Innovation Trends Among Students Based on Final Year Project Competition Winners: A Case Study of Politeknik Kuching Sarawak

Norfazilah binti Mohamad Pon[1], Nur Yahzelina binti Hanafi[2], Dyg Khayrunsalihaty Bariyyah binti Abang Othman[3]

[1, 2] Department of Information Technology and Communication, Politeknik Kuching Sarawak, Malaysia
E-mail: fazilah.mp@poliku.edu.my, E-mail: yahzelina@poliku.edu.my

[3] Department of Electrical Engineering, Politeknik Kuching Sarawak, Malaysia
E-mail: khayrunsalihaty@poliku.edu.my

Abstract

Final Year Project (FYP) competitions serve as a vital platform for students to demonstrate innovation, technical proficiency, and problem-solving capabilities, yet long-term trends in these achievements are often underutilized for academic planning. This study analyzes the trends among overall winners at Politeknik Kuching Sarawak (PKS) over six semesters to identify departmental contributions and innovation trajectories using a quantitative descriptive approach where frequency counts and trend visualizations were applied to institutional records. The results reveal a significant dominance by the Information and Communication Technology (ICT) department, which secured four (4) overall wins (66.7%), followed by Electrical and Mechanical Engineering with one (1) win each (16.7%), while notably, the Internet of Things (IoT) emerged as the most frequent winning category representing 50.0% of total wins. Conversely, a persistent innovation gap was identified in the Civil Engineering, Petrochemical, and Commerce departments, suggesting that while technical software-based innovations are thriving, there is a critical need for more inclusive evaluation criteria. Ultimately, this research provides actionable institutional intelligence to inform curriculum enhancement and strategic resource allocation, fostering a more balanced innovation ecosystem within polytechnic education.

Keywords **:** *Final Year Project; Innovation Trends, Institutional Intelligence; IoT; Polytechnic Education; Student Innovation*