

Figure 2. MICMAC cartesian diagram

5. Conclusion

Waste elimination and process improvement have been identified as critical goals of lean principles in HEI. The combination of the ISM and MICMAC approaches has successfully supported the development of a set of actions to eliminate waste and improve processes. Determination of standard procedures for repairing damaged campus facilities, the need to consider excess activity from teaching and learning activities in the teaching assignments, integration of information systems, and development of learning management systems are proposed as waste elimination actions. Implementation the proposed actions are expected to eliminate the 18 identified waste modes and improve the process. This study also found that there was no relationship between the waste mode rankings and the hierarchical structure model generated from the ISM. Waste modes that often appear do not necessarily have a strong influence on other waste modes and vice versa. Practically, this research can be directly applied to the HEI under study and other HEIs that face similar problems. Methodologically, this research is expected to provide insight into how the ISM-MICMAC approach is used as the basis for formulating effective actions in the idea of lean management. The limitation of this research is to see waste modes only from the lecturer's perspective. The suggestion for further research is that waste identification is carried out not only from the perspective of lecturers but also from the perspective of other stakeholders in the HEIs.

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Managing the 8 Wastes of Lean in a HEI: An ISM-MICMAC Approach

Lusia Permata Sari Hartanti (a), Ig. Jaka Mulyana (a), Ivan Gunawan (a), Herwinarso (b)*

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Abstract

A Higher Education Institution (HEI) is required to be more competitive in maintaining its sustainability. The large number of stakeholders of a HEI makes it difficult to be agile in the intense competition. One of the concepts that can be used to improve the agility of a HEI is Lean philosophy. Lean philosophy focuses on eliminating waste in the process of creating value for stakeholders. Previous research has succeeded in identifying a number of wastes in the operational activities of a HEI. Moreover, this study aims to develop a series of actions to eliminate wastes that have been identified. Interpretive Structural Modeling (ISM) and Matrices d Impacts cross-multiplication applique a classmate (MICMAC) are employed to model the relationship between wastes based on their mutual influence. ISM forms a hierarchical structure of interrelationships between wastes. Meanwhile, MICMAC will classify wastes based on their level of influence in a cartesian diagram. These models will help analyze the root cause of the problem so that effective waste elimination actions can be arranged. **(Approx. 169 words)**

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