Master Thesis

Implementation of Business Process Reengineering (BPR): Case Study of Task management process enhancement in Intel Products VietNam by integrating Office 365 applications

Submitted by

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1. Introduction

1.1 Background

In an era where technology drives innovation, the semiconductor industry stands at the forefront, grappling with intricate processes and unpredictable demand (In-Beum Lee, 2008). As Generative AI continues to revolutionize industries from healthcare to finance, the demand for advanced semiconductor chips, which serve as the 'brains' of these technologies, has surged. This surge in demand places immense pressure on semiconductor companies to innovate rapidly, necessitating project managers who can navigate the complexities of delivering high-quality AI-capable products swiftly (Cristina De Luca1 *et al.*, 2021).

Projects within organizations can differ significantly in terms of size, duration, objectives, uncertainty, complexity, pace, and other factors. Despite these variations, all projects inherently involve some level of uncertainty, and no project is entirely free of risk (Winch and Maytorena, 2011). As projects have become more integral to organizational operations and involve greater stakes, the need for specific and rigorous methodologies has become evident. This necessity has led to the formalization and structuring of project management practice (Vidal and Marle, 2008).

Project managers are tasked with finding ways to complete more projects within the same timeframe. Within a project, workers from different departments often use various tools and methodologies to support their tasks. However, project managers require an integrated and systematic approach to manage the project as a whole and act as coordinators among different teams speaking different technical languages.

This study aims to explore how Business Information Systems (BIS) can enhance Business Project Management (BPM) in the semiconductor industry, ultimately improving efficiency and reducing errors. By leveraging existing software applications, we propose an integrated dashboard that can automatically link and translate different data managed by various working teams, providing a comprehensive overview.

This paper will first review the literature on project management in the semiconductor industry, then analyze the role of BIS in enhancing project outcomes, and finally, discuss the practical applications of various software tools like MS Office 365, Azure DevOps, Gantt Chart, and Kanban. Through this exploration, we aim to demonstrate how an integrated

dashboard can streamline project management processes and contribute to the successful delivery of semiconductor projects.

1.2 Problem statement

Despite advancements in digital tools, many organizations continue to struggle with inefficient task management processes. Traditional methods such as emails, spreadsheets, and manual tracking systems are often insufficient in today's complex and fast-paced work environments. These methods lead to fragmented communication, lack of accountability, and difficulty in tracking progress across teams and departments. Moreover, organizations in highly competitive industries, such as semiconductor manufacturing, must continuously innovate to maintain operational efficiency and meet stringent performance targets.

Intel Products Vietnam, a key player in the semiconductor industry, faces similar challenges in managing its tasks effectively. The company's task management system, though functional, has become fragmented and inefficient, with significant delays in communication, task tracking, and project completion. These inefficiencies can result in missed deadlines, project mismanagement, and decreased productivity, all of which negatively impact the organization's overall performance.

This study seeks to apply BPR principles to improve task management at Intel Products Vietnam by designing and implementing an integrated task management system using Office 365. The aim is to create a more efficient and collaborative workflow that can enhance productivity and reduce delays.

1.3 Motivation

The primary objective of this study is to analyze and improve the task management process at Intel Products Vietnam using Business Process Re-engineering and the Office 365 suite of applications. The specific objectives are as follows:

- To identify inefficiencies in the current task management process at Intel Products Vietnam.
- To redesign the task management process using BPR principles.
- To implement an integrated task management system using Office 365 applications (Microsoft Teams, Planner, Outlook, etc.).
- To evaluate the impact of the new task management system on efficiency, collaboration, and overall productivity.

1.4 Research Objectives

This thesis addresses the following research questions:

1. What are the main inefficiencies in the current task management process at Intel Products Vietnam?
2. How can BPR be applied to redesign and improve the task management process?
3. How can Office 365 tools be integrated to enhance task management and collaboration?
4. What are the measurable impacts of the redesigned task management system on the organization's productivity and efficiency?

1.5 Research Questions

As businesses increasingly adopt digital transformation strategies, there is a growing need for integrated task management solutions that can streamline processes, improve communication, and enhance productivity. This study contributes to the existing body of knowledge on Business Process Re-engineering by exploring how modern digital tools, specifically Office 365, can be utilized to optimize task management in a real-world case study. The research goes beyond the theoretical framework of BPR and provides practical insights into how organizations can leverage these tools to improve operational efficiency.

Additionally, the findings from this study have broader implications for other organizations seeking to modernize their task management processes. By demonstrating how an integrated task management system can be designed and implemented in a highly competitive and technical environment like the semiconductor industry, this study provides a model that can be adapted and applied across various sectors.

1.6 Scope and Limitations

This study focuses on the task management process within Intel Products Vietnam, with a particular emphasis on how BPR can be used to redesign the workflow. The research will evaluate the impact of implementing Office 365 applications, such as Microsoft Teams, Planner, and Outlook, on task management efficiency. While the study centers on a single case, the insights gained can be applied to similar organizations facing task management challenges.

The scope is limited to the task management processes and does not extend to other operational areas such as supply chain management or manufacturing processes. Additionally, the study will focus on short-term impacts, such as improvements in

communication, task tracking, and collaboration, rather than long-term organizational changes.

1.7 Thesis Structure

This thesis is organized into the following chapters:

Chapter 1: Introduction – Provides an overview of the research background, problem statement, research objectives, and rationale for the study.

Chapter 2: Literature Review – Discusses existing literature on Business Process Re-engineering, task management, and the application of digital tools such as Office 365.

Chapter 3: Research Methodology – Describes the research design, data collection methods, and analysis techniques used in the study.

Chapter 4: Case Study - Intel Products Vietnam – Presents the case study on task management challenges and the application of BPR principles in Intel Products Vietnam.

Chapter 5: Implementation of Office 365 in Task Management – Details the implementation of Office 365 applications in improving task management at Intel Products Vietnam.

Chapter 6: Results and Analysis – Analyzes the impact of the redesigned task management process on organizational efficiency and productivity.

Chapter 7: Discussion – Discusses the findings in relation to existing literature and outlines the theoretical and practical implications of the study.

Chapter 8: Conclusion and Recommendations – Summarizes the key findings of the research and provides recommendations for future work.

2. Literature Review

2.1 Overview of the semiconductor industry

The semiconductor industry has long been at the forefront of technological advancement. Propelled by significant strides in related scientific fields and the industry's relentless pursuit of smaller, more powerful, and cost-efficient devices, technological progress has consistently adhered to Moore's Law. The increasing integration of electronic components onto single integrated circuits has driven continuous product and process innovations, resulting in the creation of new markets, applications, and strategic transformations. The advent of Artificial Intelligence (AI) has further intensified the pace of new product development, underscoring the critical need for rapid innovation (Griffith, 2024).

As both products and processes evolve, the requisite skills and organizational structures are swiftly rendered obsolete by ongoing technical advancements. In recent years, the efficacy of intellectual property rights and the pervasive use of Information and Communication Technologies (ICTs) in design activities have exacerbated the trend towards the fragmentation of the value chain (Dibiaggio, 2007) examined the intricacies of design complexity and the influence of governance structures on knowledge integration, emphasizing that project integrators must possess a comprehensive understanding that extends beyond their immediate responsibilities. Similarly, project managers in semiconductor firms are required to oversee project timelines and organizational frameworks while simultaneously addressing technical challenges in collaboration with their teams.

The escalating complexity of chip design, coupled with the imperative to frequently deliver high-quality products, necessitates that project managers make informed decisions within dynamic and unpredictable systems. These systems are characterized by continuous, random evolution, rendering them difficult to predict and manage through traditional linear methodologies. To effectively navigate these challenges, it is imperative to investigate more integrated approaches for managing projects in complex environments, as well as to develop novel methods for planning, scheduling, executing, and controlling projects

2.2 Project management in semiconductor industry

Task management systems have evolved significantly from manual, paper-based methods to sophisticated digital platforms designed to optimize workflow efficiency. Early approaches to task management emphasized linear, top-down control, often lacking flexibility and

responsiveness to change (Lester, 2014). With the advent of digital tools, task management has shifted towards collaborative, agile frameworks that enable better tracking, delegation, and collaboration across teams (Ramírez and Nembhard, 2004).

Modern task management tools often leverage cloud-based platforms, allowing for real-time updates and enhanced communication between team members (Barker et al., 2019). The integration of these tools with broader enterprise systems, such as Enterprise Resource Planning (ERP) systems, has allowed organizations to synchronize tasks with other core business processes, creating more seamless workflows (Alotaibi and Liu, 2017). In the semiconductor industry, where projects are characterized by high complexity and rapid technological changes, these advanced task management systems are particularly valuable. They enable project managers to coordinate cross-functional teams, manage intricate timelines, and adapt to evolving project requirements efficiently.

By leveraging these modern task management tools, semiconductor companies can enhance their project management capabilities, ensuring timely delivery of high-quality products in a highly competitive market. This integration of task management systems with enterprise-wide processes underscores the need for a unified approach to project management, which will be further explored in the subsequent sections.

2.3 Business process modeling (BPM)

Organizational operations are structured by business processes, which are collections of activities working together to achieve a valuable outcome for the organization or its customers. Business process models are now the prevalent method for documenting these processes and are integral to nearly every stage of the business process management lifecycle (Sola *et al.*, 2021). The main objective of business process modeling is to create high-quality diagrams that illustrate a business process's clear and sustainable framework (Kopp and Orlovskyi, 2019). The Business process re-engineering (BPR) could happen after business process modeling deployment to improve some key metrics such as time, efficiency,

Business Process Modeling Notation (BPMN) is regarded as the standard methodology for business process modeling (Guizani and Ghannouchi, 2021), with approximately 50% of published research utilizing this approach (Entringer, Ferreira and Nascimento, 2021).

2.4 Business Process Re-engineering (BPR)

Business Process Re-engineering (BPR) emerged in the 1990s as a radical approach to improving organizational efficiency by redesigning core processes from the ground up (Hammer and Champy, 2009). It advocates for dramatic improvements in critical performance measures such as cost, quality, and speed by rethinking how work is done. BPR contrasts with incremental process improvement methodologies like Total Quality Management (TQM), emphasizing that small changes are insufficient in highly competitive industries (Thomas, H. Davenport and James E.Short, 1990). The fundamental premise of BPR is the alignment of processes with business strategy, often supported by technology (Grover *et al.*, 1995).

Business process re-engineering (BPR) may be implemented following the deployment of business process modeling to enhance key performance metrics such as time, cost, speed, quality, services (Hammer and Champy, 2009) (Hussein *et al.*, 2013). BPR involves not only modifying processes but also incorporating advanced technology and information systems (Musa and Othman, 2016). The final phase of BPR is either designing a prototype process (Fetais *et al.*, 2022) or implementing and measuring the new process. (Thomas, H. Davenport and James E.Short, 1990).

The development of business reengineering encompasses eight steps, learning from Hammer's Model, Davenport's Model, and Budiono & Loice's Model. These steps incorporate influential factors in the process, assess the significance of these factors, and create a process flow based on their importance (Linarti, Anugrah and Asih, 2023). This method involves 9 steps described as figure 1.

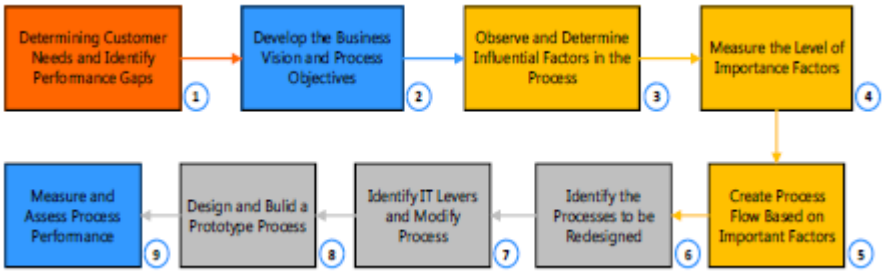


Fig. 1 The 9 steps of development of business reengineering

Despite its promise, BPR has faced criticism, particularly regarding the high failure rate of BPR projects due to organizational resistance and lack of employee involvement (Al-Mashari and Zairi, 1999). While early applications of BPR were focused on manufacturing

and production processes, later studies explored its relevance in service industries and technology-driven organizations (Attaran, 2004). These studies highlighted the role of technology in facilitating successful BPR initiatives, positioning digital tools as crucial enablers for re-engineering efforts.

2.5 Business Information Systems (BIS) and Project Management

Business Information Systems (BIS) are integrated sets of components for collecting, storing, and processing data, and for providing information, knowledge, and digital products. They play a crucial role in enhancing organizational efficiency and decision-making processes. In the context of project management, BIS facilitates the planning, execution, and monitoring of projects by providing real-time data and analytics, improving communication, and enabling better resource allocation. Information systems (IS) has the essential role in supporting operations, decision-making, and strategy in modern organizations. IS could support daily tasks, routine reports, and complex decisions support (Kenneth Laudon, 2013). These systems support various project management functions, such as scheduling, budgeting, risk management, and performance tracking, thereby ensuring that projects are completed on time and within budget (Kerzner, 2022).

Modern BIS often integrate seamlessly with other project management tools, such as Enterprise Resource Planning (ERP) systems, Customer Relationship Management (CRM) systems, and specialized project management software like Microsoft Project and JIRA. This integration allows for a unified platform where all project-related data can be accessed and managed efficiently, reducing the likelihood of data silos and enhancing overall project visibility (Alotaibi and Liu, 2017). In the semiconductor industry, where projects are highly complex and involve multiple stakeholders, the use of BIS is particularly advantageous. These systems enable project managers to coordinate cross-functional teams, manage intricate timelines, and adapt to rapidly changing project requirements, thereby improving project outcomes and organizational agility (Varajão, Marques and Trigo, 2022).

By leveraging BIS, semiconductor companies can enhance their project management capabilities, ensuring timely delivery of high-quality products in a highly competitive market. The integration of BIS with other enterprise systems underscores the need for a holistic approach to project management, which will be further explored in the subsequent sections.

2.6 Current task management challenges in semiconductor Industry

Fragmented Communication: Many organizations still rely on multiple communication channels, leading to inefficiencies and miscommunication. A study by (Cohen, Manion and Morrison, 2002) noted that “fragmented communication channels contribute significantly to misunderstandings and task delays, affecting overall productivity.” The lack of a centralized communication platform can hinder collaboration and slow down project timelines.

Inefficient Task Tracking: Traditional task management systems often lack effective tracking mechanisms, leading to unclear responsibilities and missed deadlines. These inefficiencies can result in project delays and increased operational costs. Manual data entry, in particular, is vulnerable to errors and inefficiencies. Research has shown that incorrect data input costs businesses over 30% of their revenue (Davie, 2019).

Limited Real-Time Collaboration: Outdated collaboration methods hinder innovation and responsiveness. The absence of real-time collaboration tools impedes effective teamwork and slows decision-making processes. A study by Harvard Business Review found that companies adopting digital collaboration platforms increased productivity by up to 25% (*Harvard Business Review - Ideas and Advice for Leaders*, no date). Tools like Microsoft Teams and Slack offer solutions by facilitating instant communication and agile project management.

Inadequate Integration of Tools: Organizations often rely on disparate tools, leading to data silos and workflow inefficiencies. According to a Gartner study, 70% of companies struggle with software integration, which results in increased manual work and potential errors (*Gartner | Delivering Actionable, Objective Insight to Executives and Their Teams*). Adopting integrated systems like Office 365 or Asana can streamline processes and improve data accessibility.

Resistance to Change: Implementing new task management systems often encounters resistance. This resistance often stems from insufficient training and support, making strategic change management essential during Business Process Reengineering (BPR) initiatives. Developing comprehensive change management strategies that include employee training and engagement can mitigate resistance and facilitate smoother transitions. Addressing these challenges is crucial for enhancing efficiency and productivity in the semiconductor industry's task management processes ((Aaron Marks, no date)

2.7 Task Control Methods and the Competitiveness of Office 365

2.7.1. Traditional Task Control Methods and Their Inefficiencies

Email as a Primary Tool: Traditionally, email has been the primary method for task control and communication within organizations. However, research shows that relying on email for task management can lead to significant inefficiencies. A study by (Thomas, H. Davenport and James E.Short, 1990) "Operations management is concerned with the fundamental activity of organizations - how they provide goods and services. One of the earliest branches of business and management studies, the increase in international competition has seen a resurgence of interest in the development of the operation management field. This collection is international in scope, and addresses the four key areas of the subject: the foundations of operations management* the interaction between operations and strategy* the role of technology* 'Japanization' and 'just in time' techniques. With a new introduction providing an overview of the key concepts, and an extensive index, this collection will prove an invaluable reference tool and teaching aid. (*The social economy: Unlocking value and productivity through social technologies | McKinsey*) found that “employees spend 28% of their workweek managing emails,” which detracts from productive task completion. The lack of visibility and tracking in email threads can also lead to miscommunication and task confusion, making it difficult for teams to collaborate effectively.

Spreadsheets and Manual Tracking: Many organizations utilize spreadsheets to track tasks and projects. While this method offers flexibility, it comes with significant drawbacks. Spreadsheets often contain critical errors, which can compromise data integrity and lead to poor decision-making. A study published in August 2024 by Phys Org found that 94% of business spreadsheets have critical errors, posing serious risks for financial losses and operational mistakes. Additionally, a critical review of the literature on spreadsheet errors highlights that more than 90% of spreadsheets are error-laden, underscoring the importance of quality assurance practices in spreadsheet development (Powell, Baker and Lawson, 2008).

Project Management Software: Standalone project management software often lacks integration with other tools, leading to data silos that hinder cross-functional collaboration and result in fragmented information. A 2024 systematic literature review by Fawzy et al. highlights that agile teams frequently struggle with integrating heterogeneous data sources, ensuring data reliability, and achieving real-time analytics. These challenges impede team

collaboration and project transparency, underscoring the need for robust data management strategies in agile environments (Fawzy *et al.*, 2024).

2.7.2. Integrated Dashboards in Project Management

Integrating digital tools for task management is essential for organizations looking to modernize their operations. offers a unified ecosystem that integrates a range of tools, such as Teams, SharePoint, Outlook, and OneDrive, to streamline workflows and enhance communication across organizations. This integration minimizes the need for manual data transfer and the constant switching between different applications, promoting greater efficiency in task execution. Real-time collaboration is facilitated through co-authoring in Office apps and file sharing via SharePoint, while Microsoft Teams serves as a central hub for communication, combining chat, video calls, and project management features (Blerta Abazi Chaushi, 2024).

The literature highlights several key benefits of digital integration for task management, including real-time visibility of task progress, improved communication across departments, and enhanced accountability (Westerman, George; Bonnet, Didier; McAfee, Andrew, 2014). However, the challenge of ensuring that employees adopt and fully utilize these systems remains a significant barrier to successful integration (Wright, 2016).

