect and misuse of facilities by students pose significant challenges for the maintenance unit. Some students may overlook or ignore maintenance faults, assuming that others will take care of reporting them. This lack of proactive reporting prolongs the time it takes to address the issues, leading to further deterioration of the facilities and potential safety hazards.

10. Maintenance Supervision

Maintenance supervision is an integral and critical component in overseeing maintenance activities to ensure their efficient execution, adherence to established standards, and successful achievement of desired outcomes. However, it has become evident that there is a need for improvement in the current supervision of maintenance works conducted by the maintenance officer. This is primarily due to the challenging nature of his role, as he is responsible for overseeing maintenance activities across five facilities: College of Distance Education Flats, Superannuation Hall, SRC Hall, University Hall, and Medical Village. The significant workload resulting from overseeing multiple facilities poses a challenge for the maintenance officer in providing adequate supervision and timely completion of maintenance works.

RECOMMENDATIONS

Based on the findings, the following recommendations are proposed:

1. Continually update and implement the annual Maintenance Plan, covering all maintenance activities and needs of Superannuation Hall: By regularly reviewing and updating the Maintenance Plan, Management can ensure that all maintenance activities are adequately addressed, and resources are allocated effectively to meet the facility's needs. This includes scheduling preventive maintenance, addressing recurring issues, and planning for replacements.
2. Reduce delays in the procurement process by assigning procurement officers to Halls of Residence: Assigning a procurement officer to the Halls will streamline the procurement process, ensuring the timely acquisition of necessary maintenance materials, tools, and equipment. These officers can focus solely on the procurement needs of the Halls, improving efficiency, and minimizing delays caused by shared or overwhelmed procurement resources.
3. Transfer additional technical staff to the Hall to strengthen the maintenance unit: Augmenting the technical staff in the maintenance unit enhances the capacity to handle maintenance requests promptly and efficiently. By increasing the number of skilled personnel, the Hall can address maintenance needs in a timelier manner, reduce response time, and enhance the overall quality of maintenance services.
4. Educating students on proper facility usage and encouraging reporting of maintenance needs. The Hall should continue to implement its awareness campaigns and educational programs to inform students about proper facility usage and the importance of reporting maintenance issues. By fostering a culture of responsibility and engagement, students can contribute to the timely identification and resolution of maintenance needs, ultimately improving the condition of Superannuation Hall.
5. The procurement unit and the Stores Unit should collaborate and ensure suppliers adhere to stipulated timelines and consider contract revocation for repeated delays. Establish clear expectations and contractual agreements with suppliers regarding delivery timelines for maintenance materials and services. Monitor supplier performance closely and take appropriate action, including contract termination or renegotiation, if there are repeated delays or failures to meet the agreed timelines.
6. Effective inventory control plays a vital role in the smooth functioning of maintenance operations. Proper records of the receipt and issuing of supplies are crucial to ensure efficient inventory management. To enhance this process, it is recommended that a storekeeper is assigned to the Hall to oversee the stores and inventory management within the facility. With proper inventory control and accurate records, the storekeeper will ensure that necessary maintenance supplies are readily available. This will enable the maintenance staff to respond promptly to students' requests without delays caused by waiting for the procurement or delivery of materials. The storekeeper's collaboration with the maintenance officer will facilitate proactive maintenance planning. By maintaining clear communication channels, the storekeeper can anticipate upcoming maintenance needs based on inventory levels, identify potential supply shortages in advance, and initiate procurement processes in a timely manner. This proactive approach ensures that maintenance teams are well-prepared with the necessary supplies to promptly respond to students' requests, reducing the waiting time for repairs or maintenance in students' living spaces. The presence of a storekeeper streamlines the

inventory management process, improving the overall efficiency of maintenance services for students. The storekeeper's responsibilities will include organizing and maintaining the inventory system, conducting regular stock counts, and ensuring accurate records of supply receipt and release. This level of organization and attention to detail will enable maintenance staff to quickly locate required supplies, reducing search time and allowing them to focus on completing maintenance tasks effectively. As a result, students' maintenance requests can be addressed more efficiently, leading to a higher level of satisfaction. The optimized response time improves students' satisfaction with the maintenance services provided, as they experience quicker resolutions to their concerns and a higher level of overall support.

7. To effectively respond to the maintenance requests of students, it is crucial for the Hall Management to ensure the availability of essential, materials, tools, equipment, and other inputs required by the maintenance personnel. This can be achieved by implementing a proactive procurement process and initiating it at least two months before the beginning of every semester. The Hall should establish a proactive procurement process that anticipates the maintenance needs of students. By identifying the necessary materials, tools, and equipment in advance, the procurement process can be initiated in a timely manner, ensuring that the required items are readily available when maintenance requests arise. More also, initiating the procurement process at least two months before the start of every semester will allow sufficient time for procurement activities. By starting early, the Hall Management can minimize the risk of disruptions in maintenance services and ensure that the maintenance personnel have the necessary resources at their disposal at all times.
8. To effectively respond to maintenance requests from students, it is crucial to intensify maintenance supervision within the Hall. This is particularly important considering that the maintenance officer oversees five other facilities in addition to the Hall. To enhance maintenance supervision, it is recommended that additional personnel is assigned to assist the maintenance officer in effectively supervising maintenance activities across all facilities. The current workload of the maintenance officer, overseeing multiple facilities including the Hall, poses a significant challenge in providing effective supervision. By assigning additional hands to assist the maintenance officer, the workload can be balanced and shared more efficiently. This will allow for better allocation of resources and attention to each facility, including the Hall. By having additional personnel assigned to assist the maintenance officer, the supervision of maintenance activities can be enhanced. These additional hands can assist in conducting regular inspections, monitoring progress, ensuring adherence to established standards, and promptly addressing maintenance issues. This collaborative approach will improve the maintenance officer's ability to oversee maintenance works effectively, reduces response time for maintenance requests, and ensures that maintenance services meet the needs and expectations of students. Furthermore, assigning additional personnel to assist the maintenance officer allows for better coordination and collaboration among the maintenance team. With increased support, the team can work more cohesively, sharing knowledge, expertise, and responsibilities. This will further foster a culture of accountability, improve communication, and enables more efficient completion of maintenance tasks across all facilities.

CONCLUSION

In conclusion, it is evidence that addressing the persistent delays in responding to maintenance requests at Superannuation Hall necessitates the implementation of a comprehensive set of recommendations. The identified challenges, such as inadequate staffing levels, procurement delays, a subpar inventory control, and end-user neglect or negligence, all contribute to the inefficiencies in the maintenance management system of the Hall. Addressing the delays in responding to maintenance requests at Superannuation Hall requires implementing recommendations such as transferring additional technical staff, improving procurement processes, establishing an effective inventory control system by assigning a storekeeper to the Hall, educating students on the need to report all their maintenance needs for repairs/replacements and enhancing maintenance supervision. Collectively, implementing these recommendations will lead to significant improvements in the maintenance management system at Superannuation Hall. Students will experience more timely and efficient responses to their maintenance requests, resulting in increased satisfaction and trust. Furthermore, the enhanced maintenance services will reflect positively on the reputation of the University of Cape Coast, attracting prospective students and reinforcing its commitment to student welfare.

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