The Implementation of Cluster Leadership in BS Aeronautical Engineering in Holy Angel University and The Instructors' Assessment on Its Efficiency.

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Abstract*—The research study aimed to evaluate the effectiveness of the cluster leadership system in the Aeronautical Engineering program at Holy Angel University (HAU). The study analyzed survey responses from full-time faculty members to gain insights into their perceptions of the system and its impact on productivity and instructor satisfaction. Overall, the findings indicated that the cluster leadership system was perceived as effective in enhancing productivity, establishing clear goals and expectations, and improving time management within the instructional setting. It also facilitated positive relationships, valued diverse perspectives, and established performance standards. However, the survey identified areas for improvement, including the need to increase collaboration, improve work/task distribution, and address issues of motivation and accountability. The study highlighted the necessity for further refinements and enhancements to optimize the effectiveness of the cluster leadership system. Respondents provided recommendations to strengthen the system, such as granting better access for cluster heads, promoting specialization among cluster heads, and improving communication channels within the clusters.

***Indexed Terms*—Cluster Leadership, Organizational Structure, Instructor Assessment, Academe, Leadership.**

I. INTRODUCTION

Holy Angel University implements its quality management system in compliance with different standards and accreditations. The University's senior management regularly reviews and validates all programs, services, and processes for the improvement of its quality management system (HAU Quality Policy). Bachelor of Science in Aeronautical Engineering (BSAE) is a program offering under the School of Engineering and Architecture. The program is designed to prepare students for careers in aviation. It is a profession that uses fundamental scientific concepts in conjunction with mathematical and advanced computational techniques and technology to assure air transportation safety and address related challenges connected with creating and sustaining civilized life on our planet. The profession includes fields of specialization such as research & development, design & manufacture, aircraft maintenance & operation, and education & training. The program received Level 1 accreditation from the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) in August 2019 and it is the only university in the Philippines to have a 100% board exam passing rate for three years in a row and to have consistently produced board topnotchers since the program began in 2009.

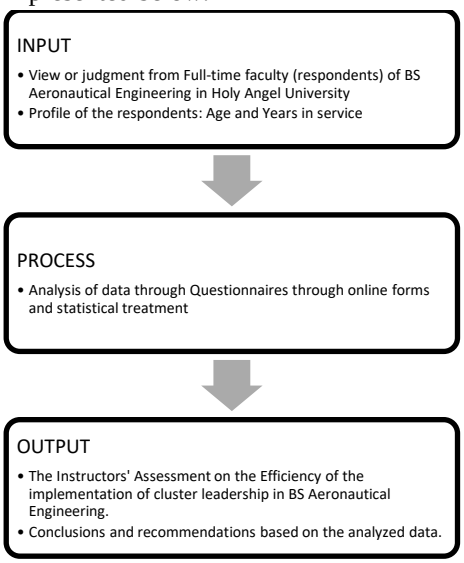
In connection with the strategic objective of HAU, which is academic quality and organizational excellence, the program BSAE continues to work on its program to comply with the HAU's Quality Management system and with the PACUCOA Level 1. To standardize instructions and course modules, in the start of school year 2021-2022, post-pandemic, a system of faculty groupings has been tried to properly organize subject holders. These groupings known to

the current faculty members as "subject clusters" are headed by cluster heads to lead the group in developing learning plans, course objectives and reaching program target outcomes. Since its implementation there have been no assessments or evaluations made to determine the efficiency of the said system. There is also no documented feedback regarding how the program's faculty finds the system, is the system efficient in their own opinion?

The researchers, taking up a course "Research in the Major Field – Seminar Paper" in their graduate studies, found the subject relevant. Questions or problems came into their thought pertinent to their current field which is Academe/Education. As leadership and organizational behavior is one of the major topics in Engineering Management, the researchers wanted to know if a cluster leadership being implemented in the BS Aeronautical Engineering program at Holy Angel University is appropriate and efficient in the view of full-time faculty. They conceptualize the research problem as to know how the instructors find the said leadership structure, is it efficient for them in terms of the productivity, time management, relationship with co-instructors, and program outputs.

II. CONCEPTUAL FRAMEWORK

This study will be utilizing the input-output framework presented below.



III. STATEMENT OF THE PROBLEM

The purpose of this study is to investigate the aeronautical engineering instructors' perception of the efficiency and effectiveness of the cluster leadership system. Furthermore, the study aims to explore the instructors' acceptance of the leadership system and its relationship to their age and time in service. By the end of this study, the researchers aim to answer the following questions:

1. Do the instructors find the cluster leadership efficient through the following aspects:
   a. Productivity
   b. Time Management
   c. Relationship with cluster members
   d. Output standards
   e. Overall Satisfaction level
2. Do they think that their age and years of experience have to do with their acceptability of cluster leadership system?
3. What aspects or areas of improvement in the cluster leadership system should be focused on, according to instructors' recommendations? What are their general perspectives on the system?

By addressing these questions, the study aims to provide insights to the instructors' perspectives on the cluster leadership system effectiveness, identify areas of improvement, and enhance the overall instructional experience within the aeronautical engineering cluster leadership system.

IV. SIGNIFICANCE OF THE STUDY

The study holds significant importance by providing valuable insights and recommendations regarding the efficiency and effectiveness of the cluster leadership system in the aeronautical engineering department. By collating the recommendations and perceptions of the instructors, the study addresses the critical aspects such as productivity, time management, relationship with cluster members, output standards, and overall satisfaction. The study's findings and recommendations have implications for various stakeholders. By addressing the research questions and assessing the instructors' perspectives, the study aims to contribute the enhancement of the cluster leadership system, improving the instructional experience and

outcomes within the aeronautical engineering department.