Office 365 provides an integrated suite of tools that addresses many of the inefficiencies found in traditional task control methods. Its competitive advantages are grounded in the following features:

Real-Time Collaboration: Office 365 applications, such as Microsoft Teams and SharePoint, enable real-time collaboration, allowing teams to work together seamlessly regardless of location. As noted by (Riemer *et al.*, 2020), real-time collaboration tools minimize meeting times and simplify communication, leading to improved productivity. This integration facilitates the sharing of ideas, feedback, and updates, significantly improving task management.

Centralized Task Management: Tools like Microsoft Planner offer centralized task management capabilities, providing teams with visibility into project progress and individual responsibilities. A paper from (Williams *et al.*, 2023) highlights that centralization in task management offers a streamlined approach that can enhance productivity and reduce cognitive overload by consolidating various responsibilities into a single framework. This

feature ensures that team members are aligned and aware of their roles within projects, mitigating confusion and enhancing overall workflow.

Integration with Other Tools: One of the most compelling features of Office 365 is its ability to integrate with various applications, enabling seamless data flow and communication. As pointed out by a recent paper, (Lane *et al.*, 2024) emphasizes how platforms like Slack and Microsoft Teams facilitate not only communication but also collaborative task management and centralized data storage. By providing a unified space for team interactions and project tracking, these tools enable organizations to maintain high levels of productivity despite geographic. Hence, this integration allows employees to access relevant information quickly, reducing the time spent switching between applications.

User-Friendly Interface: User-friendly interfaces play a crucial role in enhancing user experience across various technological platforms. In particular, the intuitive design of Office 365 significantly reduces the learning curve for employees, facilitating quicker implementation and greater user satisfaction. A well-designed interface allows users to navigate tools and features with minimal training, thereby promoting efficiency and productivity (Dabhi, 2023). By simplifying complex processes, Office 365 encourages employees to embrace these digital tools rather than resist them due to frustration or confusion.

The integration of BPR with digital transformation initiatives has gained considerable attention as businesses increasingly rely on technology to improve processes. Digital transformation refers to the use of technology to fundamentally change how organizations operate and deliver value to customers (Westerman, George; Bonnet, Didier; McAfee, Andrew, 2014). Within the context of BPR, digital tools such as Office 365 have been identified as critical enablers for the redesign of processes, facilitating real-time collaboration and decision-making (Kane *et al.*).

Studies have demonstrated how digital platforms, such as Office 365, can support BPR by providing the infrastructure needed for automated workflows, better communication, and more efficient task management (Office, 2024). This aligns with the findings of (Thomas, H. Davenport and James E.Short, 1990), who argued that information technology can act as both an enabler and a driver of BPR initiatives.

2.8 Challenges and Barriers to Integration of Task Management Systems

Despite the potential benefits of integrating task management systems, several challenges persist. Research indicates that resistance to change is a primary obstacle in the implementation of new task management systems, particularly in organizations with entrenched legacy systems (Waddell and Sohal, 1998). Moreover, the complexity of integrating multiple digital tools can create technical barriers, such as compatibility issues or data silos (Fichman, Dos Santos and Zheng, 2014).

Additionally, there is often a lack of user engagement during the implementation phase, which can lead to suboptimal use of the system (Al-Mashari and Zairi, 1999). Organizations must focus on change management strategies to ensure successful adoption and integration of new task management platforms (*The Strategic Management of Corporate Change - Dexter Dunphy, Doug Stace, 1993*).

2.8 Gaps in Existing Research

While there is significant literature on BPR and task management, gaps remain in understanding the role of specific digital tools, such as Office 365, in supporting BPR efforts. Most studies focus on either BPR or digital transformation but do not sufficiently explore the intersection of these fields in task management contexts. Furthermore, limited research exists on the application of these frameworks in specific industries, such as semiconductor manufacturing, where complex workflows and high levels of collaboration are essential (Attaran, 2004). This thesis aims to address these gaps by examining the application of BPR through the integration of Office 365 in improving task management processes, with a particular focus on case study from Intel Products Vietnam.

3. Research Methodology

3.1 Research Design

This study follows a qualitative case study approach, supplemented by quantitative methods, to explore task management inefficiencies and assess the impact of a re-engineered process. According to (Yin, 2009), case studies are effective for investigating real-life processes in complex organizational settings. The 9-step BPR methodology structures the research as follows:

Step 1: Determining Customer Needs and Identifying Performance Gaps. In Chapter 4, survey results and document analysis identify inefficiencies in the current task management process, including manual workflows and fragmented communication.

Step 2: Developing the Business Vision and Process Objectives. In Chapter 4, the study defines the goals for the redesigned task management process, aligning them with organizational needs.

Step 3: Observing and Determining Influence Factors. Chapter 4 analyzes internal and external factors, including tool usage, organizational culture, and resource constraints, that impact task performance.

Step 4: Measuring the Level of Importance of Factors. Chapter 4 evaluates factors affecting task management efficiency, such as communication delays and task tracking issues, ranking them to prioritize improvements.

Step 5: Creating a Process Flow Based on Importance Factors. Chapter 5 presents a redesigned workflow integrating Office 365 applications to address the most critical inefficiencies.

Step 6: Identifying Processes for Redesign. In chapter 5, the study specifies processes requiring significant change, such as task assignment and follow-ups.

Step 7: Identifying IT Levels and Modifying Processes. Chapter 5 integrates tools like Planner, Teams, and Power Automate into the workflow, matching technology to the level of process complexity.

Step 8: Designing and Building a Prototype Process. Chapter 6 describes the development and testing of the re-engineered workflow prototype, demonstrating how Office 365 tools were implemented.

Step 9: Measuring and Assessing Process Performance. In chapter 6, the impact of the redesigned workflow is evaluated by comparing pre- and post-implementation metrics, including task completion times and employee satisfaction.

3.2 Data Collection Methods

Data for this study will be collected using survey, document analysis (Creswell, 2008) and operational time measurements.

3.2.1 Survey

A structured survey will be distributed to a set of samples of employees to quantify the perceived effectiveness of the current task management system and gather feedback on the new system post-implementation.

Survey Design: The survey will be developed using a Likert-scale format, allowing employees to rate their experiences with task tracking, communication, and overall efficiency. This is a common approach in organizational studies (*Saunders, Research Methods for Business Students, 8/E*, 2019). The survey will include sections focusing on task clarity, ease of collaboration, and satisfaction with current tools such as email and manual tracking methods.

Sample Size: The survey will target around 15 employees in a department within Intel Products Vietnam, aiming for a broad perspective on task management challenges and improvements.

3.2.2 Observations

Direct observation of task management practices will be conducted to gain firsthand insights into the day-to-day workflow and communication challenges. According to (David Silverman, 2000), observations are useful for understanding organizational processes that are not always captured in interviews or surveys.

Observation Focus: Key meetings, project planning sessions, and task tracking activities will be observed to identify how tasks are assigned, tracked, and communicated among team members. The researcher will take detailed field notes, focusing on task flow, interruptions, and the use of digital tools like email or spreadsheets.

3.2.3 Operational time measurements

Post-implementation, operational time measurements were recorded for various task management workflows using Microsoft Office 365 tools. This method involved timing

predefined tasks within the system under controlled conditions. Measurement Design: Workflows included task assignment, follow-ups, and workload reviews.

3.3 Sampling strategy

The study will employ purposive sampling to ensure the participation of employees who are directly involved in task management and decision-making processes. According to (Teddlie and Yu, 2007), purposive sampling allows the researcher to focus on individuals who have specific knowledge and experience related to the research topic.

Key Participants & Workflow: Managers, project leads, and employees who manage tasks or work collaboratively in teams will be the primary focus of the survey, While operational time measurement targeted workflow such as task created, task reminder.

Sample Size: the survey will target 15 employees to provide a dataset for analysis.

3.4 Tool and Techniques

The integration of Office 365 tools into the redesigned task management system will be central to this study. The specific tools used in the research include:

Microsoft Teams: Used for real-time communication and task collaboration among team members. Teams allows for centralized task management and supports collaboration across departments.

Microsoft Planner: A task management tool that helps organize tasks within teams and projects, allowing for clear task assignments and deadlines. This tool will replace traditional email-based task tracking.

SharePoint: For document management and version control, allowing team members to access and collaborate on documents more efficiently.

Outlook: Used for scheduling and calendar management, integrating with Planner and Teams for a cohesive task management experience.

Microsoft power automate: Enabled automation of notifications and task status created/ updates.

In addition to Office 365 tools, Business Process Modeling tools such as Microsoft Visio will be used to map the existing and redesigned workflows, following standard BPR practices (Davenport & Short, 1990).

3.5 Data analysis method

3.5.1 Qualitative Analysis

Qualitative data from the survey and observations will be analyzed using thematic analysis. This involves identifying recurring themes, patterns, and issues related to task management inefficiencies and the impact of the Office 365 implementation. According to (Braun and Clarke, 2006), thematic analysis is a flexible method for identifying, analyzing, and reporting patterns within data.

3.5.2 Operational time analysis

Operational time data was analyzed by comparing execution times for workflows before and after implementing the redesigned system. Metrics such as task created time, manual steps eliminated, and total time saved were calculated to quantify efficiency improvements.

3.6 Validation

Due to the limitation of time, new system validation will be validated by measuring the operation time based on surveys compared to operation time that is calculated by the Office 365 system.

3.7 Ethical Consideration

The research will adhere to ethical guidelines, including informed consent, confidentiality, and data protection. Participants will be fully informed of the purpose of the study and their rights to withdraw at any point without consequence. All data collected will be anonymized to protect participant identity and sensitive organizational information (Bell, Bryman and Harley, 2022). Workflow logs used for operational time measurements were securely stored to maintain confidentiality.

3.8 Limitations of the Methodology

While the case study provides rich insights into task management processes at Intel Products Vietnam, the findings may not be generalizable to all industries or organizations. Additionally, the mixed-method approach provides comprehensive insights, time constraints limited the scope of surveys and observations. Additionally, operational time measurements may not capture qualitative aspects such as user satisfaction or collaboration improvements.

4. Current State Analysis of Task Management at Intel Products Vietnam

4.1 Observation analysis based on current practice of task management workflow

The task control workflow presented in this diagram outlines a structured approach to task management, featuring two primary roles: the Project Manager and the Task Owner. The process begins with the Project Manager, who defines the task list by an excel file and reviews the workload based on available resources and team capacity. Following this, tasks are created and assigned to the Task Owner for execution by Office Task planner application. A critical checkpoint in the workflow occurs when the Project Manager assesses whether the task is overdue by checking the task planner manually, checking with the owner through team chat or using email. If the task is overdue, a decision-making process begins, evaluating if the team members can manage the workload by offline checking. If resource constraints exist, the Project Manager connects with group leaders to obtain additional support. However, if the workload is manageable, the Project Manager further determines whether the schedule risk remains low. If the risk is acceptable, task due dates are modified, whereas if the risk is significant, the task ownership may require reassignment.

On the other hand, the Task Owner receives task notifications, typically communicated through Outlook email or Teams message, and proceeds to evaluate whether a due date change is necessary. If a modification is required, a feedback loop is initiated with the Project Manager for adjustment. Otherwise, the Task Owner continues task execution while providing follow-up actions. Task completion serves as another checkpoint, where the Task Owner confirms if the task is completed. If successful, the task status is updated to reflect completion; if not, the follow-up process is reiterated to ensure progress.

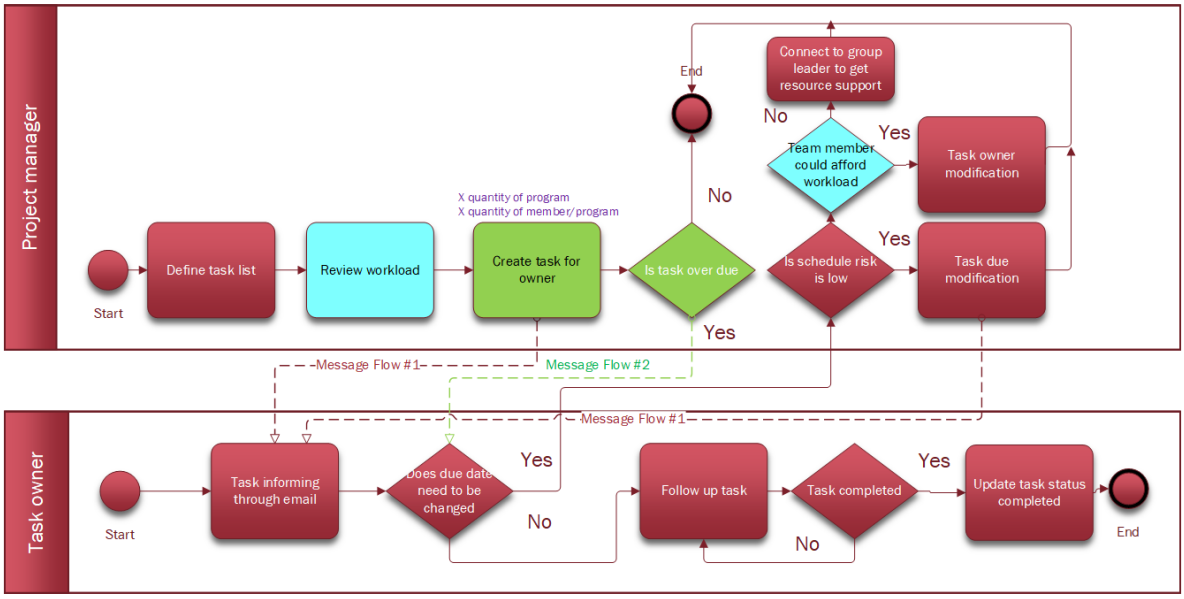


Fig. 2 Task control workflow between Project manager and task owner

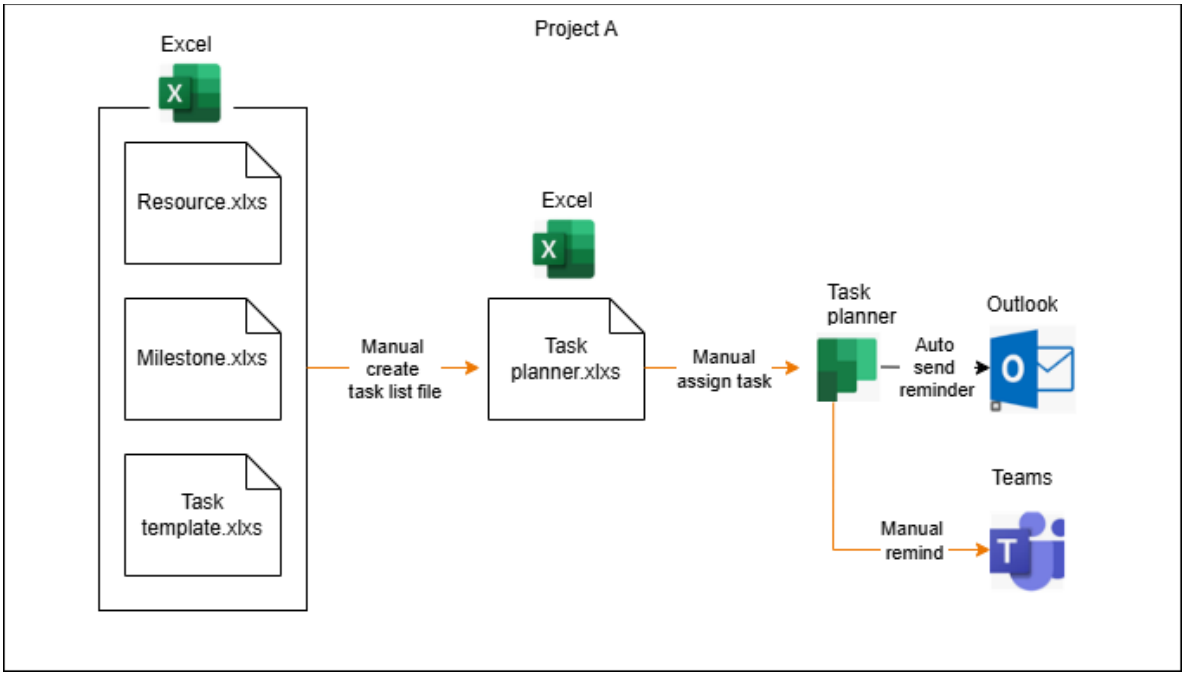


Fig. 3 Overview of Office 365 application used in current task management

Project manager used an excel file to define a list of activities that need to assign resources during a program then create the task in Task planner. Task planner will send a reminder through emails. However, users are more familiar with using team chats. Project manager would review a workload by manual extract task planner to excel file to review resource balancing. The orange arrow represents manual activities, while the black arrow represents automatic activities performed by Office applications.

4.2 Identification of Inefficiencies in the Existing Process

Using thematic analysis, the task control workflow was examined to identify recurring inefficiencies. Key themes include:

(1) Redundant Processes: Repeated loops. There are a set of same tasks that are distributed among the product and among the life cycle that Project manager needs to repeat the activities to “create task”, “assign task to resource”, “assign the timeline”. Example: a project manager needs to manage 5 projects at the same time. There are approximately 50 tasks per program, 5-7 engineers then they are total 1250 tasks created. Assigning 1250 jobs, each lasting 30 seconds, took 10.4 hours in total, only to construct the assignments.

(2) Inefficient Task Tracking: Project managers need to spend time to follow up tasks manually with stakeholders to keep track of progress by sending an email, or go through a Teams Chat to ask for status updates. An additional 10.4 hours were spent on the follow-up task.

(3) Resource Management Delays: it’s invisible to the project manager how much workload that is distributed to the same person or how many tasks that are distributed at same week among the programs since excel file extracted from task planner is raw file. And how the status of the task communicates to related stakeholders.

In summary, a total of 20.8 hours is spent on creating and following up on tasks for five projects, each containing an average of 50 tasks and involving 5-7 engineers per project. This process poses a risk of schedule delays due to task communication inefficiencies.

4.3 Feedback from Users: Survey

The survey (Appendix: Survey result), aimed at evaluating employee satisfaction with the current task management system and exploring the perceived impact of Office 365, gathered responses from 22 participants across various roles (Question 1/ Section 1), including engineers (63.6%), group leaders (22.7%), and project managers (9.1%). The majority (86.4%) have been in their roles for 1-5 years, indicating a well-experienced respondent base.

