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Agile Curriculum Development For Informatics Using Scrum, Notion, And Coda

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ABSTRACT

This research focuses on the implementation of the SCRUM method in the curriculum renewal process of the Informatics study program at Mahardika Institute of Technology and Health Cirebon, utilizing digital tools Notion and Coda.io. The main objective of this research is to explore how the SCRUM method can enhance efficiency and effectiveness in curriculum development, facilitate team collaboration, and introduce complex database concepts to non-IT faculty through user-friendly applications. The research findings indicate that the implementation of the SCRUM method significantly improves the quality and speed of curriculum development, while Notion and Coda.io facilitate documentation, communication, and team collaboration. This research concludes that integrating the SCRUM method and digital tools provides an effective approach to curriculum renewal in the digital era, ensuring that the curriculum remains relevant to current industry and technological needs. Limitations of the research include focusing on one institution and study program, suggesting the need for further research to validate these findings in a broader context.

Keywords: Informatics Curriculum, SCRUM Method, Notion, CODA , Database

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INTRODUCTION

In the ongoing digital transformation era, higher education institutions, especially those with Informatics programs, face challenges to continuously adapt their curricula to remain relevant to technological developments and labor market demands (Alijoyo, 2021). The SCRUM method, proven effective and efficient in project management in the software industry, offers a promising approach to address these challenges. Key characteristics of SCRUM, such as team collaboration, flexibility, and adaptability to change, make it highly suitable for curriculum development in higher education (Ariesta et al., 2021; Baxter et al., 2022; Nadhira et al., 2022).

Mahardika Institute of Technology and Health (Mahardika Institute) as one of the private universities in Cirebon has transformed from Mahardika School of Health Sciences to an institute now offering a new Informatics program. This change signifies the urgent need to develop an agile curriculum in a fast-paced and highly competitive era. The vision of the Informatics program at Mahardika Institute is to become a professional and quality program in implementing the Tri Dharma of Higher Education with excellence in cloud technology-based informatics and big data, with a digipreneurial spirit, both nationally and globally competitive. Curriculum development must adhere to standards set by SN DIKTI, KKNI, and the Association of Computer Science Higher

Education Institutions (APTIKOM) with OBE-based curricula (Outcome Based Education). This ensures that the developed curriculum is not only relevant to current technological developments but also meets academic standards and industry needs.

In Indonesia, especially at Mahardika Institute of Technology and Health Cirebon, the increasing interest in Informatics programs reflects the need for a more dynamic and adaptive approach in curriculum development. This is driven by the quality improvement and increased number of indexed research through SINTA (Science and Technology Index), indicating significant developments in this field (Luan et al., 2020; Muniroh & Muhyadi, 2017). The application of the SCRUM method in this context can help design a curriculum that is not only relevant to current technological developments but also to the ever-changing industry needs (Fauzy et al., 2020).

The use of digital tools like Notion and Coda.io in this process offers new possibilities in curriculum project management and collaboration (Buntoro et al., 2023). These tools enable curriculum development teams to work more efficiently, speed up the adaptation process to changes (Alijoyo, 2021), and involve various stakeholders, including faculty members, students, and industry practitioners, in data-driven decision making.

METHOD

This research is a qualitative study focusing on the implementation of Agile Management using the SCRUM method in the curriculum renewal process of the Informatics program at Mahardika Institute of Technology and Health Cirebon. The approach taken involves direct observation of the implementation process utilizing digital tools Notion and Coda.io to facilitate and document the curriculum renewal.

Location and Research Context The research location is at Mahardika Institute of Technology and Health Cirebon, with the research subject being the curriculum renewal process ongoing in the Informatics program.

Population and Sample Considering the research's focus on processes and implementation, the research sample will consist of documentation of the curriculum renewal process. This process involves documents, systems, and related activities recorded during the implementation of the SCRUM method, Notion, and Coda.io.

RESULTS AND DISCUSSION

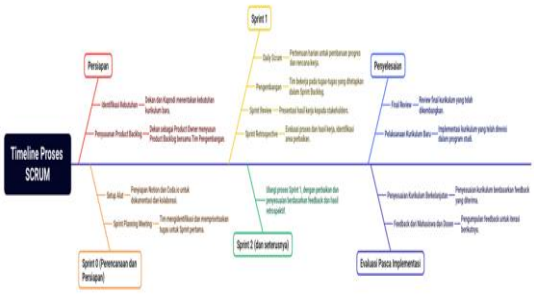


Figure 1 Proses SCRUM

This study reveals how Mahardika Institute of Technology and Health Cirebon implements the SCRUM method for curriculum renewal in the Informatics program, with the assistance of digital tools Notion and Coda.io. This implementation aims to create a more agile, collaborative, and efficient process in responding to dynamic changes in technology and the fast-paced demands of the job market.

Notion is used as the basis for creating a Project SCRUM template. This allows the curriculum development team to plan, track, and manage various aspects of curriculum development in a structured and easily accessible format. The Project SCRUM template in Notion aids in backlog recording, sprint planning, daily scrum, and review, facilitating an iterative and responsive development cycle.

CODA.IO is used to design and store digital curriculum books. This platform enables the team to directly integrate SN DIKTI, KKNI, and APTIKOM OBE Curriculum standards into the curriculum documents, ensuring that all curriculum elements meet established criteria and are easily updated. CODA.IO provides flexibility to create interactive databases that can be linked to various data sources and documents, facilitating real-time curriculum customization and management.

By using Notion and CODA.IO, Mahardika Institute successfully implements a more dynamic approach to curriculum renewal. The integration of these digital tools not only streamlines the documentation and project management processes but also enables the creation of adaptive, relevant curricula aligned with academic standards and industry needs. This marks a significant step in the institute's efforts to provide high-quality and relevant education in the current digital era.

The implementation of the SCRUM method, along with the use of Notion and Coda.io, in the curriculum renewal process of Informatics at Mahardika Institute of Technology and Health Cirebon, has shown a significant improvement in curriculum development effectiveness. The SCRUM method facilitates flexible and responsive collaborative work, allowing the team to quickly adapt to changing needs and feedback. Evaluation of the developed curriculum reveals that this approach not only enhances the quality of curriculum content but also accelerates its development

process, ensuring the curriculum remains relevant and up-to-date with the latest technology trends and industry needs.

Notion and Coda.io, as supporting tools for SCRUM implementation, offer intuitive and user-friendly interfaces, greatly assisting non-IT users such as faculty members in actively participating in the curriculum renewal process. Features like ready-to-use templates, drag-and-drop interfaces, and real-time collaboration enable non-IT users to easily compose, edit, and provide feedback on curriculum documents without requiring specialized technical skills. These tools pave the way for broader stakeholder involvement in the curriculum development process, ensuring that input from various perspectives can be efficiently accommodated.

CONCLUSION

This research reveals that the implementation of the SCRUM method, along with the use of digital tools Notion and Coda.io, effectively enhances the efficiency and effectiveness of the Informatics curriculum renewal at Mahardika Institute of Technology and Health Cirebon. SCRUM facilitates quick responses to changing needs, while Notion and Coda.io support team collaboration and the involvement of all stakeholders, including non-IT faculty, in the development process. Specifically, the ease of access and user-friendly interface of these digital tools simplifies the understanding of complex database concepts. As a result, this study demonstrates that the adaptation of agile methodologies and IT tools enables a more dynamic, collaborative curriculum development process that aligns with industry demands and the latest technological advancements.

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