Bridging the Functional Gaps in Existing

Project Management Systems: A Development of an Integrated and Adaptive Project Management Tool

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# Introduction

The challenges of managing and holding multiple and complex projects and tasks nowadays are a common problem that many business workers has been facing. Innumerable projects being manage everyday could stress out the workers and is vulnerable for mismanage and mistakes. These mistakes were leads by tasks redundancy, poor deadline tracking, lack of progress control and the absence of medium of communications. The fast-paced evolution of technology, the software usage was thriving and is become part of most common workers today. These tools were crucial for project managers for managing daily works and a useful assistance in assessing project internal and external transaction.

Despite its useful, according to Maruping (2019), the human barriers from technology are visible. This gap identified for multiple reasons: user-unfriendliness, security concerns and lack of IT skills. This study was supported by Ali (2017), from there research on the effectiveness of collaboration tools on virtual project management. The study found that despite the essential of collaboration tools, their misuse can lead to disruptions in project management processes, such as decreased productivity and challenges in data management. He stated also that most organizations often lack clear guidelines on the appropriate use of collaboration tools, leading to inefficiencies.

Moreover, Siau (2003) also stated in his study research “*Collaborative project management software*. In *International Conference on Information Technology: Coding and Computing*” that there is a lack of agreement on the definition and interpretation of collaboration in project management between traditional project approach compared to the modern ones. Most common project methodology nowadays are very popular for most project managers. According to the case study of Bjarnason (2020), he highlighted that most collaboration tools today often lacks flexibility and resilience on existing project methodology, this leads to hinder effective communication. Lastly, the study of Jalali (2020), pinpoint the gaps of the better organizational support and balanced for better engagement in communication platform and project management tools.

To address the identified gaps in time consciousness, collaboration, and communication within existing project management systems, this study proposed the development of an adaptive and flexible project management tools that provides real-time coordination, enhances team collaboration, and improves communication efficiency. The main goal for this study is to design a unified, useful and engaging platform – such as dynamic scheduling, communication, task tracking, better progress control, efficient notification and reminders. The study also targeted a role-based communication controls, exchange critical updates seamlessly, and maintain a synchronized workflow, ultimately enhancing project outcomes and reducing failure rates caused by miscommunication and disjointed processes.

In the end, bridging the functional gaps in existing project management systems is essential to meet the demands of modern project environment. The proposed tools offer a comprehensive solution by molding an essential project functions into a single platform and reducing any project related conflict and enhance productivity and the likelihood the project could success. This project expects to improve project coordination and highly support project execution.

# Research Objectives

This study aims to address the limitations of existing project management tools by proposing an integrated and adaptive system that enhances time management, collaboration, and communication through a quantitative research approach.

1. **To identify the perceived limitations** of existing project management tools in terms of time management, collaboration, and communication through quantitative data collection.
2. **To propose the design of an integrated and adaptive project management tool** that aims to address the identified gaps in time consciousness, collaboration efficiency, and communication effectiveness.
3. **To assess the level of acceptance and perceived effectiveness** of the proposed tool among potential users using a structured survey or questionnaire, focusing on its potential to improve project coordination and reduce management inefficiencies.

# Research Respondents

The respondents of this study will consist of individuals currently engaged in project related work where project management tools are regularly used. These may include project managers, team leaders, IT professionals, and employees who rely on digital systems for planning, task delegation, and communication. Their firsthand experience with current project management tools makes them suitable sources of feedback regarding the functional gaps the study aims to address. Respondents are expected to provide insights into common challenges such as time mismanagement, collaboration difficulties, and poor communication flow. Their participation will help evaluate the perceived necessity and potential acceptance of the proposed integrated project management tool.

# a. Population Definition

- The defined population for this study includes professionals from industries such as technology, business, marketing, and students who utilize project management software in their daily work. These individuals are involved in planning, executing, and monitoring projects using digital tools like Trello, Asana, MS Project, or similar systems. They are selected because they experience the actual challenges and limitations of these tools, particularly in time management, collaboration, and communication. This population was chosen to ensure the study focuses on those who can provide meaningful and relevant quantitative responses. The feedback gathered will serve as a foundation for proposing improvements to current systems.

# b. Population Sample Size and Calculation

- Using Slovin’s formula with a total population of 100 and a margin of error of 17.13% the sample size is calculated as follows:



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## c. Sampling Method

- This study will apply **purposive sampling**, a type of non-probability sampling, to select respondents who are directly involved in using project management tools. The main criterion for selection is that participants must have experience managing or participating in projects using digital platforms. This method ensures that only relevant and knowledgeable individuals contribute to the data, enhancing the accuracy and focus of the results. It also allows the researcher to target specific roles such as project managers or coordinators, office workers or employees who can offer detailed responses. Although not random, this approach aligns well with the study’s objective of identifying user-specific gaps in current systems.

## d. Research Instrument

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| What is your current role in your organization?  Project Manager  Team Leader  IT Professional  Office Workers  Department Head / Supervisors  How long have you been using project management tools in your work?  Less than a year  1-3 years  3-5 years  More than 5 years  1. Do you currently use a project management tool in your work?   |  | | --- | | **Yes** | | **No** | | 1. Do you think project management tools could improve project coordination within your team?  |  | | --- | | **Yes** | | **No** |  1. Would you prefer a more adaptive project management tool that can accommodate different project methodologies (e.g., Agile, Waterfall)?  |  | | --- | | **Yes** | | **No** |  1. Do you believe that realtime updates and notifications would improve your project management experience?  |  | | --- | | **Yes** | | **No** | | 1. Would you like the ability to track task progress and deadlines more effectively within a project management tool?  |  | | --- | | **Yes** | | **No** |  1. Do you feel that existing project management tools lack flexibility for complex project requirements?  |  | | --- | | **Yes** | | **No** |  1. Would you prefer a project management tool that integrates communication features (e.g., comments, file and document sharing) directly into the |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Are you satisfied with the time management features of the project management tool you use?  |  | | --- | | **Yes** | | **No** |  1. Do you find it easy to manage deadlines and track tasks in your current project management tool?  |  | | --- | | **Yes** | | **No** |  1. Is collaboration with team members effective using your current project management tool?  |  | | --- | | **Yes** | | **No** |  1. Do you experience communication challenges while using your current project management tool?  |  | | --- | | **Yes** | | **No** | | 1. Is it important for your project management tool to have a user-friendly interface?  |  | | --- | | **Yes** | | **No** |  1. Do you think role-based communication controls would be beneficial in a project management tool?  |  | | --- | | **Yes** | | **No** | | platform?   |  | | --- | | **Yes** | | **No** |  1. Do you experience any security concerns with the project management tool you currently use?  |  | | --- | | **Yes** | | **No** |  1. Would you be open to using a new, adaptive project management tool if it addressed the current challenges you face?  |  | | --- | | **Yes** | | **No** | |

# Results and Findings

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