Regarding task management tools (Section 2), 90.9% (Question 4) rely on emails, followed by 77.3% using informal chats (e.g., Teams, Emails) and 63.6% employing Excel spreadsheets (Question 3). Only 36.4% (Question 3) reported using project management software, revealing a fragmented and manual task management approach. Time spent

managing tasks weekly is significant, with 40.9% (Question 5) dedicating 5-10 hours, and 36.4% spending 2-5 hours.

In Section 2, task management challenges include poor communication (63.6% - Question 6), lack of visibility (59.1% - Question 7), and difficulty prioritizing tasks (63.6% - Question 6). Furthermore, 45.5% (Question 9) frequently experience missed deadlines or unclear responsibilities. These inefficiencies result in delays in project timelines for 22.7% of respondents (Question 10).

On the perception of Office 365 integration (Section 2), 68.2% of respondents (Question 11) believe it could improve task management. Features such as centralized task tracking (77.3% - Question 12) and improved communication (63.6% - Question 13) were identified as critical solutions. However, anticipated challenges include tool complexity, training needs, and organizational alignment issues (Question 14).

The findings suggest a strong need for an integrated task management system, emphasizing automation, centralized tracking, and enhanced communication to address current inefficiencies. Descriptive statistics highlight the fragmented nature of current practices, supporting the case for Office 365 adoption.

adding picture to share back the information in survey

4.4 Developing the Business Vision and Process Objectives

The first step in the redesign process involved defining a vision that aligns with Intel Products Vietnam's strategic goals for task management. Intel's strategic goal is: "Our strategy is to play a larger role in our customers' success by delivering a predictable cadence of leadership products." To ensure a predictable cadence of product launches, project timelines must be strictly followed, with timely task execution at every level. This requires a robust system to maintain effective task control, contributing to the company's global objective. Based on the findings in Section 4.2 & Section 4.3, The current task control faces issues related to inefficiency in task creation, manual task management by humans, resulting in communication delays and high time consumption. Additionally, the lack of visibility into task workloads makes it difficult to prioritize and balance resources. The following objectives were established:

Improve Task Tracking: Establish a centralized system to monitor task progress, deadlines, and ownership. This system enables users to access and review task statuses within teams and projects, fostering transparency between project managers and task owners. The

centralized task management consolidates tasks across projects and users based on review requirements.

Enhance Collaboration: Utilize real-time communication tools to foster better team coordination and information sharing. The system automatically follows up and sends messages to designated recipients regarding task changes, eliminating the need for manual daily or weekly tracking. The objectives are to reduce time consumption and prevent project delays caused by task delays without proper communication. For example, the system can automatically send messages or emails to task owners a specific number of days before the deadline, allowing users to update the task completion status in advance or consult with the project manager to adjust the timeline or define a mitigation plan, minimizing the impact on the project schedule.

Optimize Resource Allocation: Implement automated tools to visualize and balance workload distribution across teams. Task owners and project managers can easily review and access workloads to make timely adjustments across projects and team members.

Increase Operational Efficiency: Reduce manual intervention by automating task creation, reminders, and updates. An illustration of this is how integrated applications can minimize current manual activities by automating workflows based on predefined logic executed by the system.

4.5 Observing & determining Influence Factors & their importance

Several internal and external factors influencing task performance were identified through surveys and workflow documentation analysis.

Internal factors play a critical role in task execution efficiency. Tool utilization and fragmented communication significantly impact performance, as the heavy reliance on manual emails and spreadsheets for task management creates silos and delays in updates (Steve Whittaker, 2005). According to the survey, 90.9% of respondents (Question 4- Section 2) reported using email as the primary method for task communication, while only 36.4% adopted project management tools. Additionally, unequal employee workload distribution leads to delays in overloaded teams while leaving others underutilized, resulting in inefficiency. Survey results (Question 5 - Section 2) indicated that 63.6% of respondents experienced difficulty in workload balancing, with some employees overloaded while others remained underutilized. This imbalance not only delays project timelines but also impacts employee satisfaction and performance (Inegbedion *et al.*, 2020).

External factors further complicate task performance by introducing additional constraints. Technological infrastructure poses a challenge, as the lack of integration between current tools prevents scalability and automation. Furthermore, organizational culture plays a crucial role, with resistance to change among employees hindering the adoption of new systems. Lastly, project complexity adds another layer of difficulty, as high variability in project scopes demands adaptable processes and tools to effectively manage diverse requirements. Addressing both internal and external factors is essential to improving task performance and fostering a more efficient work environment.

4.6 Measuring the Level of Importance of Factors

The factors identified in Section 4.5 were evaluated and ranked based on their impact on inefficiencies such as task tracking, communication delays, and resource management. The weight of each factor's priority was assigned based on survey results. Factors with over 70% of respondents were classified as high priority, between 50% and 70% as medium priority, and below 50% as low priority. A prioritization matrix was used to assign weights to each factor.

Factor	Link to Inefficiencies	Priority	Explanation
Tool Utilization and Fragmented Communication	Delays updates, creates silos, and reduces collaboration	High	90.9% from Question 4
Task Prioritization and Tracking	Contributes to confusion and missed deadlines	Medium	63.6% from Question 6
Employee Workload Distribution	Leads to uneven resource utilization and task delays	Medium	63.6% from Question 6
Technological Infrastructure	Limits scalability, preventing task automation	Medium	45.5% from Question 7
Organizational Culture	Resistance slows the adoption of new tools and workflows	Low	36.4% from Question 8
Project Complexity	Requires adaptable tools but does not directly impede processes	Low	27.3% from Question 9

Tab. 1 Prioritization matrix table of influence factors

Key insights reveal that tool utilization, fragmented communication, and task prioritization and tracking are the most critical factors contributing to delays and inefficiencies. Employee workload distribution holds medium priority, impacting resource allocation. While

technological infrastructure and organizational culture pose barriers to implementing solutions, they are considered secondary compared to gaps in task tracking and communication.

5. Re-engineering the Task Management Process

This chapter details the re-engineering of the task management process for Intel Products Vietnam using the principles of Business Process Re-engineering (BPR). It integrates Office 365 tools to address inefficiencies in task assignment, tracking, and reporting identified in Chapter 4. The redesigned workflow incorporates Steps 5, 6, and 7 of the BPR framework: creating a process flow based on importance factors, identifying processes for redesign, and identifying IT levels to modify processes. Visual data and workflows are presented to support the discussion.

5.1 Create a process flow based on important factors

The redesigned workflow aims to address the critical inefficiencies identified in Chapter 4. The process flow integrates Office 365 tools—Microsoft Planner, Teams, Power Automate, Sharepoint and Power BI—to create a streamlined, automated system (Figure 4).

Propose workflow overview: an automation code will be created to auto generate output files from milestone, resource, task list. The Power Automate (a very new modern tool in MS office 365) will automatically generate tasks from excel file to task planner. Power Automate also executes some functions such as auto sending emails or team chat messages to remind users when the due date is reached. Furthermore, this tool will auto extract information to json file that later used as input file for power BI to visualize the workload distributions. The selection of Office 365 tools is based on their integration capabilities and scalability. According to (Kai Riemer *et al.*, 2020), tools like Microsoft Teams and Power Automate enable real-time collaboration and automation, which are critical for reducing manual intervention and improving efficiency. Furthermore, (Williams *et al.*, 2023) highlights that centralized task management systems, such as Microsoft Planner, reduce cognitive overload by consolidating tasks into a single framework, thereby enhancing productivity.

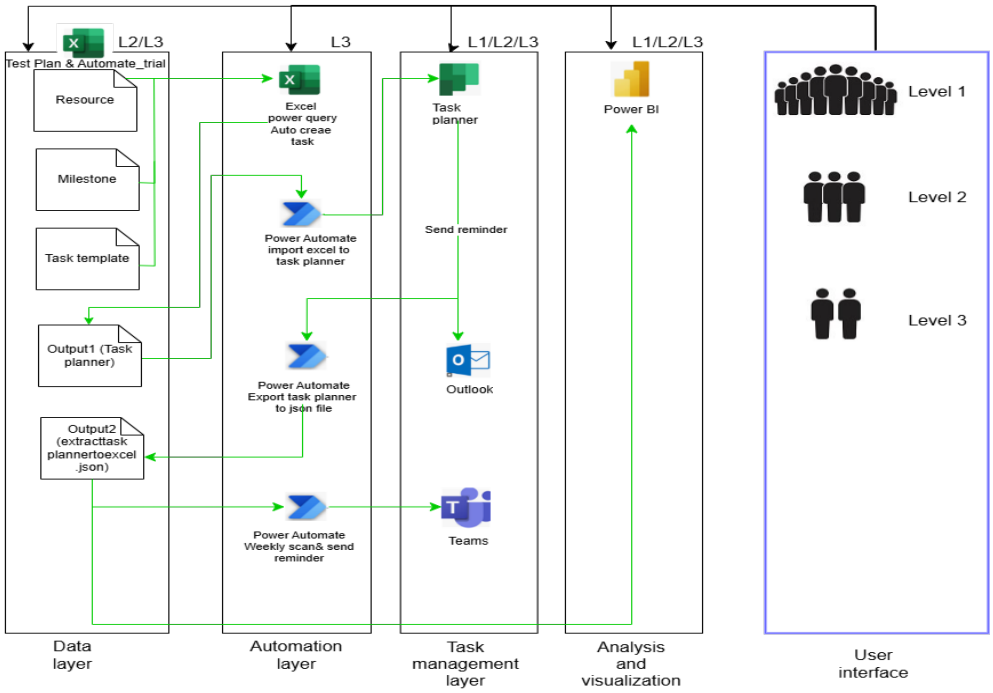


Fig. 4 System architecture for integration information system

5.2 Identifying Processes for Redesign

Task Assignment/Creation

Current State: Tasks are assigned manually per product and require repeated manual work to create tasks in task planner.

Redesigned State: Excel code & Power Automate ensures that tasks are assigned automatically based on the same source of input files.

Task Follow-Ups

Current State: Manual reminders for task progress require excessive managerial oversight.

Redesigned State: Automated notifications in Teams prompt employees about deadlines, reducing the need for manual intervention.

Resource management

Current State: review excel file from each program for workload distribution.

Redesigned State: Power BI automatically consolidates task data from Planner, providing real-time insights and reducing review time. (Alotaibi and Liu, 2017) emphasized that

integrating Business Information Systems (BIS) with task management tools enhances resource allocation and decision-making.

5.3 Identifying IT Levels and Modifying Processes

Medium to low code utilization by adopting excel code and power automotive to integrate Excel, MS planner, Teams, and power BI. Modifying processes are executed using the current technology existed in the company (Office 365) which is easier for user adoption as well. According to (Satopay and Al Maflahi, 2023), low-code platforms like Power Automate reduce the learning curve for employees, facilitating quicker implementation and greater user satisfaction.

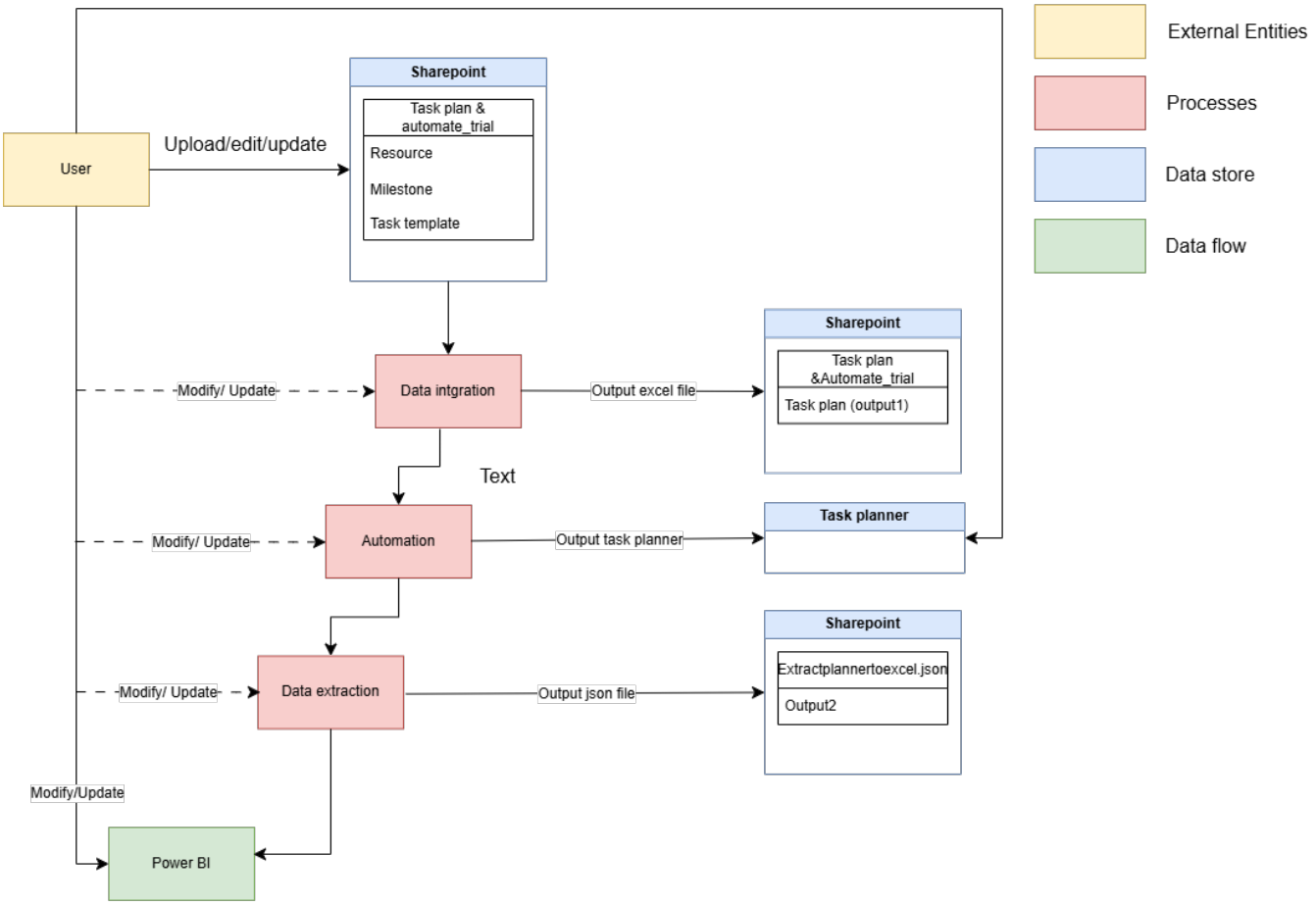


Fig. 5 Design data flow for integrated system of task management

According to figure 5, there are four legendries described in system design. Data flow is highlighted by green color and re-presented by arrow. These arrows represent the movement of data through the system, from the initial uploading and updating of Excel files by the user in SharePoint, through each processing stage (data integration, automation,

data extraction, and visualization), and culminating in the visualization of data in Power BI. Data store is indicated by blue box such as Sharepoint. Its Interface will include a dashboard to display output file with quick access to Excel files. The Sharepoint file's management has the option to upload, delete, and organize files within the SharePoint folder. Visual indicators for file status (e.g., processed, pending) with the access control to manage user permissions for viewing, editing, and managing files (Figure 6 and Figure 7).

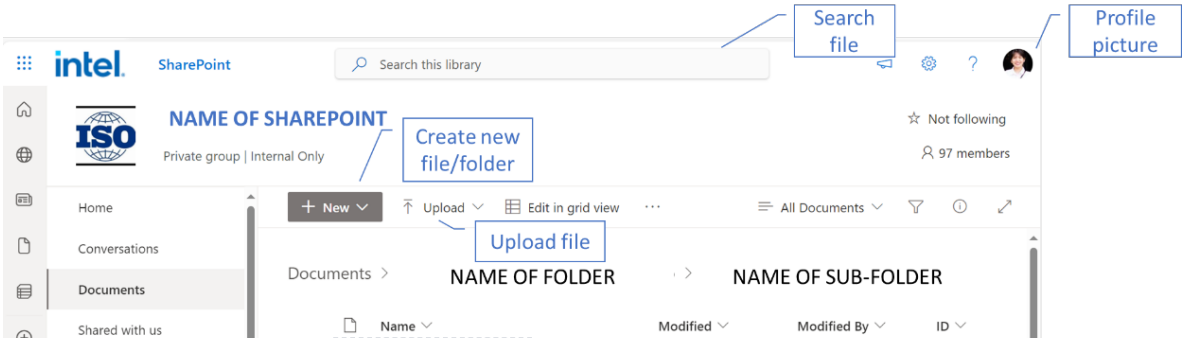


Fig. 6 Sharepoint screen overview

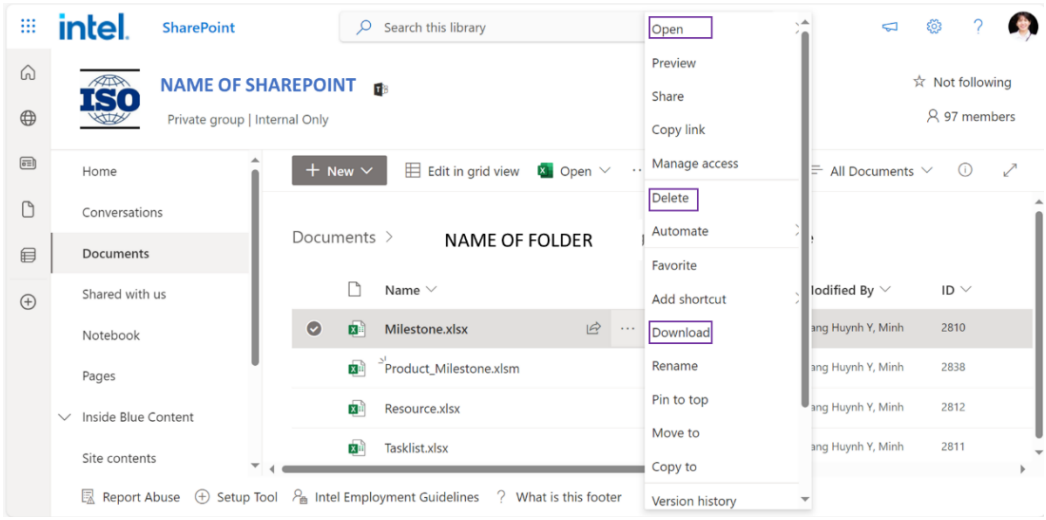


Fig. 7 Sharepoint screen functions

The automation flow is designed using Power Automate. Its interface provides a user-friendly platform for creating new automation flows, including templates for common tasks such as processing Excel files and updating Task Planner. Users can manage existing flows through an overview dashboard, which offers options to edit, enable, disable, or schedule flows (e.g., daily at 6 AM). Additionally, the system allows for the setup of notifications, enabling alerts or emails to inform users of flow outcomes, errors, or required inputs, ensuring timely communication and task management (Figure 8). These excel files are

created with specific template. An input file is created with 3 sheets including resource sheet (Resource information is allocated for project), Milestone sheet (Project timeline) and Task template sheet (Standard task for project). All Sheet data is configured as table format. Milestone Sheet Interface includes columns Project, Milestone, Start time and End time and have the available options for user to add new milestones, edit existing milestones and delete milestones. Resource Sheet Interface includes columns such as Project, Role and Email. The sheet will allow user to input or modify resource details, filter, and sort resources.Task template sheet Interface is designed with multiples columns including Item, GroupName, PlanName, Milestone, Role, Description, Checklist, Category, File. User could add or edit or delete all column information. Finally, Output1 (Task planner) sheet interface could be created by Power Query and include information from other sheets such as Item, GroupName, PlanName, Milestone, Role, Description, Checklist, Category, File Attachment, Project, Milestone.Start time, Milestone. End time, Email, Year Start, Year End, Work Week Start, Start Date, Work Week End, End date and no user action is allowable for this sheet.

