Journal of Innovative and Creativity
Journal Homepage: https://joecy.org/index.php/joecy
e-mail: journaljoecy@gmail.com

Faculty of Education
University of Pahlawan Tuanku Tambusai
ISSN 2775-771X (Online)
ISSN 2962-570X (Printed)
5 (2) 2025, Page: 17997-18002

Raci Matrix and BPMN Analysis in Academic Administration: A Case Study

Fardhoni[1], Franciskus Antonius Alijoyo[2]
[1]Informatics Engineering, Institut Teknologi dan Kesehatan Mahardika, Cirebon
[2]School of Business and Information Techology STMIK LIKMI Bandung – Indonesia
[1]fardhoni@mahardika.ac.id, [2]franciskus.antonius.alijoyo63@gmail.com

Published: August, 2025

ABSTRAK

In the academic environment of higher education institutions, the learning administration process is one of the crucial aspects that supports the smooth running of academic activities and educational quality. This research focuses on the analysis and implementation of the RACI Matrix and Business Process Model and Notation (BPMN) in the academic administration of higher education institutions, particularly in the process of creating Study Plan Cards (KRS) at Mahardika Institute of Technology and Health Cirebon. Through this case study, the research aims to identify and map responsibilities and workflow involved in the KRS creation process, thereby improving the efficiency and effectiveness of academic administration. This research adopts a qualitative design with a case study approach, where data is collected through observation, document analysis, and the use of diagrams.net tools for BPMN creation. The results of this research indicate that the implementation of RACI Matrix and BPMN can provide clear guidance on the roles and responsibilities of each party, as well as facilitate understanding of the KRS creation process flow. This has the potential to enhance coordination and communication among involved parties, and reduce errors and ambiguities in the academic administration process.

Keywords: KRS Creation, RACI Matrix, BPMN, Business Process Management, Mahardika Institute

© The Author(s). 2021 Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0

PENDAHULUAN

In the academic environment, learning administration plays a crucial role in supporting the smooth operation of education in higher education institutions (Indah Juwita & Ikhlas, 2019; Patras et al., 2019; Sarana et al., 2021). This process encompasses various activities, from course scheduling, registration for Study Plan Cards (KRS), preparation of learning materials, to reporting learning outcomes to national databases such as PDDIKTI/Feeder. Efficiency and effectiveness in learning administration not only contribute to the quality of student learning experiences but also to the reputation and accreditation of higher education institutions (Hazimah et al., 2022; Simangunsong et al., 2022).

Challenges faced by universities, especially private ones, include unclear roles and responsibilities and discrepancies between guidelines or implementation manuals and actual practices. This situation can hinder operational efficiency and learning quality, necessitating structured strategies to address coordination issues and procedural implementation. The implementation of RACI/RASCI Matrix and Business Process Model and Notation (BPMN) becomes a potential solution, as both can provide clear and efficient frameworks for learning administration. RACI/RASCI Matrix is a project management tool used to clarify roles and responsibilities in tasks or processes (Satya Elang Yogantara

et al., 2022). RACI stands for Responsible, Accountable, Consulted, and Informed, which helps identify who needs to do what, who makes decisions, who needs to be consulted, and who needs to be informed at each step of the process. The additional S in RASCI is Support, which provides assistance to team members. BPMN, or Business Process Model and Notation, is a standard for modeling business processes that provides a graphical method to define and map workflow in business processes (Abdik Maulana, 2019). BPMN is designed for use by all business and technical stakeholders, enabling the creation of clear and easily understood process flow diagrams that support process improvement and optimization. The general focus of this research is on learning administration, including course scheduling, KRS registration, preparation of learning materials, student study results (KHS), and reporting to PDDIKTI/Feeder, while the main focus in developing RACI matrices and BPMN is on the KRS preparation process. In the context of this research, RACI Matrix and BPMN play a crucial role in enhancing transparency and efficiency in learning administration in universities. The RACI Matrix will clarify responsibilities and roles in administrative processes (Alijoyo & Sirait, 2022; Suhanda & Pratami, 2021), while BPMN will visualize and simplify the process flow (Bocciarelli et al., 2019), enabling the identification and elimination of inefficiencies.

METHOD

This research will employ a qualitative design with a case study approach to understand the implementation of RACI Matrix and BPMN in learning administration in higher education institutions. The research focus will be on Institut Teknologi dan Kesehatan Mahardika. The study will identify actors or stakeholders involved and responsible for the processes to be analyzed. For data collection, the tools used will include diagrams.net, which allows for the detailed creation and documentation of BPMN diagrams. Data analysis will involve observing the diagrammed processes and conducting interviews with stakeholders to gain a deep understanding of workflow, roles, and responsibilities in learning administration.