4.1 The University

Assessing the leadership structure helps ensure that it is functioning effectively and aligned with the organization's goals. Understanding the instructors' perception of the system will allow the university to assess the system's impact on productivity, time management, relationship with cluster members, and output standards. The study will provide valuable insights into the acceptance of the leadership system, considering their age and experience, to determine compatibility with different demographics. Additionally, it aids in talent development by identifying potential leaders and areas for training. The assessment of the cluster leadership system will aid in the implementation of the system in the various departments under the university after the enhancements noted by the recommendations suggested by the instructors. A well-structured leadership framework improves employee engagement and satisfaction, leading to enhanced organizational performance.

4.2 The Aeronautical Engineering Department

Evaluating the leadership structure ensures its effectiveness and alignment with the strategic direction for the Aeronautical Engineering Department. This will allow the department to gauge the effectiveness of the department in various aspects, specifically in the department productivity, time management, relationship of the department members, and output standards. The study will promote more efficient decision-making processes, communication, and collaboration, creating a conducive work environment. The study will allow the department to align its delivery of the program with the organizational goals and objectives alongside the alignment of the different instructor demographics on the system. The identification of areas of improvement will allow the department to refine and strengthen the cluster leadership system in the department.

4.3 The Faculty

The study will enable the instructors to identify areas for improvement, such as decision-making bottlenecks or communication issues. The valuable feedback from the instructors will allow the instructors to assess its impact on their teaching practice and instructional effectiveness. It provides opportunities for enhancing their professional growth not just as cluster leaders but as cluster members. Moreover, it improves communication and collaboration within the cluster, promoting a positive work environment that will contribute to their job satisfaction and engagement. The study's findings including their recommendations will empower the faculty members to voice their opinions to enhance the current system's effectiveness and overall satisfaction.

4.4 The Students

Evaluating the leadership structure ensures the delivery of high-quality education. It ensures alignment with the university's mission and values and the department's delivery of the program. It enhances communication and collaboration between instructors and students, fostering a supportive learning environment. Understanding the relationship between instructor age and experience with the cluster leadership system will allow students to comprehend potential variations in the instructional approaches of various aeronautical engineering instructors. By assessing the areas of improvement in the cluster leadership system, the study aims to enhance overall instructional experience for aeronautical engineering students, promoting a supportive and effective learning environment.

V. SCOPE AND DELIMITATION

The intent of this study is to know how full-time instructors perceive the efficiency of cluster leadership in their duties in Aeronautical Engineering Program of Holy Angel University. This study will mainly assess how they agree or disagree on certain aspects such as the effects of the cluster leadership on their productivity, their time management, their relationship with other instructors, and their output.

This study will be limited to the aeronautical engineering program of Holy Angel University, Academic Year 2022-2023. Only full-time instructors during the second semester will be included in the study. Those who have part-time teaching loads will not be part of the study.

VI. LITERATURE REVIEW AND DISCUSSION

6.1 Cluster leadership structure in academe

Cluster leadership is a way of managing academic institutions that has become increasingly popular. This review aims to give an overview of what researchers have found about cluster leadership in academia. We will look at its definition, key features, benefits, challenges, theories, real-life examples, faculty perspectives, best practices, and areas for future research.

As the demand for skilled professionals increases, there is a growing need for the rearrangement of educational structures, modernization of technologies, and the development of professional training [9]. In academia, the need for structured leadership is important to ensure effective and efficient operation, promote collaboration and innovation, and foster a conducive learning and research environment. To ensure effective academic leadership, it is crucial to develop systematic programs for leadership development [4]. Innovative clusters, particularly those focused on science, education, and the real sector of the economy, aim to create an environment conducive to intellectual and technological advancements [3]. Cluster leadership in academia means working together in interdisciplinary teams to solve complex problems and achieve goals. A clear and workable instructional guidance system is provided by the cluster approach [5]. Key features of cluster leadership include sharing decisions, collaborating, working across disciplines, and giving individuals and teams more freedom. Teams with cluster leadership or self-management can make decisions and manage their own work processes. They have the authority to establish objectives, plan tasks, allocate resources, and track progress. The team leader's role is to facilitate team decision-making and to help as needed. Setting clear goals, maintaining team cohesion, and dealing with potential conflicts are all challenges for self-managing teams. [6]

In a qualitative study by Jita and Mokhele, teachers who collaborated with other teachers with a delegated cluster head, positively identified that content knowledge has been enhanced alongside other benefits such as teacher leadership, collaboration, and instructional guidance compared to teachers who worked individually [4]. However, not enough information is available to document the efficacy of this system despite its prevalent use in the teacher's professional development. Cluster leadership can enhance academic delivery, but its effectiveness depends on several variables. Effective academic leaders have the skills and roles required to guide research universities to excellence, and they employ situational leadership styles [12]. The opportunity to become a teacher (cluster) leader, recognized by working with other teachers to improve instruction, constitutes a significant benefit of clustering, not only for the teachers but also for the system. One should keep in mind that the key role of these teacher leaders was not only to assist teachers with challenges, but also to collaborate with other teachers to improve instruction [4]. Several researchers concur that such cluster membership by teachers has several advantages, including the fact that the exchange and sharing of expertise are improved as stakeholders learn and solve problems collaboratively [2]. The evidence from Muijs in 2008 suggests that the participating teachers started to favor collaboration because it gave opportunities for those who would otherwise be frustrated by not knowing the content to seek help. Collaboration through clusters would result in the teachers experiencing less stress.[10]