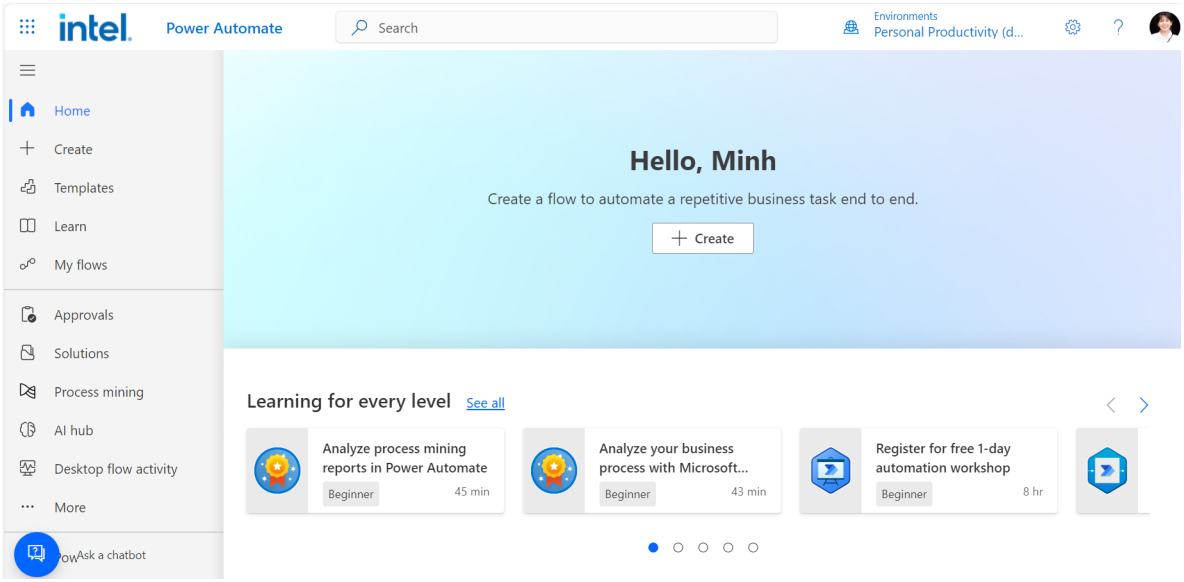


Fig. 8 Power Automate User Interface

User could review information through information system Power BI Dashboard (Figure 9 and Figure 10). The dashboard is a page displaying key visualizations such as task progress, resource allocation, and milestone timelines with features like drill-down, filter, and sort to allow users to explore data in-depth and data could refresh to view the schedule for automatic data updates from taskplan (output2).

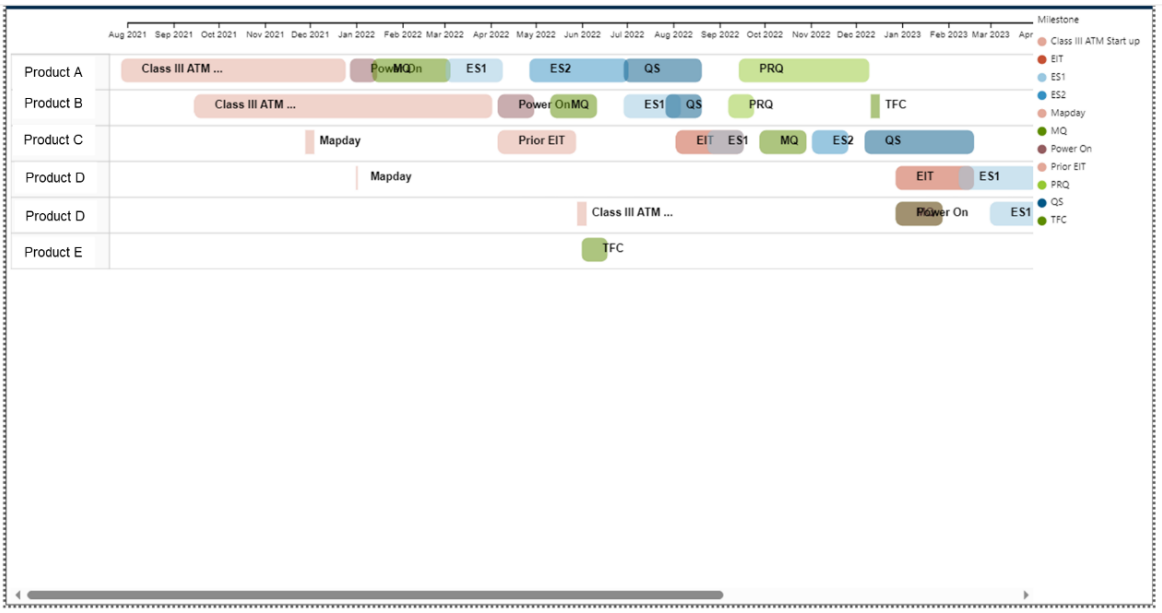


Fig. 9 Power BI Project milestone

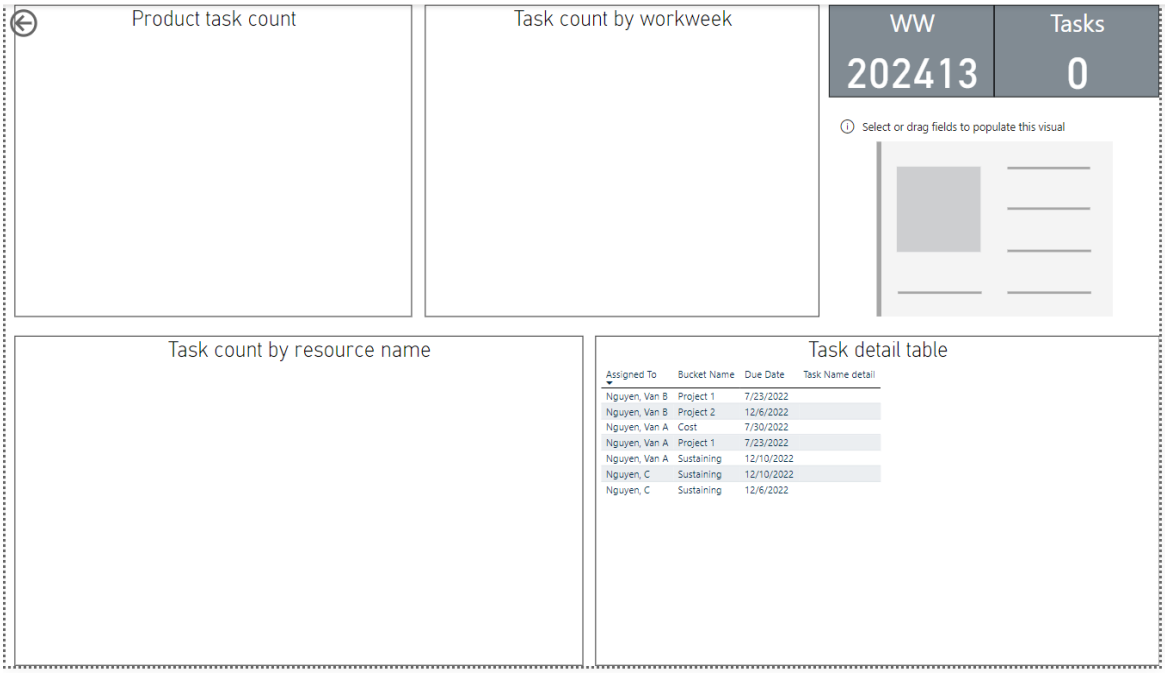


Fig. 10 Power BI project information user interface

5.4 Integrated system design roadmap

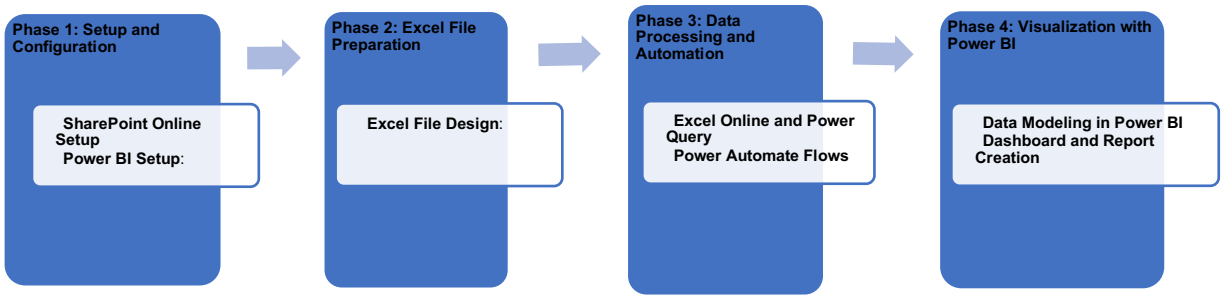


Fig. 11 Implementation roadmap for integrated system

The roadmap of system is planned with four phases (Figure 11). Phase 1 is setup and configuration to create a SharePoint site for the project and set up a folder library (taskmasterfile) to store Excel files. According to (Harmon, 2019), centralized data storage and visualization tools are critical for effective task management. In the first phase, a Power BI would be set up to sign up for workspace and connect Power BI to Sharepoint as a data source.

During phase 2, the excel file template could be designed to create Excel templates for Milestone, Resource, and Task Template sheet with the necessary columns as described. Then, these files are uploaded to the SharePoint document library. Standardized templates ensure consistency and reduce errors in task creation (Powell, Baker and Lawson, 2008).

Phase 3 is designed for data processing and automation. Project will use Power Query in Excel to clean, transform, and integrate data from the various Excel files as needed. The flow is that creating a Power Automate flow to process the Excel files on a schedule (e.g., daily at 6AM). This flow can handle tasks like data validation, consolidation, and the creation of task planner (Output1 sheet). Second step, developing additional flows for task creation in Microsoft Planner, based on the data in the Output1 file. At the end, setting up notifications or alerts for flow outcomes, errors, or manual interventions required.

In final phase 4, a Power BI is created to visualize necessary information for user. The Power BI will import the processed data (e.g., Output2 file – named Extract Task planner to file.json) then establish relationships and prepare it for analysis. The dashboard will visualize **the** the key metrics such as task completion rates, resource allocation, and project timelines. Later, it could be shared with stakeholders and configure scheduled refreshes to ensure data is up-to-date. The real-time data visualization could help to enhances decision-making and resource management (Kerzner, 2023).

6. Case study Results and Analysis

6.1 Prototype

SharePoint Online - File Management Interface:

Landing Page: A dashboard displaying all storage file.

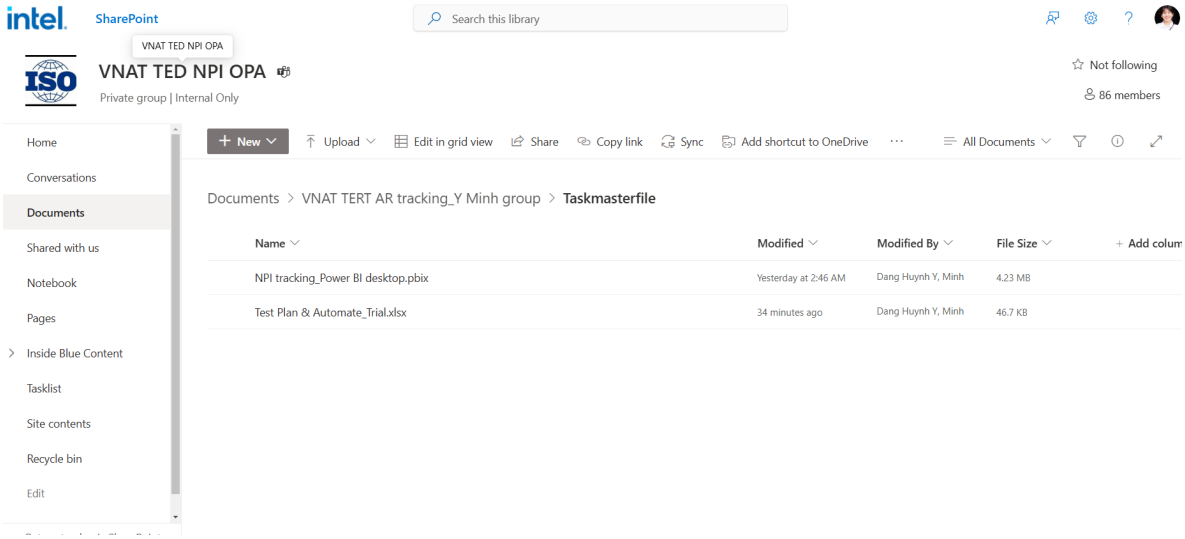


Fig. 12 Sharepoint user interface

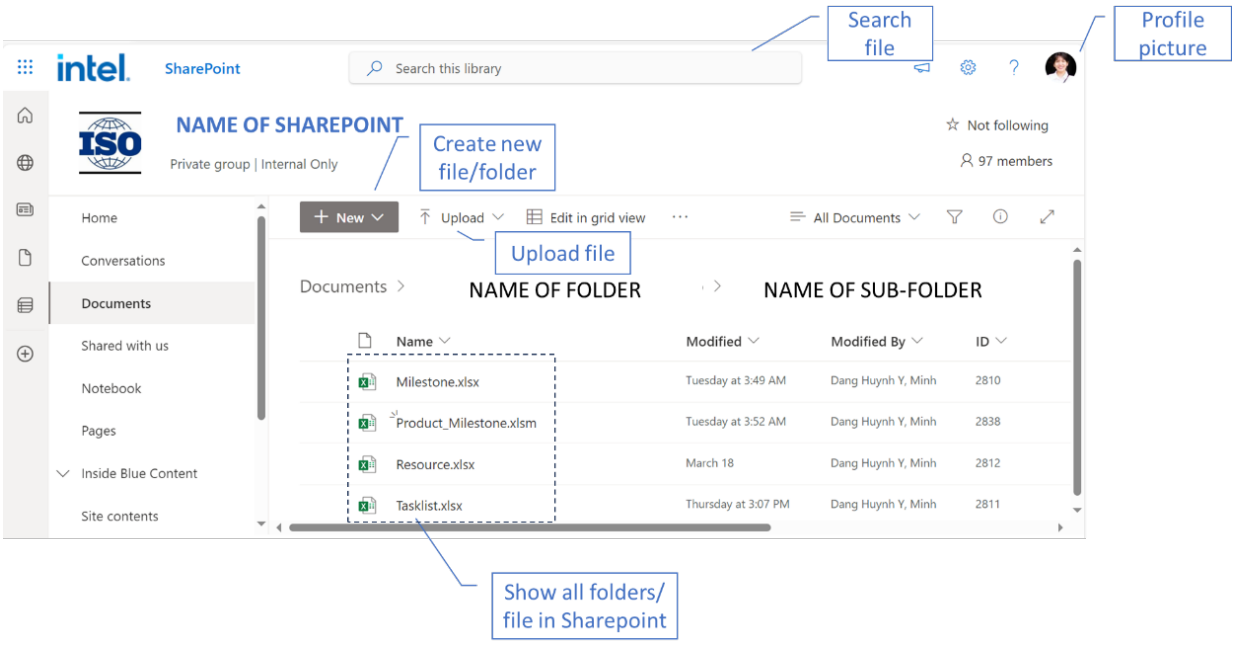


Fig. 13 Sharepoint landing page – storage file location

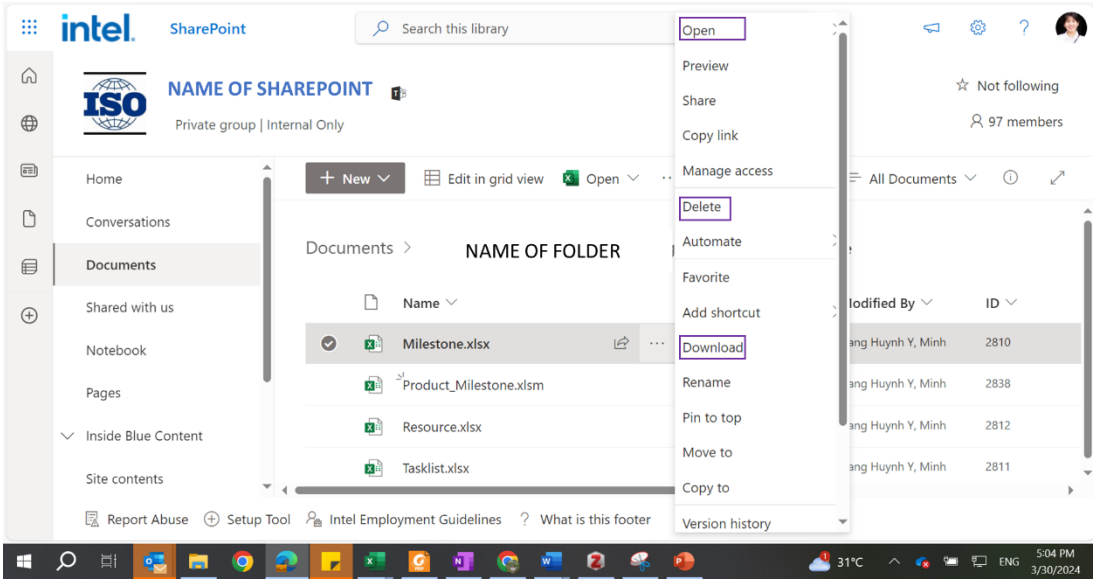


Fig. 14 Sharepoint functions

Excel Online - Data Processing Interface

The file is named Test plan & automate_trial.xlxs including 3 input sheets (named Resource, Milestone, task template) and 1 output sheet (named Task planner) under table format.