The research focus will be on the student learning cycle, which includes course scheduling, KRS registration, and academic reporting. The following are the general steps that will be taken to develop the RACI Matrix and BPMN according to the organizational structure and governance at Institut Teknologi dan Kesehatan Mahardika Cirebon:

Steps to Develop the RACI Matrix:

Identify Processes: Determine the key processes in the student learning cycle, including course scheduling, KRS registration, and academic reporting. Role Mapping: Identify all roles within the institution involved in these processes. This may include faculty, administrative staff, department heads, and others. Allocate Responsibilities: For each process, assign who is Responsible (R) for

completing tasks, who is Accountable (A) or the process owner, who needs to be Consulted (C) before actions are taken, and who needs to be Informed (I) about decisions or actions.

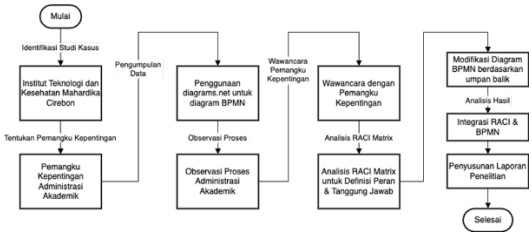
Steps to Develop BPMN:

Identify Process Steps: Begin by outlining the major steps in each identified process.

Map Process Flow: Use diagrams.net or a similar tool to visualize the process flow in BPMN diagrams. This should include activities, decisions, and data flows.

Integrate RACI: Ensure that the BPMN diagram reflects the responsibility allocation identified in the RACI Matrix, clearly showing who is accountable for each activity.

Validation and Revision: Validate the diagrams and matrix with stakeholders to ensure accuracy and relevance. Revise based on feedback.



Gambar 1 Alur Proses Penelitian

RESULTS AND DISCUSSION

In discussing the research on the implementation of the RACI Matrix and BPMN for the KRS preparation process at Institut Mahardika, several important aspects need to be emphasized. This discussion will delve into how the implementation of these management tools contributes to efficiency, transparency, and accountability in the academic process at the institution.

Process Efficiency The implementation of the RACI Matrix helps clearly define the roles and responsibilities of each stakeholder in the KRS preparation process. With role clarity, task redundancy can be minimized, and decision-making processes become faster because each actor knows what needs to be done and to whom they should communicate. On the other hand, BPMN provides a visual representation of the process that facilitates understanding of workflow and identification of potential bottlenecks. The combination of RACI Matrix and BPMN shows the potential for improving efficiency in the KRS preparation process by reducing the time required for processes and enhancing coordination between departments.

Process Transparency BPMN provides a way to visualize complex processes in a simpler and more understandable format. This allows all stakeholders to understand how the KRS preparation process unfolds, including the steps involved and who is responsible for each step. Thus, process transparency can be enhanced, enabling students and faculty to gain a better understanding of existing procedures and policies.

Accountability The RACI Matrix emphasizes accountability by determining who is responsible (Responsible) and who should be accountable (Accountable) for each task or decision. This ensures that every action and decision can be traced back to specific individuals or groups, enhancing accountability in the KRS preparation process. This clear accountability is crucial in an academic context, where decisions related to KRS can have a significant impact on students' learning experiences.

CONCLUSION

The implementation of the RACI Matrix and BPMN in the academic process, especially in the preparation of KRS at Institut Mahardika, offers many benefits, including increased efficiency, transparency, and accountability. By clearly defining responsibilities and visualizing processes, institutions can optimize workflows and ensure that all stakeholders have a shared understanding of the process. Moreover, this discussion also highlights the importance of management tools and process visualization in enhancing the quality of academic administration.

REFERENCES

Abdik Maulana. (2019). Pemodelan Dan Simulasi Aplikasi Peer To Peer Funding Syariah Menggunakan BPMN. *FLEPS 2019 - IEEE International Conference on Flexible and Printable Sensors and Systems, Proceedings*, *6*(1), 1–46. https://doi.org/10.1016/j.surfcoat.2019.125084

Alijoyo, A., & Sirait, K. B. (2022). The existence and role of independent board members and their impact on the board's effectiveness and firm's value: The case of the emerging market. *Corporate Governance and Organizational Behavior Review*, *6*(2, special issue), 206–216. https://doi.org/10.22495/cgobrv6i2sip4

Bocciarelli, P., D'Ambrogio, A., Giglio, A., & Paglia, E. (2019). BPMN-Based Business Process Modeling and Simulation. *2019 Winter Simulation Conference (WSC)*, 1439–1453. https://doi.org/10.1109/WSC40007.2019.9004960