Structured leadership provides alignment and direction in academic institutions. Clear roles and responsibilities and open communication ensures individuals to understand their roles to work together to achieve the organizational goal. Clear leadership structures ensure that students have access to quality educational programs, supportive faculty, and resources necessary for their academic success. It promotes a positive learning environment that encourages student engagement, motivation, and achievement. Implementing and managing cluster leadership in academia is not without its difficulties. If the various actors are to be appropriately engaged and committed, cluster policy implementation requires careful management [8]. Communication problems can arise when people from different disciplines use specialized language and have different ways of communicating. There can also be conflicts and resistance to change when cluster leadership clashes with traditional hierarchical structures. Additionally, it can be challenging to distribute resources fairly and

coordinate activities between different clusters. Another challenge to cluster leadership implementation is the lack of proper understanding and support of the system. Ali confirmed that the lack of cluster policy would limit the development and cluster capacity leaving no actions to benefit teaching and learning [1]. School cluster system is intended to serve as a platform for teacher professional development, but it was also revealed that the absence of a school cluster policy is negatively affecting the attitudes of teachers as they are not required to comply with school cluster affairs, and that could make it difficult to reprimand and correct them. Despite the lack of regulatory laws, school clusters need strong leaders to ensure better practices of the system

While current literature is helpful, there is still more to learn about cluster leadership. Future studies could explore how cluster leadership affects faculty retention and advancement, student success in different disciplines, and different models of coordination between clusters. Additionally, it would be valuable to investigate how technology and virtual collaboration can support cluster leadership. Cluster leadership is an exciting approach to managing academic institutions, promoting collaboration, innovation, and resource efficiency. Although challenges exist, research shows the potential benefits for faculty, students, and institutional performance. This review highlights the need for further research and offers insights into the current state of knowledge on cluster leadership in academia.

In summary, cluster leadership structures have shown their effectiveness in promoting collaboration, interdisciplinary research, and improved outcomes in universities Studies have explored determinants, accomplishments, applications, and impacts, shedding light on the importance of clear goals, robust communication, faculty engagement, and student experiences These insights contribute to the understanding of cluster leadership structures and their potential for enhancing the academic environment and fostering innovation in universities.

6.2 Other organizations perspectives in the cluster leadership system

Cluster leadership is a concept of gaining traction in organizational settings to achieve goals through small, designated teams. This review explores the literature on cluster leadership in organizations outside academia, focusing on its definition, characteristics, benefits, challenges, and best practices.

Autonomous work teams are generally beneficial, but it can be challenging to maintain highly effective teams over time. To keep teams performing well, organizations should focus on providing coaching and supportive supervision [13]. Effective communication about the roles and responsibilities of team members, supervisors, and managers is essential in autonomous teamworking. This clarity helps reduce conflicts and creates a more productive team environment. The role of first-line supervisors is crucial in developing and maintaining positive team dynamics and employee outcomes. Supervisors' management style plays a significant role in sustaining team processes, especially when there is stability. Organizations adopting autonomous work teams should invest in training first-line supervisors to effectively manage individuals who are self-managing.[7]

Organizations employ various forms of cluster leadership structures, such as self-managing teams, cross-functional teams, or project teams. These structures facilitate increased autonomy, accountability, and expertise integration, enabling teams to function effectively and efficiently. Implementing cluster leadership structures can present challenges. These may include coordination and communication difficulties, role ambiguity, power dynamics, and potential resistance to change. Organizations must address these challenges to ensure successful adoption and integration of cluster leadership. The claim made by Sundstrom et al. faces another problem in that the number of group members required to complete a task successfully may depend on the members' abilities and skills in relation to the task at hand [14]. Teams overly focused on the task may overlook important relationship issues. Teams that are overly focused on relationships will fail at more important tasks or reduce the quality of their output. As a result, teams may lose their credibility and reduce their motivation and their output.

Successful cluster leadership implementation requires attention to key factors and best practices. These include clear goal alignment, shared vision and values,

effective communication channels, leadership support, and the establishment of a collaborative and trusting organizational culture. Emphasizing team development, training, and ongoing support are also vital. Teams that develop and take responsibility for performance standards will outperform groups that lack such standards.

While the literature on cluster leadership is growing, there are still areas for further research. Future studies can delve into the effectiveness, challenges, and dynamics of cluster leadership in different organizational contexts. Exploring specific industries, team compositions, and long-term impacts can enhance our understanding of this leadership approach. This literature review provides an overview of cluster leadership in organizations, covering its definition, characteristics, benefits, challenges, and best practices. It highlights the significance of cluster leadership in fostering collaboration, innovation, and improved performance in various organizational settings.

VII. METHODOLOGY

This study is categorized as descriptive method. This type of research aims to provide a detailed description on how the cluster leadership is accepted by the respondents of this study mentioned in the previous chapter. This study will take advantage of descriptive research to gather information about the situation being experienced by the respondents. Through this method, the research will be refined by form validation of a questionnaire, thus providing better and refined instrument for this research. The researchers intend to gather, analyze and present facts concerning the nature and status of the implementation of cluster leadership in Holy Angel University, specifically in the Aeronautical Engineering program.

VIII. RESPONDENTS

The target respondents for this study are aeronautical engineering instructors employed and actively teaching full-time at Holy Angel University for the school year 2022-2023. These instructors play a vital role in shaping the education and training of future aeronautical engineers and possess valuable insights into the cluster leadership system within the department.