Proje	Role	Email
A	Test Integrator	minh.dang.huynh.y@intel.com
A	Module 1 AP	minh.dang.huynh.y@intel.com
A	Module 1 TIU	minh.dang.huynh.y@intel.com
A	Module 1 Tester	minh.dang.huynh.y@intel.com
A	Module 1 ME	minh.dang.huynh.y@intel.com
A	Module 2 ME	minh.dang.huynh.y@intel.com
A	Module 3 ME	minh.dang.huynh.y@intel.com
A	Module 4 ME	minh.dang.huynh.y@intel.com
A	Module 4 TRB	minh.dang.huynh.y@intel.com
B	Test Integrator	minh.dang.huynh.y@intel.com
B	Module 1 AP	minh.dang.huynh.y@intel.com
B	Module 1 TIU	minh.dang.huynh.y@intel.com
B	Module 1 Tester	minh.dang.huynh.y@intel.com
B	Module 1 ME	minh.dang.huynh.y@intel.com
B	Module 2 ME	minh.dang.huynh.y@intel.com
B	Module 3 ME	minh.dang.huynh.y@intel.com
B	Module 4 ME	minh.dang.huynh.y@intel.com
B	Module 4 TRB	minh.dang.huynh.y@intel.com

Fig. 15 Resource sheet overview

Project	Milestone	Start time	End time
A	Milestone1	202501	202501
A	Milestone2	202252	202252
A	Milestone3	202112	202115
A	Milestone4	202301	202304
A	Milestone5	202452	202452
A	Milestone6	202506	202512
B	Milestone4	202401	202405
B	Milestone5	202412	202420
B	Milestone6	202510	202514

Fig. 16 Milestone sheet overview

Item	GroupName	PlanName	Milestone	Role	Description	Check List	Catego	File Att
Taska1	VNAT TED NPI OPA	Test Plan & Automate	Milestone1;Milestone2;Milestone6	Test Integrator;Mododule1 ME	a1	x,y,z	Pink	
Taska2	VNAT TED NPI OPA	Test Plan & Automate	Milestone3	Module 2 ME	a2	x1,y1,z1	Blue	
Taska3	VNAT TED NPI OPA	Test Plan & Automate	Milestone4	Module1 AP	a3	x,y,z	Yellow	
Taska4	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a14	x12	Red	
Taska5	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator		x14	Blue	
Taska6	VNAT TED NPI OPA	Test Plan & Automate	Milestone2	Test Integrator	a16	x15,x16	Yellow	
Taska7	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator	a17	x20	Blue	
Taska8	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a18	x12	Blue	
Taska9	VNAT TED NPI OPA	Test Plan & Automate	Milestone4;Milestone5	Test Integrator	a19	x11	Blue	
Taska10	VNAT TED NPI OPA	Test Plan & Automate	Milestone4	Module 1 TIU			Pink	

Fig. 17 Task template sheet overview

The output1 file (named Task planner) is created by power query to consolidate and merging all information from 3 input sheets.

Item	GroupName	PlanName	Milestone	Role	Description	Check List	Category	File Attachment	Project	Milestone.Start time	Milestone.End time	Email	Year Start	Year End	Work Week Start	Start Date	Work Week End	End date
Taska1	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator	a1	x,y,z	Pink		A	202501	202501	minh.dang.huynh.y@intel.com	2025	2025	1	12/29/2024	1	1/4/2025
Taska5	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator		x14	Blue		A	202501	202501	minh.dang.huynh.y@intel.com	2025	2025	1	12/29/2024	1	1/4/2025
Taska1	VNAT TED NPI OPA	Test Plan & Automate	Milestone2	Test Integrator	a1	x,y,z	Pink		A	202252	202252	minh.dang.huynh.y@intel.com	2022	2022	52	12/19/2022	52	12/24/2022
Taska1	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a1	x,y,z	Pink		A	202506	202512	minh.dang.huynh.y@intel.com	2025	2025	6	2/2/2025	12	3/22/2025
Taska6	VNAT TED NPI OPA	Test Plan & Automate	Milestone2	Test Integrator	a16	x15,x16	Yellow		A	202252	202252	minh.dang.huynh.y@intel.com	2022	2022	52	12/19/2022	52	12/24/2022
Taska7	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator	a17	x20	Blue		A	202501	202501	minh.dang.huynh.y@intel.com	2025	2025	1	12/29/2024	1	1/4/2025
Taska8	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a18	x12	Blue		A	202506	202512	minh.dang.huynh.y@intel.com	2025	2025	6	2/2/2025	12	3/22/2025
Taska9	VNAT TED NPI OPA	Test Plan & Automate	Milestone4	Test Integrator	a19	x11	Blue		A	202301	202304	minh.dang.huynh.y@intel.com	2023	2023	1	1/1/2023	4	1/26/2023
Taska2	VNAT TED NPI OPA	Test Plan & Automate	Milestone3	Module 2 ME	a2	x1,y1,z1	Blue		A	202112	202115	minh.dang.huynh.y@intel.com	2021	2021	12	3/14/2021	15	4/10/2021
Taska1	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a1	x,y,z	Pink		B	202510	202514	minh.dang.huynh.y@intel.com	2025	2025	10	3/2/2025	14	4/5/2025
Taska8	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a18	x12	Blue		B	202510	202514	minh.dang.huynh.y@intel.com	2025	2025	10	3/2/2025	14	4/5/2025
Taska9	VNAT TED NPI OPA	Test Plan & Automate	Milestone4	Test Integrator	a19	x11	Blue		B	202401	202405	minh.dang.huynh.y@intel.com	2024	2024	1	12/31/2023	5	2/3/2024
Taska9	VNAT TED NPI OPA	Test Plan & Automate	Milestone5	Test Integrator	a19	x11	Blue		A	202452	202452	minh.dang.huynh.y@intel.com	2024	2024	52	12/22/2024	52	12/28/2024
Taska9	VNAT TED NPI OPA	Test Plan & Automate	Milestone5	Test Integrator	a19	x11	Blue		B	202412	202420	minh.dang.huynh.y@intel.com	2024	2024	12	3/17/2024	20	5/18/2024

Fig. 18 Task planner sheet overview

Power Automate - Automation Configuration Interface

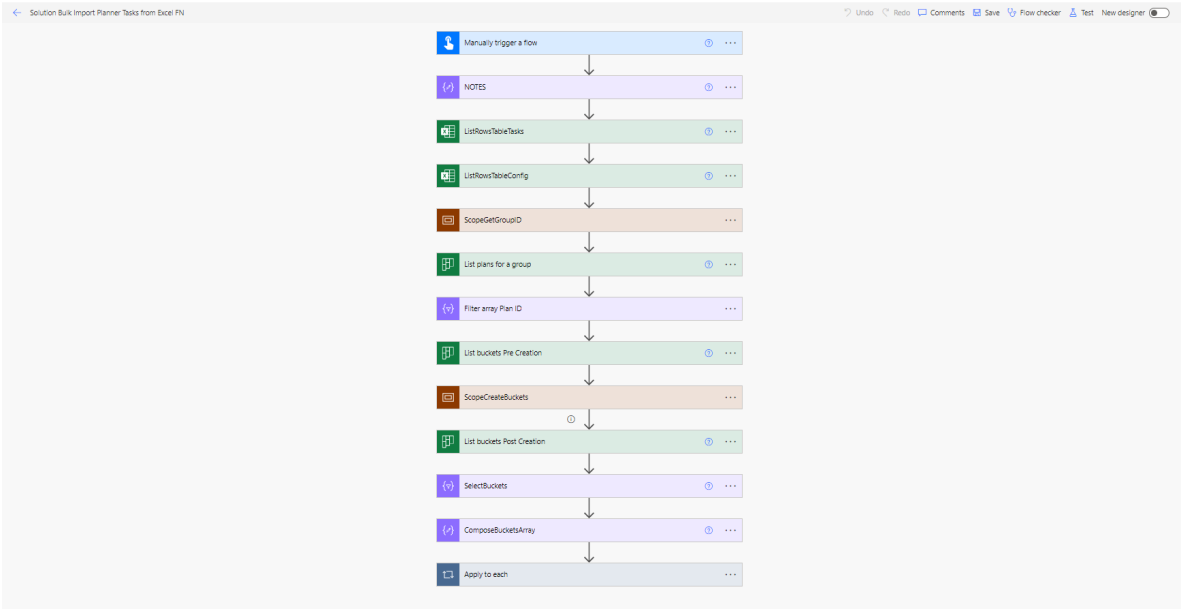


Fig. 19 Solution Buck import planter task from excel

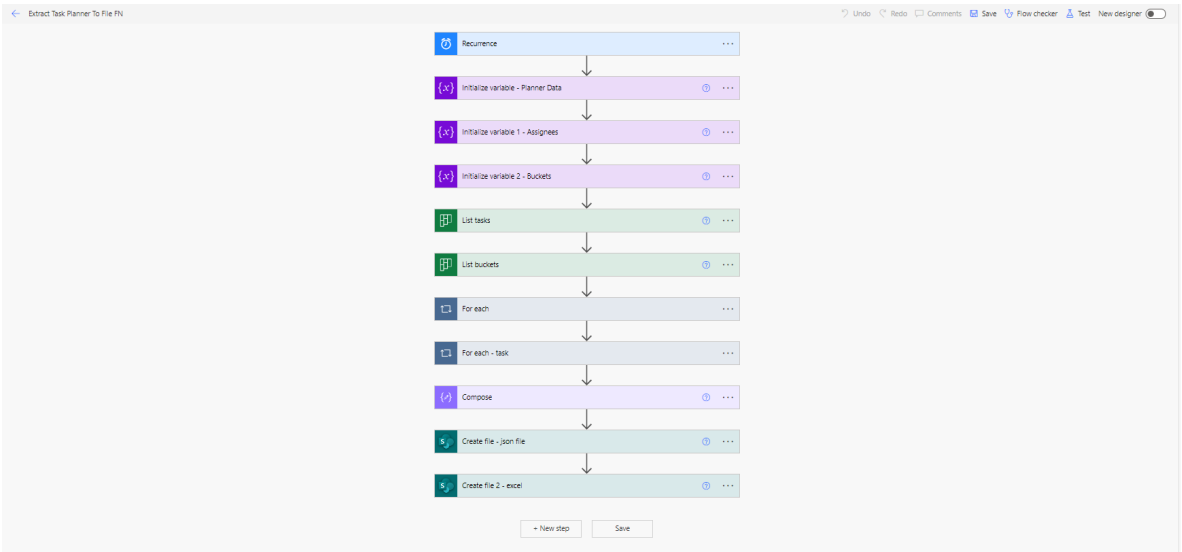


Fig. 20 Extract Task planner to File

Fig. 21 Task planner ChecktaskWeekly and send Teams

Power BI - Data Visualization Interface

Documents > VNAT TERT AR tracking_Y Minh group > **Taskmasterfile**

Name	Modified	Modified By	File Size	+ Add column
Extracttaskplannertoexcel.xlsx	About a minute ago	Dang Huynh Y, Minh	7.88 KB	
Extracttaskplannertofile.json	2 minutes ago	Dang Huynh Y, Minh	7.88 KB	
NPI tracking_Power BI desktop.pbix	Yesterday at 2:46 AM	Dang Huynh Y, Minh	4.23 MB	
Test Plan & Automate_Trial.xlsx	About an hour ago	Dang Huynh Y, Minh	46.7 KB	

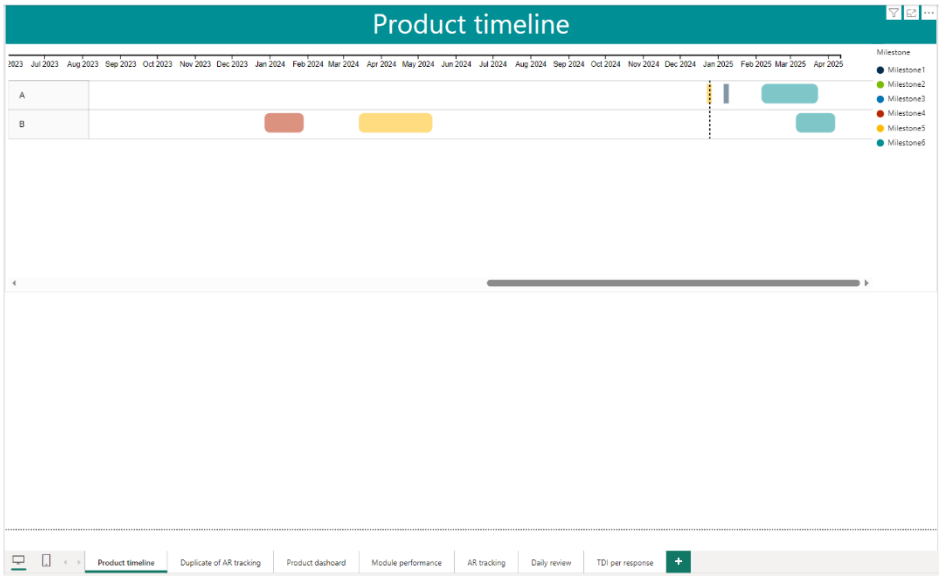


Fig. 22 Power BI User Interface – product timeline tab

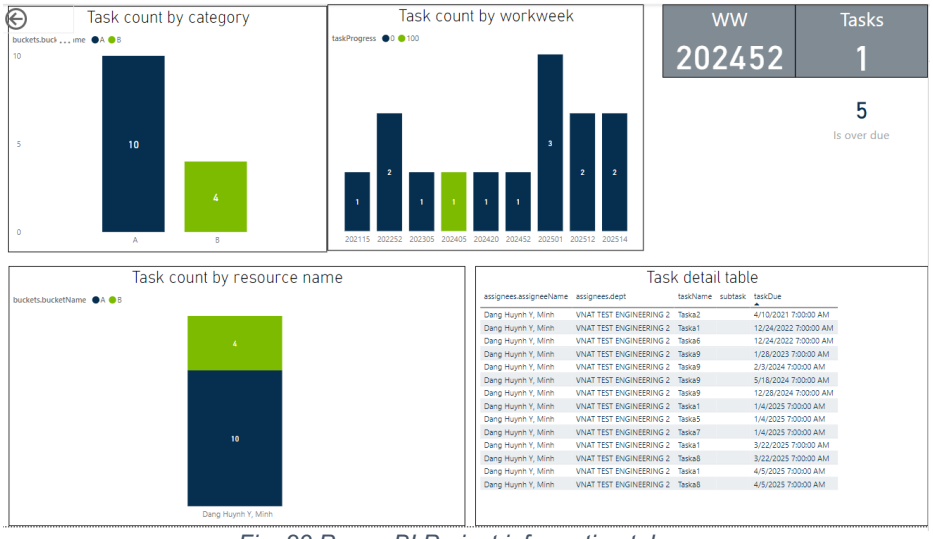


Fig. 23 Power BI Project information tab

Prototype flow: Prototype flow will use back the figure 23 to describe how system is working

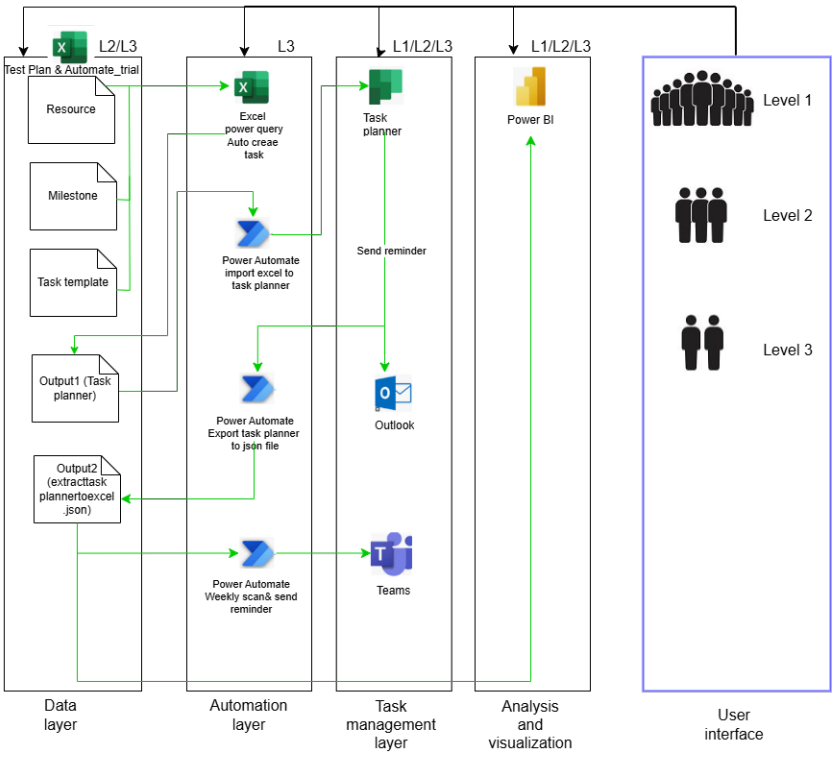
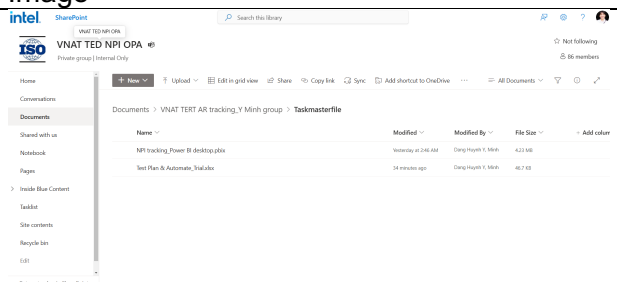


Fig. 24 Proposal of application in task management

Create task in task planner by Power query and Power automate

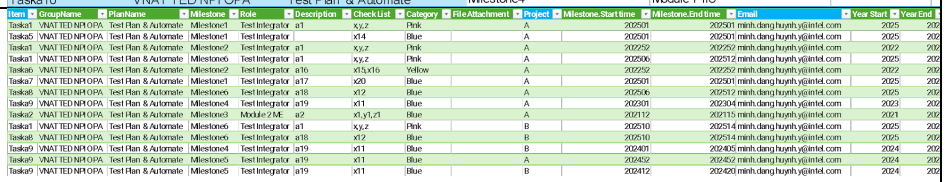
Activities	Image
User log into sharepoint online and edit sheet in task plan & Automate_Trial .xlxs	