Hazimah, G. F., Cahyani, S. A., Azizah, S. N., & Prihantini, P. (2022). Pengelolaan Kurikulum dan Sarana Prasarana Sebagai Penunjang Keberhasilan Pembelajaran Siswa Sekolah Dasar. *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi*, *9*(2), 121–129. https://doi.org/10.21831/jppfa.v9i2.44591

Homaidi, A., Fakih Lidimilah, L., Yunita, I., Saleh, T., Dwi Prasetyo, J., & Fatah, Z. (2022). IMPLEMENTASI BUSINESS PROCESS MODELLING NOTATION UNTUK PEMODELAN PROSES BISNIS LP2M PERGURUAN TINGGI XYZ. *Jurnal Simantec*, *11*(1), 41–52. https://doi.org/10.21107/simantec.v11i1.15362

Indah Juwita, A., & Ikhlas, M. (2019). Online Management System of UPI FKIP YPTK Padang Education Field Practice. *Journal of Physics: Conference Series*, *1339*(1), 012037. https://doi.org/10.1088/1742-6596/1339/1/012037

Khoiriyah, R., & Priana, A. J. (2020). Implementasi Teknologi Business Process Model Notation (BPMN), Teks, Flowchart dan Rich Picture pada Bisnis Startup. *Jurnal Teknologi Informasi*, *4*(2), 356–361. https://doi.org/10.36294/jurti.v4i2.1715

Khoiriyah, S. I. M. (2017). *Pengaruh Kualitas pelayanan Terhadap Revisit Intention Dengan Satisfaction Sebagai Mediasi (Studi Pada Pengunjung Tempat Wisata Banyu Biru di Kabupaten Magetan* [(Doctoral dissertation,]. Universitas Brawijaya.

Liu, Q. (2022). A Random Matrix Model of Business Administration Based on Business Process Orientation in Market Economic Environment. *Mathematical Problems in Engineering*, *2022*, 1–12. https://doi.org/10.1155/2022/3131110

Maia, D. R. F., De Campos, R., & De Souza Rodrigues, J. (2020). Study of the Use of Data Mining in Modeling Non-standard Processes in a Higher Education Institution. Dalam A. M. T. Thomé, R. G. Barbastefano, L. F. Scavarda, J. C. G. Dos Reis, & M. P. C. Amorim (Ed.), *Industrial Engineering and Operations Management* (Vol. 337, hlm. 339–348). Springer International Publishing. https://doi.org/10.1007/978-3-030-56920-4_27

Makhi, A., & Fauzan, Abd. C. (2022). SISTEM INFORMASI MANAJEMEN ADMINISTRASI PADA LEMBAGA SERTIFIKASI PROFESI P1 UNIVERSITAS NAHDLATUL ULAMA BLITAR MENGGUNAKAN MODEL RAPID APPLICATION DEVELOPMENT. *Jurnal Aplikasi Teknologi Informasi dan Manajemen (JATIM)*, *3*(1), 21–34. https://doi.org/10.31102/jatim.v3i1.1423

Patras, Y. E., Iqbal, A., Papat, P., & Rahman, Y. (2019). MENINGKATKAN KUALITAS PENDIDIKAN MELALUI KEBIJAKAN MANAJEMEN BERBASIS SEKOLAH DAN TANTANGANNYA. *JURNAL MANAJEMEN PENDIDIKAN*, *7*(2), 800–807. https://doi.org/10.33751/jmp.v7i2.1329

Sarana, S., Sadida, A., Mansyur, A. W., & Suwondo, A. (2021). Design and development of student attendance information system using QR code in accounting department of Politeknik Negeri Semarang. *IOP Conference Series: Materials Science and Engineering*, *1108*(1), 012012. https://doi.org/10.1088/1757-899X/1108/1/012012

Satya Elang Yogantara, Ika Arum Puspita, & Sandhy Widyasthana. (2022). Perancangan Sistem Task Management menggunakan Raci Matriks dalam Tampilan Dashboard pada Proyek Pembuatan Feasibility Study dan Master Plan Rumah Sakit. *Jurnal Pendidikan dan Konseling*, *4*(5). https://journal.universitaspahlawan.ac.id/index.php/jpdk/article/view/6922

Simangunsong, A. R., Rakhmawati, F., & Nuh, M. (2022). PENGEMBANGAN STRATEGI BLENDED LEARNING BERBASIS CONTEXTUAL TEACHING AND LEARNING (CTL). *AXIOM : Jurnal Pendidikan dan Matematika*, *11*(2), 137. https://doi.org/10.30821/axiom.v11i2.12593

Suhanda, R. D. P., & Pratami, D. (2021). RACI Matrix Design for Managing Stakeholders in Project Case Study of PT. XYZ. *International Journal of Innovation in Enterprise System*, *5*(02), 122–133. https://doi.org/10.25124/ijies.v5i02.134