The inclusion criteria for the respondents are as follows:

1. Aeronautical Engineering Instructors: The respondents must hold a teaching position in aeronautical engineering. Their expertise and experience in the subject matter make them key stakeholders in evaluating the effectiveness of the cluster leadership system.
2. Current Employment: The respondents must be currently employed by Holy Angel University during the school year 2022-2023. This ensures that they have firsthand experience with the department's cluster leadership system and can provide relevant and up-to-date feedback.
3. Active Full-Time Teaching Role: The respondents must be actively teaching full-time aeronautical engineering courses. Their direct involvement in student instruction and guidance enables them to provide informed perspectives on the cluster leadership system's impact on teaching and learning outcomes.

The selection of aeronautical engineering instructors as respondents ensures that the study captures the unique perspectives and experiences of those directly involved in the educational process within the department. Their insights will be instrumental in assessing the current cluster leadership system and identifying areas for improvement. By engaging aeronautical engineering instructors as respondents in this study, it is aim to gain a comprehensive understanding of their perspectives on the cluster leadership system and gather valuable feedback to enhance the department's educational practices.

IX. INSTRUMENTS

For this study's purpose, the researchers will use an online survey form, specifically Google Forms, to collect data from the respondents. The survey questionnaire has undergone validation by a research expert to ensure its reliability and validity. Online survey forms offer numerous benefits for conducting online surveys in academic research. It is beneficial for the researchers and respondents to utilize as it provides an accessible and efficient user-friendly interface. The

platform's data security features protect the confidentiality of responses, and its data analysis and visualization capabilities facilitate efficient data interpretation.

To maintain confidentiality, anonymity, and ethical considerations, all responses will be treated with the utmost confidentiality. The data collected will be analyzed in an aggregated manner, ensuring that individual responses cannot be traced back to specific respondents. The information provided by the respondents will be used solely for academic research purposes and will be reported in a manner that preserves the anonymity of the participants. The research instruments for this study include two types of questions: Likert scale and open-ended. By using Likert scale and open-ended questions, the study aims to gather both quantitative and qualitative data, providing a comprehensive understanding of the instructors' views on the current cluster leadership system.

This approach ensures a streamlined and reliable data collection process, taking advantage of the platform's user-friendly interface, accessibility, time efficiency, data security, and analysis capabilities. By leveraging these benefits, researchers can effectively gather insights from aeronautical engineering instructors regarding the current cluster leadership system in a manner that aligns with the objectives and requirements of the research.

X. DATA GATHERING PROCEDURES

The data gathering procedure for this research study involves using an online survey conducted through Google Forms. The first step is to obtain permission from the Aeronautical Engineering Program Coordinators to conduct the survey among Full-Time Aeronautical Engineering instructors teaching at the university during the 2022-2023 school year. Once granted, the survey link will be distributed to the instructors via email. The instructors will be assured that their responses will be treated confidentially and anonymously.

Instructors will be given a designated period to complete the survey, and reminders may be sent to encourage participation and ensure an adequate response rate. The survey will include questions covering various aspects of the cluster leadership system, including productivity, time management, relationships with cluster members, output standards, and overall satisfaction. Additionally, open-ended questions will be included to gather instructors' recommendations for improvement and their general perspectives on the system.

Upon completion of the survey, the collected data will be securely stored and analyzed using suitable statistical methods. The findings will be presented in an aggregated and anonymous manner to protect the privacy of the participants. The data gathering procedure aims to gather valuable insights from aeronautical engineering instructors regarding the current cluster leadership system. This will contribute to the research objectives and provide a foundation for identifying areas of improvement in the system.

XI. TREATMENT OF DATA

For this research study, the researchers will use statistical tools to analyze the collected data and gain insights into the current cluster leadership system in the aeronautical engineering department.

It will start by using descriptive statistics to summarize the survey responses. This will involve calculating measures such as averages and standard deviations to understand the overall perceptions of instructors regarding productivity, time management, relationships with cluster members, output standards, and overall satisfaction.

In addition, the open-ended responses qualitatively will be analyzed. This will involve identifying common themes and patterns in instructors' recommendations for improvement and their general perspectives on the cluster leadership system.

By using these statistical tools, it is aim to provide a clear and concise understanding of the survey data, enabling us to draw meaningful conclusions and make informed recommendations regarding the current cluster leadership system in the aeronautical engineering department.

XII. PRESENTATION AND INTERPRETATION

The survey assessed the cluster leadership system's effectiveness in enhancing productivity and instructor satisfaction in the instructional setting. The survey was conducted among instructors from the aeronautical engineering department. A total of 13 full-time instructors participated in the survey, representing a diverse range of age groups and experience levels. Likert scale questions were used to ask instructors about their opinions and experiences regarding productivity, time management, relationships with cluster members, output standards, and overall satisfaction. Open-ended questions at the end provided the instructors with opportunity to give detailed, written responses about their recommendations for improving the cluster leadership system and their general perspectives.

Question 1: The cluster leadership system effectively enhances productivity in the instructional setting.

1. Strongly Disagree: 7.7%
2. Disagree: 7.7%
3. Neutral: 23.1%
4. Agree: 30.8%
5. Strongly Agree: 30.8%

The majority of respondents (61.6%) agree or strongly agree that the cluster leadership system effectively enhances productivity in the instructional setting.

Question 2: The cluster leadership system provides clear goals and expectations for instructors, leading to increased productivity.

1. Strongly Disagree: 7.7%
2. Disagree: 0%
3. Neutral: 23.1%
4. Agree: 46.2%
5. Strongly Agree: 23.1%

A significant percentage of respondents (69.3%) believe that the cluster leadership system provides clear goals and expectations for instructors, leading to increased productivity.