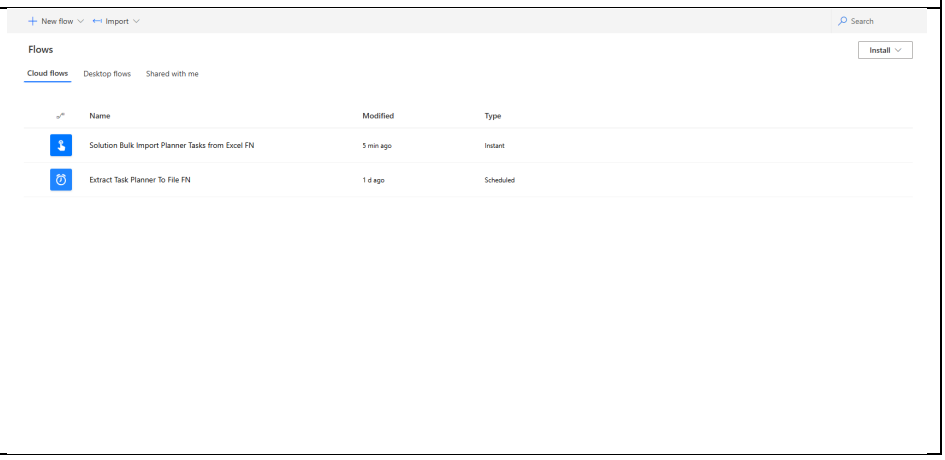
Fill in information in 3 sheets resource, milestone, task list.	
Move to sheet task planner.xlxs and click refresh. The sheet will be updated with 14 tasks	
In test case, user will log in Power Automate to run the workflow “Solution bulk import planner task from excel file” In actual use, the workflow would be set	

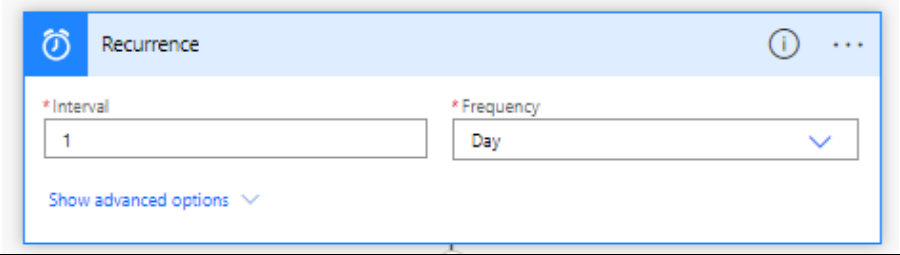
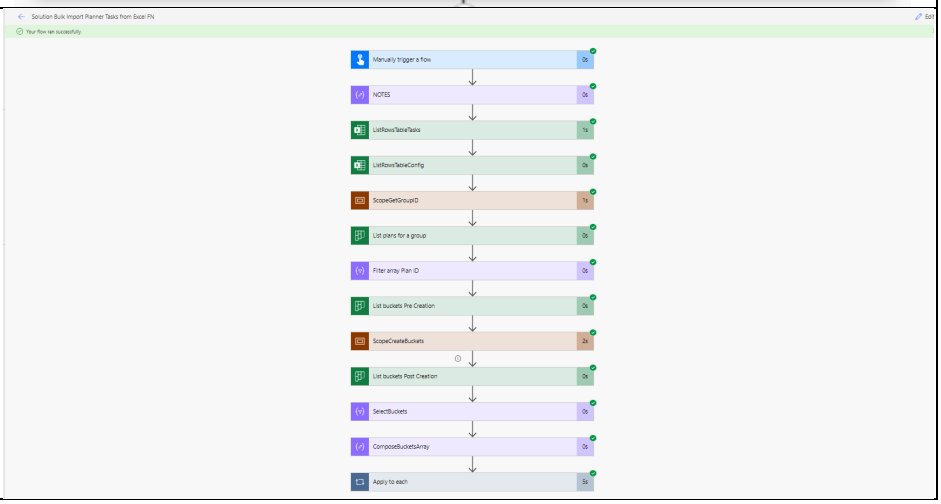
Proje	Role	Email
A	Test Integrator	minh.dang.huynh.y@intel.com
A	Module 1 AP	minh.dang.huynh.y@intel.com
A	Module 1 TIU	minh.dang.huynh.y@intel.com
A	Module 1 Tester	minh.dang.huynh.y@intel.com
A	Module 1 ME	minh.dang.huynh.y@intel.com
A	Module 2 ME	minh.dang.huynh.y@intel.com
A	Module 3 ME	minh.dang.huynh.y@intel.com
A	Module 4 ME	minh.dang.huynh.y@intel.com
A	Module 4 TRB	minh.dang.huynh.y@intel.com
B	Test Integrator	minh.dang.huynh.y@intel.com
B	Module 1 AP	minh.dang.huynh.y@intel.com
B	Module 1 TIU	minh.dang.huynh.y@intel.com
B	Module 1 Tester	minh.dang.huynh.y@intel.com
B	Module 1 ME	minh.dang.huynh.y@intel.com
B	Module 2 ME	minh.dang.huynh.y@intel.com
B	Module 3 ME	minh.dang.huynh.y@intel.com
B	Module 4 ME	minh.dang.huynh.y@intel.com
B	Module 4 TRB	minh.dang.huynh.y@intel.com

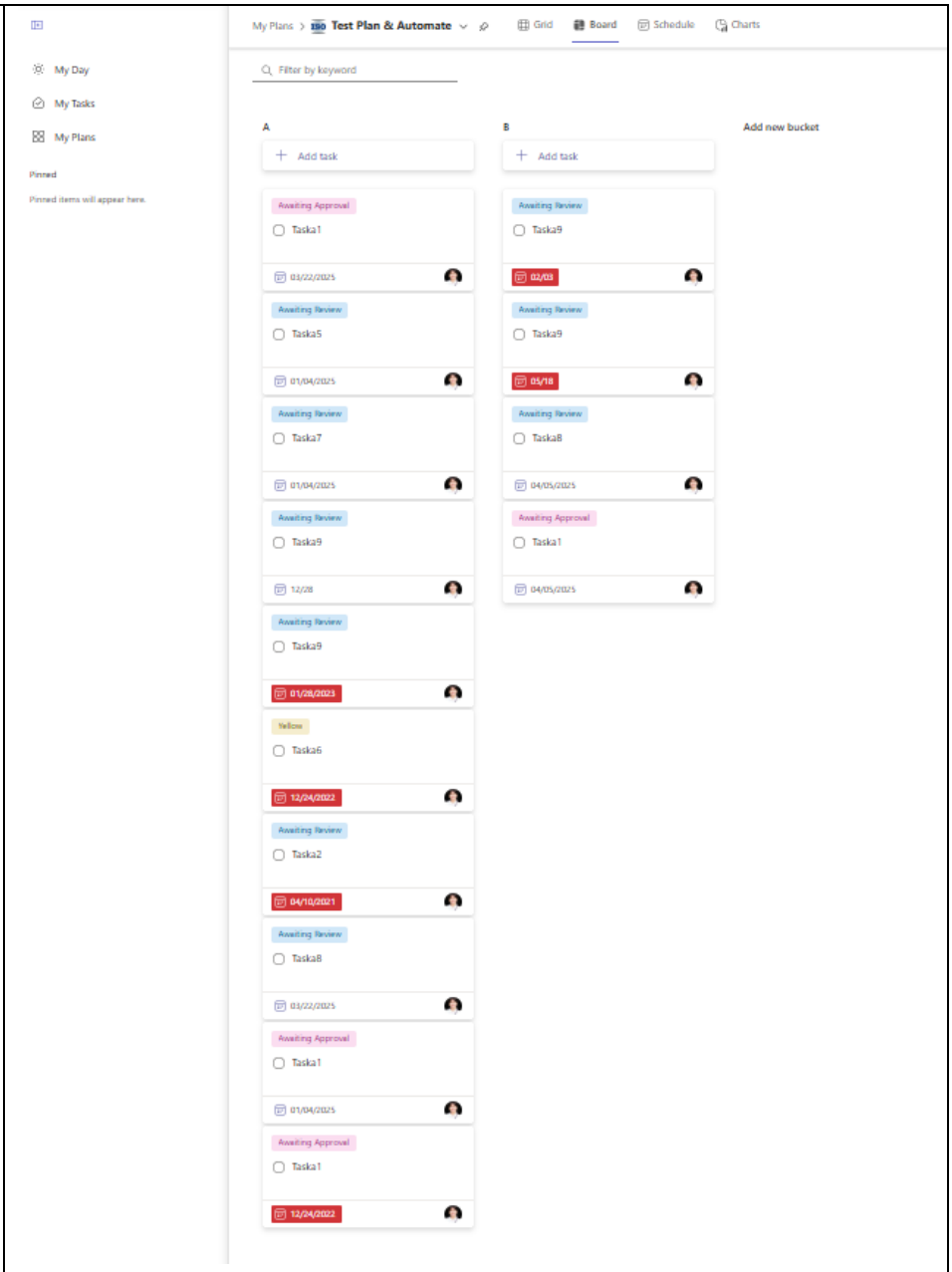
Project	Milestone	Start time	End time
A	Milestone1	202501	202501
A	Milestone2	202252	202252
A	Milestone3	202112	202115
A	Milestone4	202301	202304
A	Milestone5	202452	202452
A	Milestone6	202506	202512
B	Milestone4	202401	202405
B	Milestone5	202412	202420
B	Milestone6	202510	202514

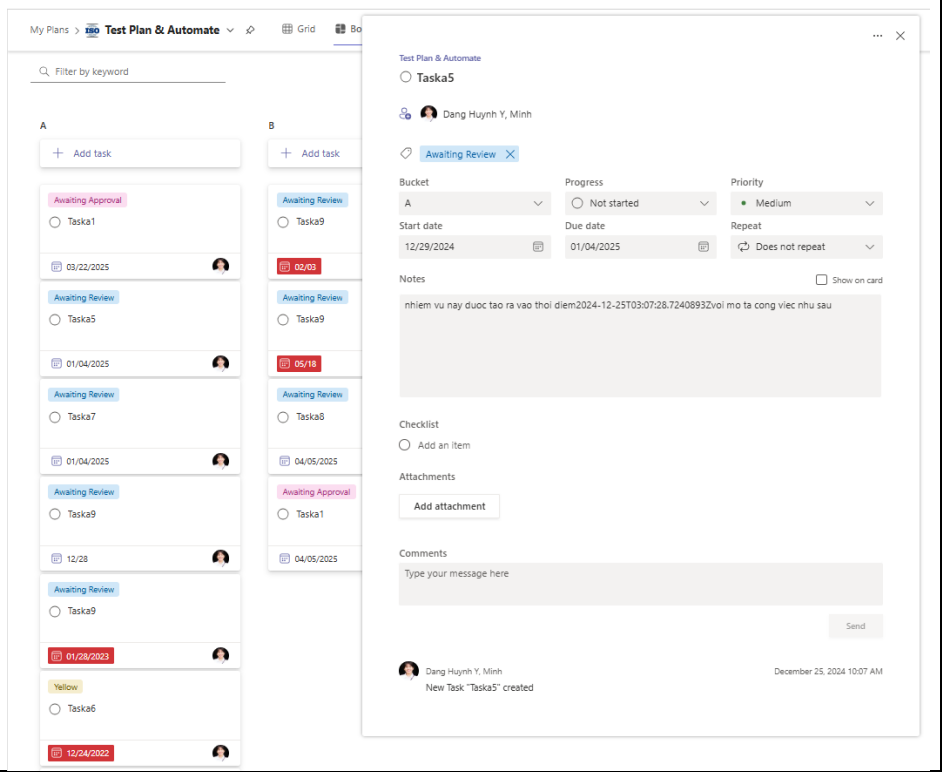
Item	GroupName	PlanName	Milestone	Role	Description	C
Taska1	VNAT TED NPI OPA	Test Plan & Automate	Milestone1;Milestone2;Milestone6	Test Integrator;Mododule1 ME	a1	x
Taska2	VNAT TED NPI OPA	Test Plan & Automate	Milestone3	Module 2 ME	a2	x
Taska3	VNAT TED NPI OPA	Test Plan & Automate	Milestone4	Module1 AP	a3	x
Taska4	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a14	x
Taska5	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator		x
Taska6	VNAT TED NPI OPA	Test Plan & Automate	Milestone2	Test Integrator	a16	x
Taska7	VNAT TED NPI OPA	Test Plan & Automate	Milestone1	Test Integrator	a17	x
Taska8	VNAT TED NPI OPA	Test Plan & Automate	Milestone6	Test Integrator	a18	x
Taska9	VNAT TED NPI OPA	Test Plan & Automate	Milestone4;Milestone5	Test Integrator	a19	x
Taska10	VNAT TED NPI OPA	Test Plan & Automate	Milestone4	Module 1 TIU		



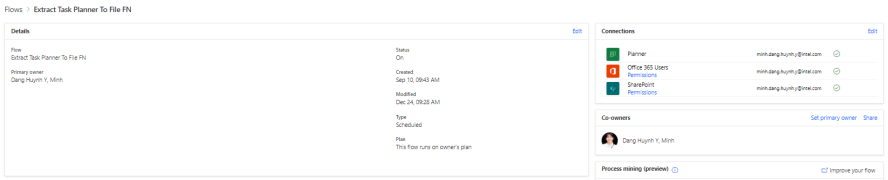


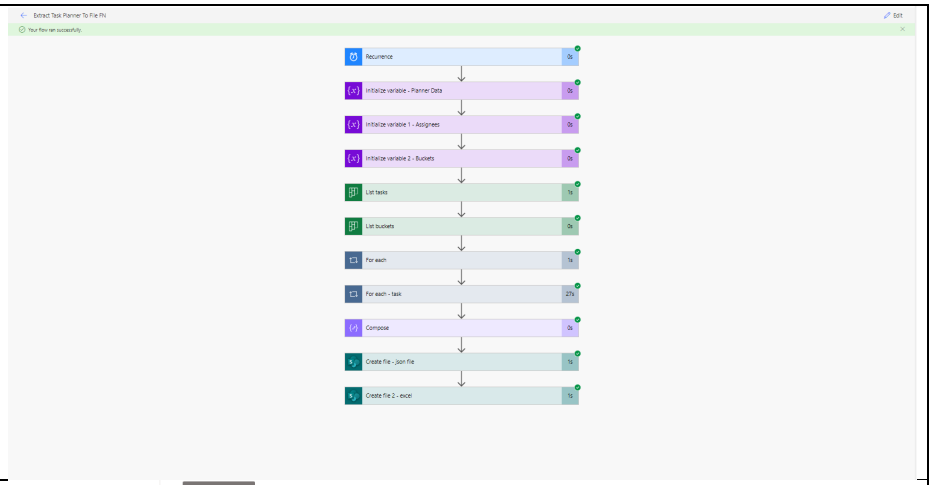
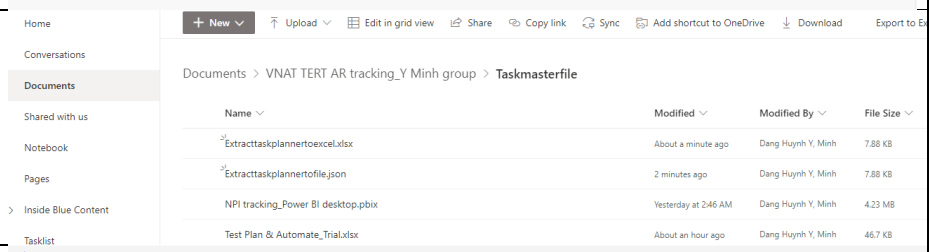
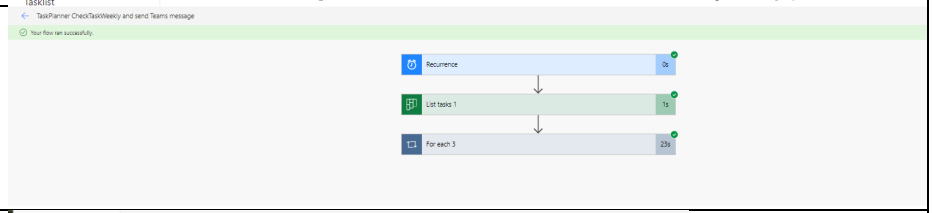
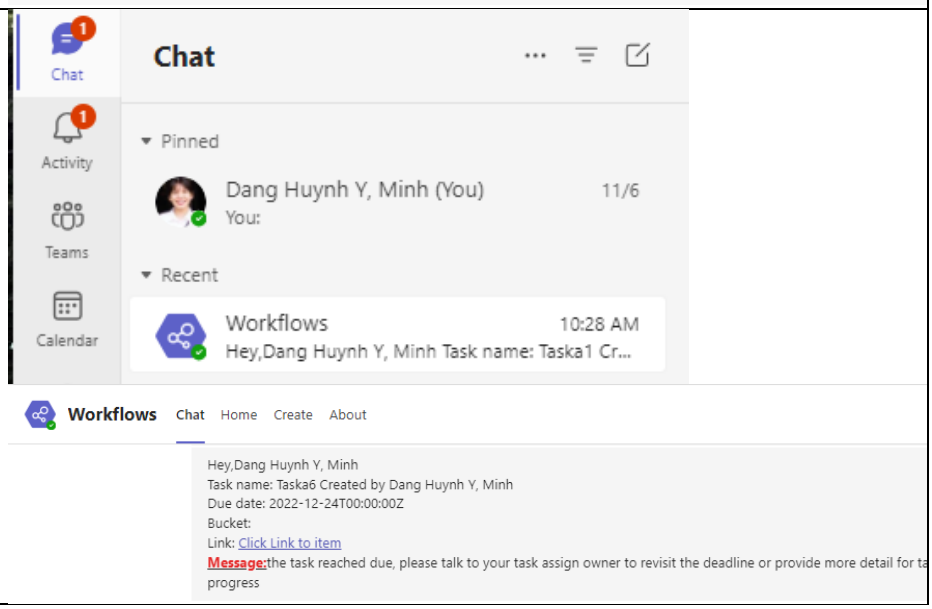
up as auto run daily	
Workflow run successfully	

