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Exploring Leadership Theories in Engineering Student Organizations at Holy Angel University

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Abstract- This study explores the application of leadership theories among student leaders in engineering organizations at Holy Angel University. Using a qualitative descriptive approach, data were collected through questionnaires and interviews with 12 student presidents from various engineering disciplines. The findings highlight the prevalence of Situational Leadership, Fiedler's Contingency Theory, and Leader-Member Exchange (LMX) Theory in their leadership practices. Results indicate that student leaders effectively adapt their leadership styles based on team needs and situational demands, fostering collaboration, performance, and member engagement. The study underscores the importance of aligning leadership behaviors with organizational context and offers insights into enhancing leadership development programs within academic institutions.

Indexed Terms- Leadership Theories, Student Organizations, Student Leadership, Management.

I. INTRODUCTION

A. Background of Study

Holy Angel University (HAU) is home to a vibrant community of engineering organizations that foster innovation, professional growth, and hands-on learning. Among these, the Institute of Electronics Engineers of the Philippines (IECEP) - HAU Chapter, the Philippine Society of Mechanical Engineers (PSME) - HAU Chapter, Philippine Institute of Industrial Engineers (PIIE) and the Institute of Electrical and Electronics Engineers (IEEE) - HAU Student Branch stand out. These organizations provide students with opportunities to engage in technical seminars, workshops, and competitions, enhancing their practical skills and industry knowledge. Additionally, the Society of of Aerospace Engineers-Student Chapter (SAEP) - HAU Chapter and the Philippine Institute of Civil Engineers (PICE) - HAU Chapter offer specialized activities and resources tailored to aeronautical and civil engineering students, respectively. Through these organizations, HAU engineering students are equipped with the tools and experiences necessary to excel in their chosen fields and contribute meaningfully to the engineering profession.

Joining engineering organizations at Holy Angel University (HAU) offers numerous benefits that can significantly enhance your academic and professional journey. These organizations provide a platform to connect with peers, faculty, and industry professionals, fostering valuable networking opportunities that can lead to mentorship, internships, and job prospects. Through workshops, seminars, and hands-on projects, students can develop both technical and soft skills crucial for their careers. Membership often includes access to conferences, certifications, and other professional development resources, boosting resumes and career prospects.

Additionally, students gain industry exposure through visits, competitions, and staying updated with the latest trends and technologies. Leadership roles within these organizations help build management skills, while the sense of community and belonging makes the university experience more enriching and enjoyable. Overall, these organizations equip HAU engineering students with the tools and experiences necessary to excel in their chosen fields and contribute meaningfully to the engineering profession.

Situational leadership involves adapting leadership styles to meet the needs of team members. In HAU's engineering organizations, leaders use different styles such as telling, selling, participating, and delegating depending on the situation. This approach helps effectively support and develop members, enhancing their skills, professional growth, and overall university experience.

B. Objective of the Study

General Objectives:

The main objective of this study is to investigate how leadership theories correlates with team performance based on the academic organization in the School of Engineering and Architecture of Holy Angel University (SEA-HAU).

Specific Objectives:

1.) determine the extent to which leadership style is practiced in different student organizations in the SEA-HAU.

2.) Analyze what type of leadership theories are present on the student organizations.

3.) to evaluate student perceptions on what leaders are based on the principle of HAU-SEA Holy Angel University.

C. Significance of the Study

The outcomes of this study will offer valuable insights for the teachers, students, and administrators of SEA-HAU Student organization advisers, through the identification of their predominant leadership styles can refine their approaches to foster more meaningful and productive interactions with the students within the selected organization, ultimately enhancing academic and team principle within the organization of SEA-HAU. By aligning their practices with leadership behaviors that students perceive as effective, Advisers can adopt strategies that promote motivation, engagement, and trust. Students and leaders, in turn, will benefit from improved adviser-student relationships, which are foundational to enhancing leadership theories, thereby cultivating a more supportive and empowering learning environment. For administrators, the findings will inform the development of targeted professional development programs that strengthen leadership competencies among co-educators, ensuring that the leadership styles and theories being cultivated are those most conducive to student success with relation to situational leadership.

II. METHODOLOGY

A. Research Design

This study utilized a qualitative research design with descriptive methods. The descriptive method determined the extent to which leadership theories are being applied and practiced in different student organizations in the SEA-HAU. Descriptive method was used to analyze the Likert-scale questions on how the student practices under the demographic environment that influences their leadership theories.

B. Population and Sample of the Study

The population will be those students who have handled the president position at least one term on their organization and will be conducted with the use of heterogeneous purposive sampling methods. The total population will be 12 students, covering the school year 2023-2024 and 2024-2025.

C. Research Instruments

The researchers used questionnaires and interviews to determine the extent to which type of leadership theories is practiced in selected student organization in the School of Engineering and Architecture of Holy Angel University. The research tools used Likert-scale questions to determine how student leaders under the SEA-HAU practice their leadership influence among their organization during their term.

D. Data Collection Procedure

The researchers sought ethical clearance and permission from past student leaders for the interview and questionnaire. Clearance from faculty advisers from each organization has also been secured.

III. RESULTS AND DISCUSSION

Table 1. (Situational Leadership)

	Qualities of a situational leader	
Population	YES	NO
Student 1 (AE)	✓	
Student 2 (AE)	✓	
Student 3 (CE)		✓
Student 4 (CE)	✓	
Student 5 (EE)	✓	
Student 6 (EE)	✓	
Student 7 (IE)	✓	
Student 8 (IE)	✓	

Student 9 (ME)	✓	
Student10 (ME)	✓	
Student11 (CP)	✓	
Student12 (CP)	✓	

To be an effective leader, one must possess the necessary capabilities and be equipped with theoretical frameworks that support decision-making across various situations. At SEA-HAU, student leaders are selected through a democratic voting system, ensuring that leadership roles are filled by individuals chosen by their peers. As outlined in the Leadership Style Handbook, the Situational Leadership Approach emphasizes that effective leadership is contingent upon the interaction between a leader's traits and the specific demands of a given situation. This approach highlights the importance of aligning leadership behaviors with contextual variables to achieve optimal outcomes.