Question 3: The cluster leadership system supports and encourages innovative and creative approaches to improve productivity.

1. Strongly Disagree: 0%
2. Disagree: 30.8%
3. Neutral: 15.4%
4. Agree: 23.1%
5. Strongly Agree: 30.8%

The survey reveals that more than half of the respondents (53.9%) perceive that the cluster leadership system supports and encourages innovative and creative approaches to improve productivity.

Question 4: The cluster leadership system helps instructors effectively manage their time and prioritize tasks.

1. Strongly Disagree: 7.7%
2. Disagree: 0%
3. Neutral: 15.4%
4. Agree: 38.5%
5. Strongly Agree: 38.5%

The survey reveals that a majority of respondents (77%) perceive that the cluster leadership system helps instructors effectively manage their time and prioritize tasks.

Question 5: The cluster leadership system supports efficient allocation of time for instructional activities.

1. Strongly Disagree: 0%
2. Disagree: 7.7%
3. Neutral: 15.4%
4. Agree: 30.8%
5. Strongly Agree: 46.2%

A significant percentage of respondents (76.9%) believe that the cluster leadership system supports efficient allocation of time for instructional activities.

Question 6: The cluster leadership system encourages effective planning and scheduling to optimize time management.

1. Strongly Disagree: 0%
2. Disagree: 0%
3. Neutral: 23.1%
4. Agree: 38.5%
5. Strongly Agree: 38.5%

The survey reveals that a majority of respondents (77%) perceive that the cluster leadership system encourages effective planning and scheduling to optimize time management.

Question 7: The cluster leadership system promotes positive and collaborative relationships among instructors within the cluster.
1. Strongly Disagree: 7.7%
2. Disagree: 0%
3. Neutral: 23.1%
4. Agree: 46.2%
5. Strongly Agree: 23.1%

The survey reveals that most respondents (69.3%) perceive that the cluster leadership system promotes positive and collaborative relationships among instructors within the cluster.

Question 8: The cluster leadership system facilitates effective communication and teamwork among cluster members.
1. Strongly Disagree: 7.7%
2. Disagree: 0%
3. Neutral: 30.8%
4. Agree: 23.1%
5. Strongly Agree: 38.5%

The survey reveals that a majority of respondents (61.6%) believe that the cluster leadership system facilitates effective communication and teamwork among cluster members.

Question 9: The cluster leadership system values and respects the diverse perspectives and contributions of cluster members.
1. Strongly Disagree: 0%
2. Disagree: 15.4%
3. Neutral: 15.4%
4. Agree: 46.2%
5. Strongly Agree: 23.1%

A significant percentage of respondents (69.3%) believe that the cluster leadership system values and respects the diverse perspectives and contributions of cluster members.

Question 10: The cluster leadership system establishes clear performance standards and expectations for instructors.
1. Strongly Disagree: 7.7%
2. Disagree: 0%
3. Neutral: 30.8%
4. Agree: 38.5%
5. Strongly Agree: 23.1%

A significant percentage of respondents (61.6%) believe that the cluster leadership system establishes clear performance standards and expectations for instructors.

Question 11: The cluster leadership system effectively monitors and evaluates instructor performance based on predefined output standards.
1. Strongly Disagree: 7.7%
2. Disagree: 30.8%
3. Neutral: 30.8%
4. Agree: 7.7%
5. Strongly Agree: 23.1%

A significant percentage of respondents (38.5%) believe that the cluster leadership system does not effectively monitor and evaluate instructor performance based on predefined output standards.

Question 12: The cluster leadership system supports instructors in meeting or exceeding output standards through appropriate resources and guidance.
1. Strongly Disagree: 7.7%
2. Disagree: 7.7%
3. Neutral: 23.1%
4. Agree: 30.8%
5. Strongly Agree: 30.8%

The survey reveals that a majority of respondents (61.6%) perceive that the cluster leadership system supports instructors in meeting or exceeding output standards through appropriate resources and guidance.

Question 13: The cluster leadership system meets my expectations and needs as an instructor.
1. Strongly Disagree: 7.7%
2. Disagree: 7.7%
3. Neutral: 23.1%
4. Agree: 38.5%
5. Strongly Agree: 23.1%

More than half of the respondents (61.5%) perceive that the system meets their expectations and needs. This indicates a positive perception of the cluster leadership system's effectiveness in meeting instructor requirements.

Question 14: Overall, I am satisfied with the cluster leadership system.

1. Strongly Disagree: 7.7%
2. Disagree: 15.4%
3. Neutral: 23.1%
4. Agree: 15.4%
5. Strongly Agree: 38.5%

A significant percentage of respondents (53.8%) are satisfied with the system. This reaffirms the positive perception of the cluster leadership system among the participants.

Question 15: Does your age impact your perception of the acceptability of the cluster leadership system?

1. Strongly Disagree: 23.1%
2. Disagree: 23.1%
3. Neutral: 15.4%
4. Agree: 15.4%
5. Strongly Agree: 23.1%

The survey results indicate that only 38.5% of the respondents believe that their age influences their perception of the acceptability of the cluster leadership system. This suggests that age has a relatively minor impact on how individuals perceive the system's acceptability.

Question 16: Does your level of experience affect your acceptance of the cluster leadership system?

1. Strongly Disagree: 15.4%
2. Disagree: 0%
3. Neutral: 38.5%
4. Agree: 15.4%
5. Strongly Agree: 30.8%

A significant percentage of respondents (46.2%) feel that their level of experience affects their acceptance of the cluster leadership system. This indicates that individuals' level of experience plays a more noticeable role in shaping their acceptance of the system.