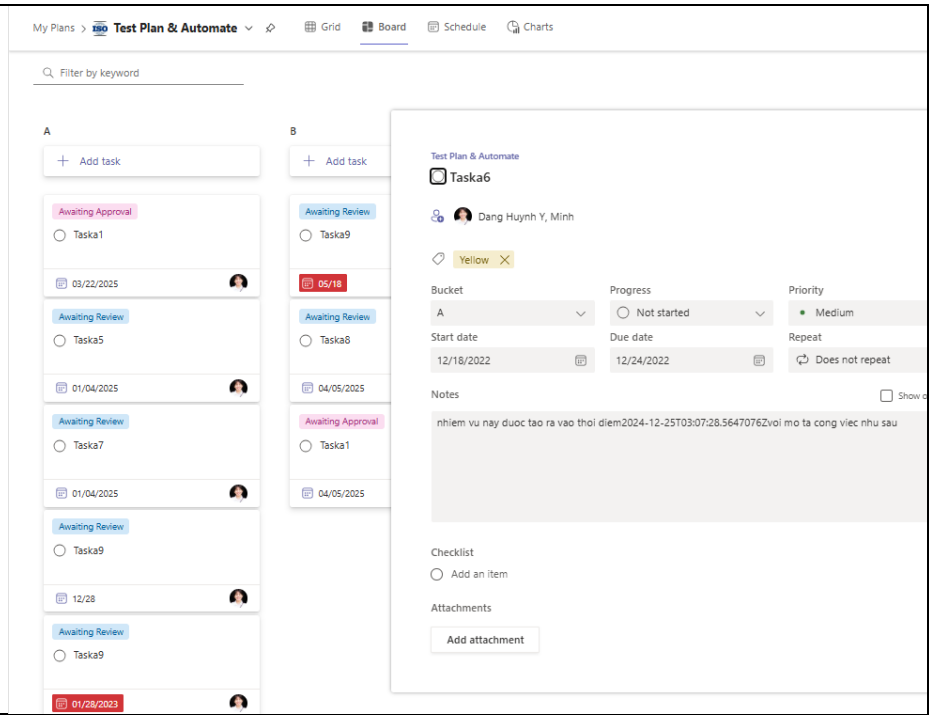
Task is created in task planner	

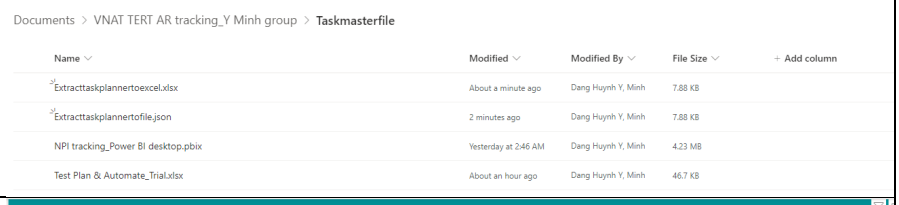
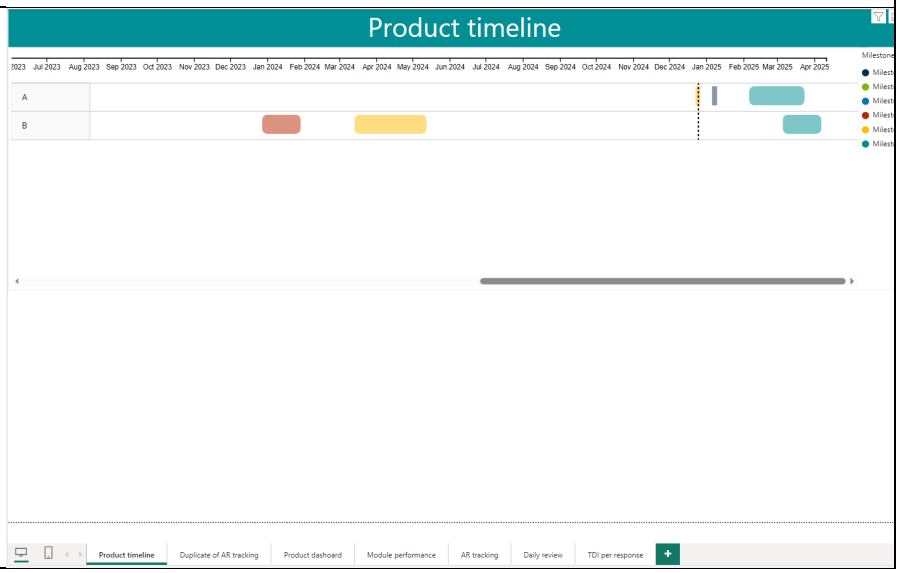
Send reminnder to user by power automate: this step will include extract task planner to json file to be used as input for power automate to send reminder and power automate run to send reminder to teams for user.

Activities	Image
User log into Power automate sharepoint and run the worklow called “Extract Task planner to File FN”	

Workflow run sucessfully	
Output file is created in sharepoint “Extracttaskplanner to file.json”	
User run the workflow “TaskPlanner CheckTaskWeekly and send Teams”	
Workflow detected and trigger 3 tasks overdue	

Visualize the task information in Power BI

Activities	Image
User open power Bi in Sharepoint	
Power auto reflect from reflected input file “Task Plan and Automate_trial.xlxs” “Extract task plan to file.json”	

6.2 Evaluation of the Re-engineered System at Intel Products Vietnam

The evaluation of the re-engineered task management system focuses on comparing the inefficiencies identified before implementation with the improvements achieved, as validated by operational time measurements recorded using Office 365 tools during prototype validation.

6.2.1. Baseline Challenges (Before Improvement)

Before the re-engineering efforts, feedback from surveys and observations revealed significant inefficiencies in the task management process:

Task Creation and Assignment: Tasks were created and assigned manually, requiring approximately 30 seconds per task. For a typical workload of 14 tasks, this totaled 7 minutes.

Follow-Up Reminders: Sending reminders for task updates was a manual process, consuming 30 seconds per task. For 14 tasks, this totaled 7 minutes.

Fragmented Tools and Processes: Reliance on emails (90.9%), Excel spreadsheets (63.6%), and informal chats (77.3%) led to redundant efforts and delayed updates (question 4 -section 2 – Appendix Survey result).

Resource Management Delays: Project managers struggled to track workload distribution and task progress due to the lack of integrated visualization tools.

6.2.2. Improvements Achieved (After Re-engineering)

The redesigned system integrated Office 365 tools, including Power Automate, Planner, and Teams, to automate task management workflows. Key improvements validated during prototype validation include:

Task Creation and Assignment: Automation reduced the time to create and assign 14 tasks from 7 minutes to 11 seconds total, a 96%-time savings.

Follow-Up Reminders: Sending reminders for 14 tasks through Teams reduced from 7 minutes to 23 seconds total, a 94% improvement.

Workflow Automation: By eliminating 3-5 manual steps per workflow, the system saved project managers hours per week depending on total projects handled at same time.

6.2.3. Comparison of Before and After States

Metric	**Before Improvement**	**After Improvement**	**Improvement**
Task Creation Time (14 tasks)	7 minutes (30s/task)	11 seconds total	96%
Follow-Up Reminder Time (14 tasks)	7 minutes (30s/task)	23 seconds total	94%
Manual Workflow Steps	3-5 steps per workflow	Eliminated via automation	Significant
Time Saved Weekly	N/A	Hours per project manager	Substantial

Tab. 2 Time measurement for system testing

6.2.4. Visual Proof of Improvements

The following image illustrates the automated task creation and follow-up processes using Power Automate and Microsoft Teams.

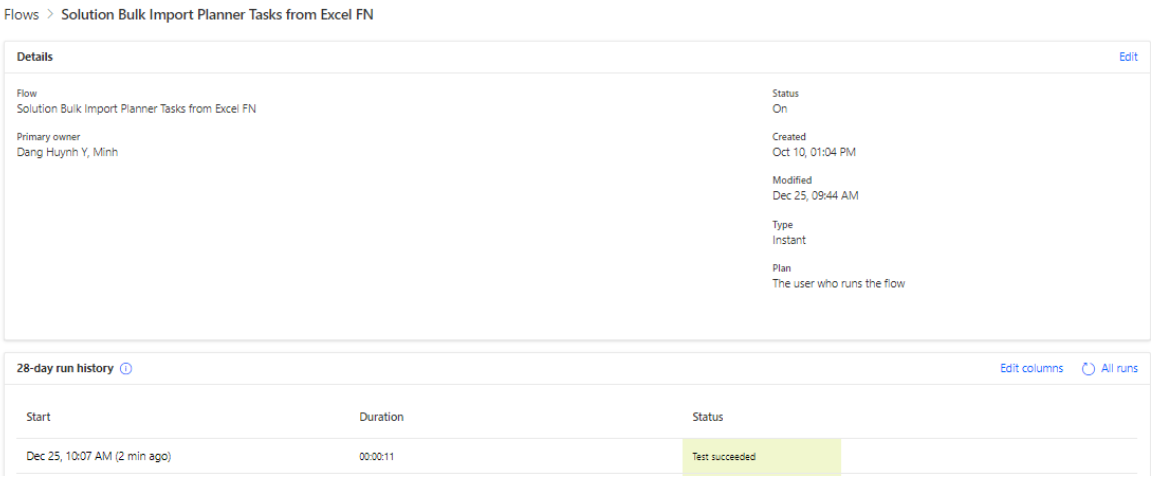


Fig. 25 Operational time of Solution Buck Import task planner from Excel

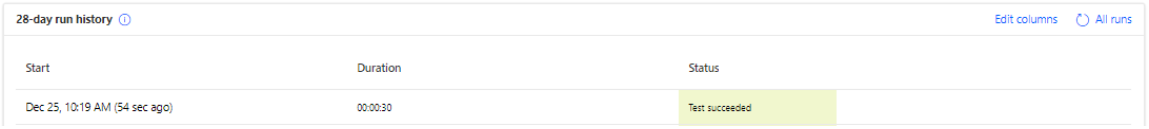


Fig. 26 Operational time of Extract task planner to File

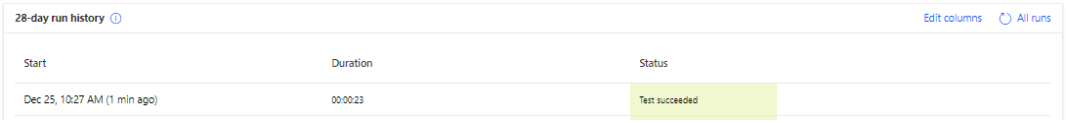


Fig. 27 Task planner – Check task weekly and send Teams

6.2.5. Summary of Results

The operational time data validates the efficiency of the re-engineered system. Despite limited time for broader validation, the improvements in task creation, assignment, and follow-ups are substantial, directly addressing the inefficiencies identified in the baseline survey and observations. The automation achieved through Office 365 tools demonstrates the potential for scaling these improvements across larger workflows.

7. Discussion

7.1 Comparison with Existing Literature

This study explored the application of Business Process Re-engineering (BPR) to improve task management processes at Intel Products Vietnam, integrating Office 365 applications into existing workflows. The findings corroborate existing literature that emphasizes the importance of reengineering processes to achieve significant efficiency gains. For instance, (Hammer and Champy, 2009) argue that organizations must rethink and redesign their workflows to enhance productivity. Our research highlighted similar themes, demonstrating that the current task management processes at Intel Products Vietnam were fragmented and inefficient, primarily due to reliance on traditional communication methods and disparate tools.

Additionally, previous studies have identified common challenges organizations face in task management, including unclear responsibilities and ineffective communication (Thomas, H. Davenport and James E.Short, 1990) (Al-Mashari and Zairi, 1999). This study's findings echoed these challenges, with employees reporting confusion regarding task assignments and dissatisfaction with existing communication protocols. However, while prior research often discusses these challenges in a general context, this study provides empirical evidence from a specific case, highlighting how integrating modern technology can address these issues effectively.

7.2 Theoretical Implications for BPR and Task Management

The findings of this research contribute to the theoretical framework surrounding BPR by illustrating its applicability in contemporary task management environments. Specifically, the study demonstrates that BPR is not solely about radical change but can also be applied to improve existing processes incrementally. The integration of Office 365 applications reflects a shift towards utilizing technology as a facilitator for process improvement, supporting the notion that technology plays a critical role in modern BPR efforts (Harmon, 2019) (Kock and Gaskins, 2014).

Moreover, this research expands the understanding of task management within the context of BPR. It highlights that effective task management requires not only the redesign of processes but also the integration of tools that foster collaboration and communication. This aligns with the literature emphasizing the need for an integrated approach to task management, where tools and processes work cohesively to enhance efficiency (Harmon, 2019).

7.3 Practical Implications for Industry

From a practical standpoint, the findings suggest that organizations, particularly in the semiconductor industry, can benefit from adopting integrated task management systems. The implementation of Office 365 applications provides a comprehensive solution to the challenges identified in the research. Companies should consider investing in such technologies to streamline communication, improve task tracking, and foster collaboration among teams.

Furthermore, the importance of training and change management cannot be overstated. As noted in the findings, employees expressed a willingness to adopt new technologies if provided with adequate training. Organizations must prioritize training initiatives that enhance employee familiarity with new tools, ensuring successful adoption and maximizing the benefits of integrated task management systems (Murtaza and Hui, 2021).

7.4 Lessons Learned from the Case Study

The case study at Intel Products Vietnam yielded several valuable lessons. First, it highlighted the necessity of involving employees in the BPR process. Engaging employees in discussions about existing challenges and potential solutions not only fosters a sense of ownership but also provides insights that might be overlooked by management. Employee feedback revealed specific pain points in the current processes, guiding the redesign efforts more effectively.

Additionally, the case study demonstrated the importance of a phased implementation approach. Rather than a complete overhaul of existing systems, the gradual introduction of integrated tools allows for adjustments based on real-time feedback. This iterative approach minimizes resistance to change and ensures that the systems are tailored to meet the specific needs of the organization.

7.5 Generalizability of Results

While the findings of this study provide valuable insights, the generalizability of the results must be considered. The case study focused on Intel Products Vietnam, a semiconductor company, and the specific challenges faced in this context may not be universally applicable to all industries or organizations. However, the underlying principles of BPR and the integration of technology in task management can be applied broadly.

Future research could explore the application of these findings in different organizational contexts, such as service industries or smaller enterprises, to assess the effectiveness of

similar approaches. Comparative studies across various sectors could further validate the applicability of BPR principles and integrated task management solutions.

8. Conclusion and Future Work

8.1 Summary of Key Findings

This thesis contributes to the field of Business Process Re-engineering (BPR) and task management in several keyways:

Empirical Evidence of BPR Application: The case study conducted at Intel Products Vietnam provides empirical evidence of how BPR principles can be effectively applied in a real-world setting. While much of the existing literature discusses BPR in theoretical terms, this research bridges the gap by showcasing practical applications and outcomes. By documenting the specific challenges faced by the organization and the subsequent redesign of task management processes, this study enriches the BPR discourse with actionable insights.

Integration of Modern Technology: This research highlights the significance of integrating modern technology—specifically Office 365 applications—into BPR initiatives. As organizations increasingly adopt digital tools, this study demonstrates how these applications can facilitate process improvements, enhance collaboration, and streamline task management. The findings suggest that technology is not merely an adjunct to BPR but a central component that can drive efficiency and effectiveness.

Incremental Improvements in BPR: The findings challenge the traditional perception that BPR must involve radical change. By illustrating that incremental improvements can yield substantial benefits, this study offers a more nuanced understanding of BPR. This contribution encourages organizations to consider a blended approach to process re-engineering, incorporating both minor enhancements and significant redesigns where appropriate.

Importance of Employee Engagement: This research underscores the critical role of employee involvement in the BPR process. Engaging employees not only facilitates smoother transitions during implementation but also ensures that the redesigned processes meet the actual needs of users. This emphasis on participatory approaches aligns with contemporary change management literature, highlighting best practices for successful BPR initiatives.

Practical Recommendations for Implementation: The study provides a set of practical recommendations for organizations seeking to implement BPR in task management. These recommendations are based on the specific challenges identified at Intel Products Vietnam

and can serve as a guide for similar organizations in the semiconductor industry and beyond. By translating research findings into actionable strategies, this work supports practitioners in effectively navigating the complexities of BPR.

Framework for Future Research: Finally, this thesis lays the groundwork for future research by identifying areas for further exploration. It suggests that subsequent studies could examine the long-term impacts of integrated task management systems on organizational performance, employee satisfaction, and cross-industry applicability of the findings. This opens avenues for scholars to build upon the insights gained from this research.

8.2 Contribution to Knowledge

This research study contributes to the existing literature on Business Process Reengineering (BPR) and task management by providing empirical evidence through a detailed case study from Intel Products Vietnam, offering valuable insights for both practitioners and researchers seeking real-world applications of BPR principles. The research highlights the integration of modern technology, specifically Office 365 applications, in facilitating BPR, demonstrating how contemporary digital tools can enhance process efficiency. The findings reveal that BPR can encompass both incremental improvements and radical redesigns, enriching the theoretical framework by showing that organizations can achieve significant performance gains without necessitating complete overhauls. Furthermore, the emphasis on employee engagement underscores the critical role of staff involvement in change management, offering best practices for implementing BPR initiatives. The practical recommendations provided serve as a guide for organizations in similar industries, broadening the applicability of the research beyond the specific case study.

8.3 Limitations of the Research

The research is tailored to a specific manufacturing environment, which may limit its applicability across different industries or contexts. Its effectiveness is also dependent on the availability and compatibility of certain technologies and data sources. Furthermore, the success of the proposed dashboard is influenced by user adoption, as users' acceptance and willingness to adapt to new monitoring methods play a crucial role. Consequently, the findings and solutions developed may not be universally applicable and might require adaptation to suit other manufacturing settings.

8.4 Recommendations for Future Research

Upon centralizing task management within a community framework, it becomes possible to aggregate significant amounts of data, thus creating large datasets. In future research, this data could be leveraged to explore the application of Artificial Intelligence (AI) and Machine Learning (ML) techniques in project task management. By utilizing a more extensive dataset, future studies could develop predictive models and enhance decision-making processes within task management systems, supported by empirical case studies.

8.5 Practical Recommendations for Industry

Benefits for Other Corporations: The automation of task assignment and follow-up can enhance efficiency by saving time and minimizing human error, ultimately boosting productivity. Visualizing resource allocation trends enables corporations to optimize resources, distributing workloads more effectively to prevent over-allocation and employee burnout. Power BI's advanced analytics and visualization capabilities further support data-driven decision-making, providing valuable insights for business operations. As part of the Office 365 suite, these tools are designed to seamlessly integrate, fostering easier collaboration among teams. This integrated approach offers a robust, scalable solution for efficient task control and resource management, delivering significant benefits to corporations utilizing Office 365.

9. References

Aaron Marks (no date) *MetaSpark - How Task Tracking Software Is Hurting Employee Productivity*. Available at: https://blog.metaspark.io/posts/how-task-tracking-software-is-hurting-employee-productivity?utm_source=chatgpt.com (Accessed: 24 December 2024).

Alotaibi, Y. and Liu, F. (2017) 'Survey of business process management: challenges and solutions', *Enterprise Information Systems*, 11(8), pp. 1119–1153. Available at: https://doi.org/10.1080/17517575.2016.1161238.

Davie, M. (2019) *Why Bad Data Could Cost Entrepreneurs Millions*, *Entrepreneur*. Available at: https://www.entrepreneur.com/en-au/growth-strategies/why-bad-data-could-cost-entrepreneurs-millions/332238 (Accessed: 2 March 2025).