SEA-HAU student leaders are evaluated based on key qualities associated with effective situational leadership: Insight, Flexibility, Trust, Problem-Solving, and Coaching. Table 1 presents an assessment of ten student presidents (two from each student organization) based on their track records and feedback from former officers. The findings reveal that eleven out of 12 presidents demonstrated all five essential qualities, while only one fell short, lacking two of the identified traits.

These results suggest that SEA-HAU fosters a leadership environment that not only supports but also cultivates effective situational leaders. The institution's commitment to democratic selection and leadership development contributes to a culture of adaptability, collaboration, and continuous growth.

Table 2. Least preferred coworker (LPC) scale summary

	Performance	
Population	Task – Oriented	Relationship-Oriented
Student 1 (AE)	✓	
Student 2 (AE)		✓
Student 3 (CE)		✓
Student 4 (CE)	✓	
Student 5 (EE)	✓	
Student 6 (EE)	✓	
Student 7 (IE)	✓	
Student 8 (IE)	✓	
Student 9 (ME)		✓
Student10 (ME)		✓
Student11 (CP)	✓	
Student12 (CP)	✓	

Table 2 elaborates on Fiedler's Contingency Theory of Leadership, which posits that a leader's effectiveness in contributing to group performance is contingent upon the alignment between their leadership style and the situational context. According to this theory, a leader may be highly effective in one setting but less so in another. The model provides a framework for understanding these differences and identifies the leader–situation combinations that yield optimal performance.

To assess leadership orientation, Table 2 utilizes the Least Preferred Coworker (LPC) Scale, which evaluates whether a leader is primarily task-oriented or relationship-oriented. Among the 12 student presidents evaluated, 8 demonstrated a strong task-oriented approach—prioritizing the completion of responsibilities ahead of deadlines and streamlining tasks within their respective organizations. Notably, the Industrial Engineering student leaders stood out for their efficiency and organizational skills, as highlighted in interviews with faculty advisers and instructors.

Conversely, 4 of the student presidents exhibited a relationship-oriented leadership style, emphasizing team cohesion and camaraderie to enhance organizational effectiveness. The Mechanical Engineering presidents were particularly recognized for fostering a collaborative and supportive environment within their teams.

Fiedler's model asserts that no single leadership style is universally effective. Instead, leadership success depends on the compatibility between a leader's style and the specific demands of the situation. This perspective reinforces the idea that all SEA-HAU student presidents have the potential to be effective leaders, provided their leadership orientation aligns with the needs of their organization. Furthermore, strong leader-member relationships and high task structure contribute significantly to enhancing positional power and overall organizational performance.

Table 3. Implementation of Leader-Member Exchange Theory

	Implementing	
Population	YES	NO
Student 1 (AE)	✓	
Student 2 (AE)	✓	
Student 3 (CE)	✓	
Student 4 (CE)	✓	
Student 5 (EE)	✓	
Student 6 (EE)	✓	
Student 7 (IE)	✓	
Student 8 (IE)	✓	
Student 9 (ME)	✓	
Student10 (ME)	✓	
Student11 (CP)	✓	
Student12 (CP)	✓	

The Leader-Member Exchange (LMX) Theory emphasizes the importance of individualized relationships between leaders and their followers, distinguishing it from traditional leadership models that treat all followers uniformly. According to LMX theory, leaders should recognize the unique characteristics of each follower and adapt their leadership style accordingly. This approach fosters mutual respect, trust, and support, ultimately enhancing organizational performance.

LMX theory posits that leaders delegate responsibilities and grant autonomy based on their assessment of followers' abilities, skills, and performance. Over time, this leads to the formation of two distinct groups: the in-group, composed of high-performing, trusted individuals who receive greater support and opportunities; and the out-group, which includes members with more limited interaction and fewer responsibilities.

To evaluate the application of LMX principles among SEA-HAU student presidents, researchers employed Likert-scale questionnaires. The results revealed that all 12 student presidents demonstrated leadership behaviors aligned with LMX or similar developmental leadership theories. These leaders actively assessed their members and strategically categorized them into internal (in-group) and external (out-group) roles, consistent with the LMX framework.

This finding further reinforces the conclusion that SEA-HAU fosters a leadership culture grounded in effective, evidence-based theories. The student presidents' ability to implement adaptive leadership strategies, supported by guidance from advisers and instructors, highlights their capacity to cultivate growth, engagement, and performance within their organizations.

CONCLUSION

The study reveals that student organizations within the School of Engineering and Architecture at Holy Angel University actively employ various leadership theories, particularly Situational Leadership, Fiedler's Contingency Theory, and Leader-Member Exchange (LMX) Theory. The data shows that a majority of student leaders possess key situational leadership qualities, adapt their leadership styles according to the demands of specific contexts, and foster individualized relationships with their members. These findings highlight that effective leadership among student presidents is not determined by a single style but rather by their ability to align their approach with the needs of their organization and members. Furthermore, the results underscore the university's supportive environment in nurturing leadership development through democratic processes, adviser involvement, and structured leadership roles. In conclusion, SEA-HAU successfully cultivates capable and adaptable student leaders who are equipped to manage teams efficiently, promote inclusivity, and contribute meaningfully to both their academic organizations and future professional endeavors.

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