Question 17: In your opinion, what aspects of the cluster leadership system should be improved to enhance its effectiveness?

The question regarding the aspects of the cluster leadership system that should be improved to enhance its effectiveness yielded a range of responses. Participants provided the following suggestions:

- Increase collaboration within the team.
- Cluster heads should have access to their respective clusters to monitor and supervise effectively.
- On its own it is effective. Sometimes member of the cluster tend to be lazy and does not drag their own weight.
- Compliance to cluster goals should be improved.
- Ensuring that everyone in the cluster does their part on the system.
- All members should be capable of contributing to the preparation of course deliverables.
- Improve the work/task distribution system between members of the cluster and the cluster head.
- Leader should have the final decision for their cluster
- The cluster leadership system is effective on the organizational level, but does not promote the ability of each instructors to implement their own specialization. Its effectiveness can be enhance and promote by starting on who will be the cluster head. The cluster head shall have the requirements of specialization on that field and the years of experience on teaching the subject. The cluster head shall have the power to promote or pre select to those who will assist him on handling the subject, to promote quick teamwork and have the same mindset on how the subject will be handle. The second thing is having the loads of the instructor to be given as soon as possible, to give them time to prepare in case they are not familiar on the subject that will be tackle. Having the time to prepare and coordinate with the cluster head will improve each instructors ability to implement all of their own unique way of teaching or specialization. Third, the cluster leadership system can be improve by having a maximum members of 3 instructors per subject. It can be implemented that per term (Prelim, Midterm, Final) The Cluster head will rotate to give way for the other members to implement their teaching methods.
- Communication- Leadership starts with communication.
- In my opinion clusters should have regular meetings to discuss the status of each class.

The responses indicate that there are several areas where the cluster leadership system can be improved to enhance its effectiveness. One key aspect is the need for better access and supervision for cluster heads to monitor and guide their respective clusters effectively. It is also important to address the issue of some members being less motivated and not pulling their weight, as this can impact overall effectiveness. Improving compliance with cluster goals and ensuring that all members fulfill their responsibilities emerged as important suggestions. This suggests a desire for greater accountability and commitment within the clusters. Additionally, participants highlighted the importance of collaboration and work distribution, emphasizing the need for a fair and efficient system to allocate tasks among cluster members. The suggestions regarding decision-making authority, specialization, and preparation indicate a desire for cluster heads to have more control and expertise in their respective fields. This could lead to more effective teaching practices and better alignment with instructors' areas of expertise.

Question 18: How do you think the cluster leadership system can better support instructors in achieving their instructional goals and objectives?

- Leaders must constantly update the team about the target output or lesson each week. Ensure that presentations are clear and easy to understand, well designed, and free from errors.
- Weekly meeting about the topics or activities to be done is a must to be prepared and to be precise in executing each task.
- Cluster leadership system provides a clear path on the topics to be discussed. It should also be practice to distribute the workloads on other member of the cluster to ease the burden on the leader.
- By clearing out deliverables and standardizing courses for quality education.
- Making sure that the cluster head is not the only one managing and contributing to the performance and instructional goals of the instructor and the cluster itself
- By establishing effective communication channels, offering professional development opportunities, providing necessary resources, offering ongoing support and mentoring, recognizing achievements, leveraging data, and promoting collaboration, the cluster leadership system can better support instructors in achieving their instructional goals and objectives, ultimately enhancing the quality of education within the cluster.
- Assign instructors according to their expertise.
- Equal learning and output for students
- It can better support instructor by giving an instructional goal that is focus on the academe requirements but also, giving an objective that benefits them for the work field. By leadership seminars, trainings and etc, provided by the school for each cluster head.
- Cluster leadership can encourage and supports instructors to improve their teaching practices, leading to increased student achievement and their goals.
- It gives instructors a clear goal and objectives for the semester. And also allows a cluster to have a clear schedule and plan.

The responses provided valuable insights on how the cluster leadership system can better support instructors in achieving their instructional goals and objectives. Respondents emphasized the need for improved communication and clarity, highlighting the importance of clear and regular updates on target outputs and lessons. They stressed the significance of weekly meetings to plan and discuss topics, ensuring instructors are prepared and precise in their execution. The distribution of workloads among cluster members was also suggested to ease the burden on the cluster leader, allowing instructors to focus on their expertise. Respondents emphasized the need for standardization and quality assurance in courses and deliverables to promote consistency and ensure high-quality education. Overall, these suggestions aim to enhance support, collaboration, and effectiveness within the cluster leadership system to better align with instructors' instructional goals and objectives.

XIII. ANALYSIS AND DISCUSSION

13.1 Productivity

- The cluster leadership system effectively enhances productivity in the instructional setting, with an average score of 3.69 and a standard deviation of 1.20.

- It provides clear goals and expectations for instructors, leading to increased productivity, with an average score of 3.77 and a standard deviation of 1.05.
- The cluster leadership system supports and encourages innovative and creative approaches to improve productivity, with an average score of 3.54 and a standard deviation of 1.22.

Instructors generally agree that the cluster leadership system effectively enhances productivity in teaching. They find the clear goals and expectations provided by the system beneficial in increasing productivity. However, the standard deviation suggests some variability in responses, with a range of perceptions among participants. This indicates that while some individuals perceive the system as effective in enhancing productivity, other respondents have different experiences or opinions. The system's delivery of clear goals and expectations for instructors, as indicated by the average score of 3.77, further contributes to increased productivity. However, the support and encouragement of innovative and creative approaches, as reflected by the average score of 3.54, scored the lowest average noting the room for improvement.

13.2 Time Management

- The cluster leadership system helps instructors effectively manage their time and prioritize tasks, with an average score of 4.00 and a standard deviation of 1.11.
- It supports efficient allocation of time for instructional activities, with an average score of 4.15 and a standard deviation of 0.95.
- The cluster leadership system encourages effective planning and scheduling to optimize time management, with an average score of 4.15 and a standard deviation of 0.77.

Respondents generally perceive the cluster leadership system as beneficial in helping instructors manage their time, allocate it efficiently for instructional activities, and promote effective planning and scheduling.

13.3 Collaborative Relationships

- The cluster leadership system promotes positive and collaborative relationships among instructors within the cluster, with an average score of 3.77 and a standard deviation of 1.05.
- It facilitates effective communication and teamwork among cluster members, with an average score of 3.85 and a standard deviation of 1.17.
- The cluster leadership system values and respects the diverse perspectives and contributions of cluster members, with an average score of 3.77 and a standard deviation of 0.97.

According to respondents, the cluster leadership system fosters positive and collaborative relationships among instructors. It facilitates effective communication, teamwork, and values diverse perspectives and contributions.

13.4 Output Standards

- The cluster leadership system establishes clear performance standards and expectations for instructors, with an average score of 3.69 and a standard deviation of 1.27.
- It effectively monitors and evaluates instructor performance based on predefined output standards, with an average score of 3.62 and a standard deviation of 1.21.
- The cluster leadership system supports instructors in meeting or exceeding output standards through appropriate resources and guidance, with an average score of 3.62 and a standard deviation of 1.15.

Respondents indicate that the cluster leadership system sets clear output standards and evaluates instructor performance. It provides support and guidance to help instructors meet or exceed output standards.

13.5 Overall Satisfaction

- The cluster leadership system meets the expectations and needs of instructors, with an average score of 3.08 and a standard deviation of 1.27.
- Overall, respondents express satisfaction with the cluster leadership system, with an average score of 3.69 and a standard deviation of 1.44.

The average scores for overall satisfaction indicate that respondents have mixed views regarding the extent to which the cluster leadership system meets their expectations and needs. Based on the survey results, it can be inferred that the cluster leadership system generally meets the expectations and needs of instructors. The standard deviations suggest a wide range of responses, indicating diverse opinions and experiences among participants.

13.6 Impact of Age and Experience on Acceptance

- The survey results show that participants' age can affect how acceptable they find the cluster leadership system. On average, the score for the impact of age on acceptability is 2.92, with a standard deviation of 1.49.
- The data indicates that participants' level of experience can affect their acceptance of the cluster leadership system. The average score for the impact of experience on acceptance is 3.46, with a standard deviation of 1.34.

The average score suggests that respondents have a somewhat neutral stance regarding the influence of their age on the acceptability of the cluster leadership system. The average score suggests that respondents, on average, believe that their level of experience affects their acceptance of the cluster leadership system. However, similar age's impact on acceptance, the standard deviation indicates a significant variation in responses, signifying differing experiences and viewpoints based on participants' level of experience.

13.7 Instructor's Suggestions on Aspects to Improve to Enhance Cluster System Effectiveness

The analysis of the instructor's suggestions on aspects to improve in order to enhance the effectiveness of the cluster system reveals several key recommendations. First, instructors emphasize the importance of cluster heads having access to their respective clusters to effectively monitor and supervise activities. This highlights the need for strong leadership and oversight. Additionally, instructors express concerns about some members of the cluster being lazy and not contributing their fair share of work. This indicates the need for accountability and ensuring that all cluster members actively participate and fulfill their responsibilities. Compliance to cluster goals and effective task distribution are also identified as areas for improvement. The suggestions provided by instructors point to the significance of clear communication, effective leadership, accountability, and task management in enhancing the overall effectiveness of the cluster system.

13.8 Instructor's Suggestions for Improving the Cluster Leadership System's Support for Instructors in Achieving Instructional Goals and Objectives.

The analysis of the responses to the question on improving the cluster leadership system's support for instructors in achieving instructional goals and objectives reveals several key findings. Effective communication is identified as crucial, emphasizing the need for regular updates, clear presentations, and error-free materials. Regular meetings are also seen as important for planning and discussing topics, promoting collaboration and precision in teaching. The distribution of workloads within the cluster is suggested to alleviate the leader's burden and allow instructors to focus on their expertise. Standardization and quality assurance are emphasized as essential for consistent and high-quality education. Overall, the findings suggest that improving communication, promoting collaboration, distributing workloads, and implementing quality measures can enhance the cluster leadership system's support for instructors in achieving instructional goals and objectives.

XIV. SUMMARY

Chapter I introduces the implementation of a quality management system and the Bachelor of Science in Aeronautical Engineering (BSAE) program at Holy Angel University (HAU). The BSAE program has achieved Level 1 accreditation and a strong track record of producing board topnotchers. As part of HAU's quality management system, the researchers have implemented a faculty grouping system called "subject clusters." However, no assessments or evaluations have been conducted to determine the efficiency of this system. Therefore, the purpose of this study is to investigate the efficiency and effectiveness of the cluster leadership system from the perspective of full-time faculty in the BSAE program. The study aims to explore instructors' acceptance of the leadership system, its relationship to their age and years of experience, and identify areas for

improvement. The findings and recommendations will contribute to enhancing the cluster leadership system and improving the instructional experience within the aeronautical engineering department.

Chapter II delves into the concept of cluster leadership in both academia and organizational settings. In academia, cluster leadership entails interdisciplinary teamwork, fostering collaboration, and achieving common goals. It plays a crucial role in enhancing content knowledge, promoting teacher leadership, and providing instructional guidance. However, challenges such as communication issues and resistance to change may arise. In organizational settings, cluster leadership is implemented through autonomous work teams, leading to innovation and improved performance. Yet, challenges like coordination difficulties and role ambiguity may hinder its effectiveness. Successful implementation requires aligning goals, effective communication, and support from leadership. While cluster leadership has shown promise, further research is necessary to explore its broader impact.

Chapter III, Research Design and Methodology, outlines the research design and methodology employed in the study. The researchers adopt a descriptive research approach to gather comprehensive information about the acceptance and effectiveness of the cluster leadership system in the Aeronautical Engineering program at Holy Angel University. The target respondents are full-time aeronautical engineering instructors, and data will be collected through an online survey using Google Forms. The survey incorporates Likert scale questions and open-ended questions to capture both quantitative and qualitative data. Descriptive statistics and qualitative analysis will be employed to analyze the collected data and derive meaningful conclusions.

Chapter IV presents the survey results, which indicate that the cluster leadership system is generally perceived as effective in enhancing productivity and instructor satisfaction in the instructional setting. The majority of respondents agreed or strongly agreed that the system enhances productivity, provides clear goals and expectations, supports time management, promotes positive relationships, values diverse perspectives, and establishes performance standards. However, areas for improvement were also identified, including increasing collaboration, improving work/task distribution, and addressing issues of motivation and accountability. The survey respondents provided suggestions to enhance the system's effectiveness, such as granting better access for cluster heads, specializing cluster head roles, and improving communication channels. Overall, the cluster leadership system demonstrates potential in supporting instructors' instructional goals and objectives, but further refinement and enhancements are needed to maximize its benefits.

CONCLUSION

This research study aimed to investigate the efficiency and effectiveness of the cluster leadership system in the Aeronautical Engineering program at Holy Angel University (HAU). Through the analysis of survey results from full-time faculty members, valuable insights were obtained regarding their perceptions of the system and its impact on productivity and instructor satisfaction. The findings of the study indicate that the cluster leadership system is generally perceived as effective in enhancing productivity and establishing clear goals and expectations within the instructional setting. Faculty members acknowledged the system's positive influence on time management, fostering positive relationships, valuing diverse perspectives, and establishing performance standards.

However, the survey also revealed areas for improvement, such as increasing collaboration, improving work/task distribution, and addressing issues of motivation and accountability. These findings highlight the need for further refinements and enhancements to optimize the cluster leadership system's effectiveness. To enhance the system, recommendations were provided by the respondents, including granting better access for cluster heads, promoting specialization of cluster heads, and improving communication channels within the clusters. By implementing these suggestions, Holy Angel University can strengthen the cluster leadership system, leading to increased collaboration, improved task distribution, and enhanced motivation and accountability among faculty members.

Overall, the survey results and recommendations presented in this study offer practical implications for improving the cluster leadership system and advancing the instructional experience within the aeronautical engineering department at Holy Angel University. It is through continuous evaluation and refinement that educational institutions can foster an environment conducive to collaboration, innovation, and excellence in teaching and learning.

RECOMMENDATION

Based on the research findings, the following recommendations are suggested to improve the effectiveness of the cluster leadership system in the Aeronautical Engineering program at Holy Angel University:

1. Provide cluster heads with better access to resources and decision-making authority.
2. Encourage cluster heads to specialize in their areas of expertise through professional development opportunities.
3. Improve communication channels within clusters and between cluster heads and faculty members.
4. Foster a culture of collaboration among faculty members within the clusters.
5. Ensure equitable distribution of work and tasks among faculty members.
6. Enhance motivation and accountability through recognition and rewards.
7. Conduct regular assessments and evaluations to monitor and improve the cluster leadership system.
8. Implementing these recommendations can enhance the effectiveness of the cluster leadership system and create a supportive environment for faculty members in the aeronautical engineering department.

To further improve the study and contribute to the understanding of the cluster leadership system in academia, the following recommendations are proposed:

1. Expand the scope of the study: Consider including additional academic programs or departments within Holy Angel University to gain a comprehensive understanding of the cluster leadership system across different disciplines.
2. Conduct qualitative interviews: Supplement the quantitative data gathered through surveys with qualitative interviews to gain deeper insights into faculty members' experiences and perceptions of the cluster leadership system. This can provide a richer understanding of the challenges and opportunities associated with its implementation.
3. Explore student perspectives: Extend the research to include the perspectives of students enrolled in the Bachelor of Science in Aeronautical Engineering program. Investigate how the cluster leadership system impacts their learning experience, academic performance, and overall satisfaction.
4. Longitudinal study: Conduct a longitudinal study to observe the long-term effects of the cluster leadership system. Track changes in faculty satisfaction, productivity, and student outcomes over an extended period. This can provide valuable insights into the sustainability and effectiveness of the system over time.
5. Comparative analysis: Compare the cluster leadership system at Holy Angel University with similar systems implemented in other universities or academic institutions. Identify best practices and learn from successful implementations to further enhance the cluster leadership system.
6. Implement pilot interventions: Based on the identified areas for improvement, develop and implement pilot interventions within the aeronautical engineering department to test the effectiveness of specific strategies. Monitor the impact of these interventions and refine them based on feedback from faculty members and students.

By implementing these further recommendations, the study can contribute to the continuous improvement and refinement of the cluster leadership system, benefiting both faculty members and students within the Aeronautical Engineering program and potentially informing similar systems in other academic institutions.

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