Harmon, P. (2019) *Business Process Change: A Business Process Management Guide for Managers and Process Professionals*. Morgan Kaufmann.

Inegbedion, H. *et al.* (2020) 'Perception of workload balance and employee job satisfaction in work organisations', *Heliyon*, 6(1). Available at: https://doi.org/10.1016/j.heliyon.2020.e03160.

Kai Riemer *et al.* (2020) *Digital contact-tracing adoption in the COVID-19 pandemic: IT governance for collective action at the societal level: European Journal of Information Systems: Vol 29, No 6*. Available at: https://www.tandfonline.com/doi/abs/10.1080/0960085X.2020.1819898 (Accessed: 8 March 2025).

Kerzner, H. (2023) *Project Management Metrics, KPIs, and Dashboards: A Guide to Measuring and Monitoring Project Performance*. John Wiley & Sons.

Powell, S.G., Baker, K.R. and Lawson, B. (2008) 'A critical review of the literature on spreadsheet errors', *Decision Support Systems*, 46(1), pp. 128–138. Available at: https://doi.org/10.1016/j.dss.2008.06.001.

Satopay, S. and Al Maflahi, A. (2023) 'Excellence in Emergency Drills Compliance Monitoring and Assurance Through Digitalization Using Power Platform', in. Available at: https://dx.doi.org/10.2118/216048-MS (Accessed: 8 March 2025).

Steve Whittaker (2005) *(PDF) Supporting Collaborative Task Management in E-mail*. Available at: https://www.researchgate.net/publication/247676562_Supporting_Collaborative_Task_Management_in_E-mail (Accessed: 2 March 2025).

Williams, A.C. *et al.* (2023) 'Managing Tasks across the Work–Life Boundary: Opportunities, Challenges, and Directions', *ACM Trans. Comput.-Hum. Interact.*, 30(3), p. 48:1-48:31. Available at: https://doi.org/10.1145/3582429.

Al-Mashari, M. and Zairi, M. (1999) 'BPR implementation process: an analysis of key success and failure factors', *Business Process Management Journal*, 5(1), pp. 87–112. Available at: https://doi.org/10.1108/14637159910249108.

Al-Mashari, M. and Zairi, M. (no date) ‘BPR implementation process: an analysis of key success and failure factors’.

Alotaibi, Y. and Liu, F. (2017) ‘Survey of business process management: challenges and solutions’, *Enterprise Information Systems*, 11(8), pp. 1119–1153. Available at: https://doi.org/10.1080/17517575.2016.1161238.

Attaran, M. (2004) ‘Exploring the relationship between information technology and business process reengineering’, *Information & Management*, 41, pp. 585–596. Available at: https://doi.org/10.1016/S0378-7206(03)00098-3.

Bell, E., Bryman, A. and Harley, B. (2022) *Business Research Methods*. Oxford University Press.

Blerta Abazi Chaushi (2024) ‘MS Teams for Virtual Collaboration -An Overview’, in *ResearchGate*. Available at: https://www.researchgate.net/publication/383862857_MS_Teams_for_Virtual_Collaboration_-An_Overview (Accessed: 25 December 2024).

Braun, V. and Clarke, V. (2006) ‘Using thematic analysis in psychology’, *Qualitative Research in Psychology*, 3(2), pp. 77–101. Available at: https://doi.org/10.1191/1478088706qp063oa.

Cohen, L., Manion, L. and Morrison, K. (2002) *Research Methods in Education*. 5th edn. London: Routledge. Available at: https://doi.org/10.4324/9780203224342.

Creswell, J.W. (2008) *Research design: qualitative, quantitative, and mixed methods approaches*. 2. ed., [Nachdr.]. Thousand Oaks, Calif.: Sage Publ.

Cristina De Luca1 *et al.* (2021) ‘AI in Semiconductor Industry’.

Dabhi, C. (2023) *Innovative Power Platform Solutions: Enhancing Microsoft 365 Efficiency*, *AllianceTek Inc*. Available at: https://www.alliancetek.com/blog/post/2023/11/27/innovative-power-platform-solutions.aspx (Accessed: 29 December 2024).

David Silverman (2000) *(PDF) Doing Qualitative Research. A Handbook*, *ResearchGate*. Available at: https://www.researchgate.net/publication/279187451_Doing_Qualitative_Research_A_Handbook (Accessed: 24 December 2024).

Dibiaggio, L. (2007) ‘Design complexity, vertical disintegration and knowledge organization in the semiconductor industry’, *Industrial and Corporate Change*, 16(2), pp. 239–267. Available at: https://doi.org/10.1093/icc/dtm006.

Entringer, T.C., Ferreira, A. da S. and Nascimento, D.C. de O. (2021) ‘Comparative analysis of the main business process modeling methods: a bibliometric study’, *Gestão & Produção*, 28, p. e5211. Available at: https://doi.org/10.1590/1806-9649-2020v28e5211.

Fawzy, A. *et al.* (2024) ‘Exploring Data Management Challenges and Solutions in Agile Software Development: A Literature Review and Practitioner Survey’. arXiv. Available at: https://doi.org/10.48550/arXiv.2402.00462.

Fetais, A. *et al.* (2022) 'Business Process Re-Engineering: A Literature Review-Based Analysis of Implementation Measures', *Information*, 13(4), p. 185. Available at: https://doi.org/10.3390/info13040185.

Fichman, R.G., Dos Santos, B.L. and Zheng, Z. (Eric) (2014) 'Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum', *MIS Quarterly*, 38(2), pp. 329-A15.

Gartner | Delivering Actionable, Objective Insight to Executives and Their Teams (no date) *Gartner*. Available at: https://www.gartner.com/en (Accessed: 24 December 2024).

Griffith, M. (2024) *Beyond Moore's Law—Navigating the Future of Semiconductor Innovation*. Available at: https://www.bench.com/setting-the-benchmark/beyond-moores-law-navigating-the-future-of-semiconductor-innovation (Accessed: 23 December 2024).

Grover, V. *et al.* (1995) 'The Implementation of Business Process Reengineering', *Journal of Management Information Systems*, 12(1), pp. 109–144. Available at: https://doi.org/10.1080/07421222.1995.11518072.

Guizani, K. and Ghannouchi, S.A. (2021) 'An approach for selecting a business process modeling language that best meets the requirements of a modeler', *Procedia Computer Science*, 181, pp. 843–851. Available at: https://doi.org/10.1016/j.procs.2021.01.238.

Hammer, M. and Champy, J. (2009) *Reengineering the Corporation: Manifesto for Business Revolution, A*. Zondervan.

Harmon, P. (2019) *Business Process Change: A Business Process Management Guide for Managers and Process Professionals*. Morgan Kaufmann.

Harvard Business Review - Ideas and Advice for Leaders (no date). Available at: https://hbr.org/ (Accessed: 24 December 2024).

Hussein, B. *et al.* (2013) 'Critical analysis of existing business process reengineering models: towards the development of a comprehensive integrated model', *Journal of Project, Program & Portfolio Management*, 4(1), pp. 30–40. Available at: https://doi.org/10.5130/pppm.v4i1.3285.

In-Beum Lee, J.-H.R. (2008) 'Key Issues and Challenges of Semiconductor Supply Chain Management', *ResearchGate* [Preprint]. Available at: https://www.researchgate.net/publication/264066536_Key_Issues_and_Challenges_of_Semiconductor_Supply_Chain_Management (Accessed: 23 December 2024).

Kane, G.C. *et al.* (no date) 'Aligning the Organization for Its Digital Future'.

Kenneth Laudon, J.L. (2013) *Management Information Systems: Managing the Digital Firm | Request PDF*, *ResearchGate*. Available at: https://www.researchgate.net/publication/262715454_Management_Information_Systems_Managing_the_Digital_Firm (Accessed: 23 December 2024).

Kerzner, H. (2022) *Project Management Metrics, KPIs, and Dashboards: A Guide to Measuring and Monitoring Project Performance*. John Wiley & Sons.

Kock, N. and Gaskins, L. (2014) 'The Mediating Role of Voice and Accountability in the Relationship Between Internet Diffusion and Government Corruption in Latin America and Sub-Saharan Africa', *Information Technology for Development*, 20(1), pp. 23–43. Available at: https://doi.org/10.1080/02681102.2013.832129.

Kopp, A.M. and Orlovskyi, D.L. (2019) *A Method for Business Process Model Analysis and Improvement*. CEUR Workshop Proceedings. Available at: https://repository.kpi.kharkov.ua/handle/KhPI-Press/59417 (Accessed: 21 May 2024).

Lane, J.N. *et al.* (2024) 'Teams in the Digital Workplace: Technology's Role for Communication, Collaboration, and Performance', *Small Group Research*, 55(1), pp. 139–183. Available at: https://doi.org/10.1177/10464964231200015.

Lester, A. (2014) *Project management, planning and control: managing engineering, construction and manufacturing projects to PMI, APM and BSI standards*. Sixth Edition. Amsterdam: Elsevier/Butterworth-Heinemann.

Linarti, U., Anugrah, D.H. and Asih, H.M. (2023) 'Business Process Reengineering Involving Information Technology in a Tin Mining Company', *Journal of Industrial Engineering and Education*, 1(1), pp. 119–130.

MetaSpark - How Task Tracking Software Is Hurting Employee Productivity (no date). Available at: https://blog.metaspark.io/posts/how-task-tracking-software-is-hurting-employee-productivity?utm_source=chatgpt.com (Accessed: 24 December 2024).

Murtaza, K.G. and Hui, L. (2021) 'Higher Education in Pakistan: Challenges, Opportunities, Suggestions'. Rochester, NY: Social Science Research Network. Available at: https://papers.ssrn.com/abstract=3833727 (Accessed: 24 December 2024).

Musa, M.A. and Othman, M.S. (2016) 'Business Process Reengineering in Healthcare: Literature Review on the Methodologies and Approaches', *Review of European Studies*, 8, p. 20.

Office, A.T. (2024) 'Workflow Automation: The Future of Business Productivity', *Atlantic | Tomorrow's Office*, 5 September. Available at: https://tomorrowsoffice.com/blog/workflow-automation-the-future-of-business-productivity/ (Accessed: 29 December 2024).

Powell, S.G., Baker, K.R. and Lawson, B. (2008) 'A critical review of the literature on spreadsheet errors', *Decision Support Systems*, 46(1), pp. 128–138. Available at: https://doi.org/10.1016/j.dss.2008.06.001.

Ramírez, Y.W. and Nembhard, D.A. (2004) 'Measuring knowledge worker productivity', *Journal of Intellectual Capital*, 5(4), pp. 602–628. Available at: https://doi.org/10.1108/14691930410567040.

Riemer, K. *et al.* (2020) 'Digital contact-tracing adoption in the COVID-19 pandemic: IT governance for collective action at the societal level', *European Journal of Information Systems*, 29(6), pp. 731–745. Available at: https://doi.org/10.1080/0960085X.2020.1819898.

Saunders, Research Methods for Business Students, 8/E (2019). Available at: https://www.pearson.com/nl/en_NL/higher-education/subject-catalogue/business-and-

management/Research-methods-for-business-students-8e-saunders.html (Accessed: 18 November 2024).

Sola, D. *et al.* (2021) 'A Rule-Based Recommendation Approach for Business Process Modeling', in M. La Rosa, S. Sadiq, and E. Teniente (eds) *Advanced Information Systems Engineering*. Cham: Springer International Publishing, pp. 328–343. Available at: https://doi.org/10.1007/978-3-030-79382-1_20.

Standley system (2024) *The Evolution of Document Management: From Paper to Digital*. Available at: https://www.standleys.com/blog/the-evolution-of-document-management-from-paper-to-digital (Accessed: 23 December 2024).

Teddlie, C. and Yu, F. (2007) 'Mixed Methods Sampling: A Typology With Examples', *Journal of Mixed Methods Research*, 1(1), pp. 77–100. Available at: https://doi.org/10.1177/1558689806292430.

The social economy: Unlocking value and productivity through social technologies | McKinsey (no date). Available at: https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-social-economy (Accessed: 24 December 2024).

The Strategic Management of Corporate Change - Dexter Dunphy, Doug Stace, 1993 (no date). Available at: https://journals.sagepub.com/doi/abs/10.1177/001872679304600801 (Accessed: 18 November 2024).

Thomas, H. Davenport, M. and James E.Short, N. (1990) *The new industrial engineering: information technology and business process redesign*. Psychology Press.

Truta, F. (no date) *Forrester: Cybersecurity Requires the Right Tools, Not More Tools*, *Bitdefender Blog*. Available at: https://www.bitdefender.com/en-us/blog/businessinsights/forrester-cybersecurity-requires-the-right-tools-not-more-tools (Accessed: 24 December 2024).

Varajão, J., Marques, R.P. and Trigo, A. (2022) 'Project Management Processes – Impact on the Success of Information Systems Projects', *Informatica*, pp. 421–436. Available at: https://doi.org/10.15388/22-INFOR488.

Vidal, L. and Marle, F. (2008) 'Understanding project complexity: implications on project management', *Kybernetes*, 37(8), pp. 1094–1110. Available at: https://doi.org/10.1108/03684920810884928.

Waddell, D. and Sohal, A.S. (1998) 'Resistance: a constructive tool for change management', *Management Decision*, 36(8), pp. 543–548. Available at: https://doi.org/10.1108/00251749810232628.

Westerman, George; Bonnet, Didier; McAfee, Andrew (2014) *The Nine Elements of Digital Transformation*. Available at: https://www.proquest.com/openview/427bcb94c8d30228fd1e5aa2f945bd0e/1?pq-origsite=gscholar&cbl=26142 (Accessed: 25 December 2024).

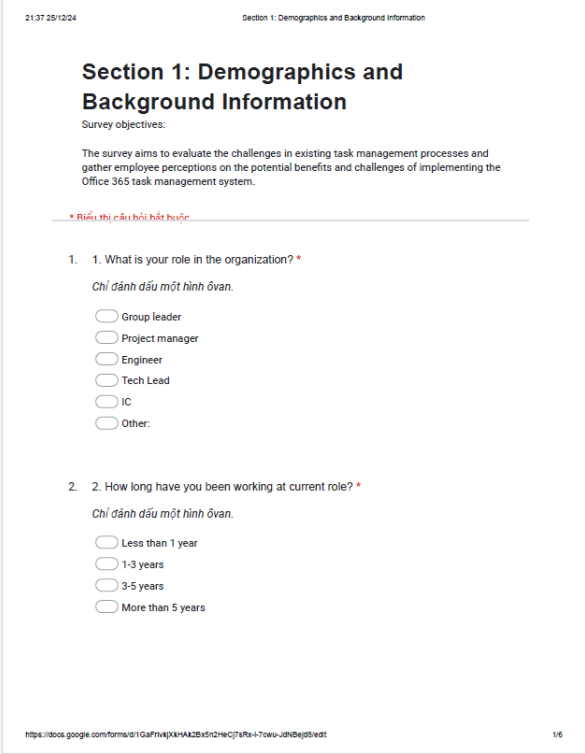
Williams, A.C. *et al.* (2023) 'Managing Tasks across the Work–Life Boundary: Opportunities, Challenges, and Directions', *ACM Trans. Comput.-Hum. Interact.*, 30(3), p. 48:1-48:31. Available at: https://doi.org/10.1145/3582429.

Winch, G.M. and Maytorena, E. (2011) ‘Managing Risk and Uncertainty on Projects: A Cognitive Approach’, in P.W.G. Morris, J. Pinto, and J. Söderlund (eds) *The Oxford Handbook of Project Management*. Oxford University Press, p. 0. Available at: https://doi.org/10.1093/oxfordhb/9780199563142.003.0015.

Wright, L.O. (2016) ‘User Adoption of Enterprise Resource Planning Systems in the Public Sector’.

Yin, R.K. (2009) *Case Study Research: Design and Methods*. SAGE.

Appendix – Survey questions



21:37 25/12/24 Section 1: Demographics and Background Information

Section 1: Demographics and Background Information

Survey objectives:

The survey aims to evaluate the challenges in existing task management processes and gather employee perceptions on the potential benefits and challenges of implementing the Office 365 task management system.

* Biểu thị câu hỏi bắt buộc

1. 1. What is your role in the organization? *

Chỉ đánh dấu một hình ôvan.

- Group leader
- Project manager
- Engineer
- Tech Lead
- IC
- Other:

2. 2. How long have you been working at current role? *

Chỉ đánh dấu một hình ôvan.

- Less than 1 year
- 1-3 years
- 3-5 years
- More than 5 years

https://docs.google.com/forms/d/1GaFrlvkjXkHAk2Bx5n2HeCj7sRx-I-7cwu-JdNBejd8/edit 1/6

3. 3. How frequently do you participate in task management activities *

Chỉ đánh dấu một hình ôvan.

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Rarely

Section 2: Current Task Management Practices

4. 4. What tools do you currently use for task management? (Select all that apply) *

Chọn tất cả mục phù hợp.

- ☐ Email
- ☐ Excel spreadsheets
- ☐ Project management software (e.g MS project,..)
- ☐ Informal chats (e.g., Teams, Slack)
- ☐ Other: _____

5. 5. How would you rate the effectiveness of your current task management process? *

Chỉ đánh dấu một hình ôvan.

- ◯ Very effective
- ◯ Somewhat effective
- ◯ Neutral
- ◯ Somewhat ineffective
- ◯ Very ineffective

6. 6. On average, how much time do you spend managing tasks each week? *

Chỉ đánh dấu một hình ôvan.

- ◯ Less than 2 hours
- ◯ 2–5 hours
- ◯ 5–10 hours
- ◯ More than 10 hours

7. 7. How frequently do you encounter issues such as missed deadlines or unclear responsibilities? *

Chỉ đánh dấu một hình ôvan.

- ◯ Very frequently
- ◯ Frequently
- ◯ Occasionally
- ◯ Rarely
- ◯ Never

Section 3: Challenges in Existing Systems

8. 8. What are the most significant challenges you face in task management? (Select all that apply) *

Chọn tất cả mục phù hợp.

- ☐ Poor communication between teams
- ☐ Lack of task tracking and visibility
- ☐ Redundancy in task assignments
- ☐ Over-reliance on manual processes
- ☐ Difficulty prioritizing tasks
- ☐ Other: _____

9. 9. How do communication delays affect your work? *

Chỉ đánh dấu một hình ôvan.

- Significant delays in project timelines
- Occasional delays in tasks
- Minimal impact on tasks
- No impact

10. 10. How often are task management tools updated in your workflow?

Chỉ đánh dấu một hình ôvan.

- Daily
- Weekly
- Monthly
- Rarely

11. 11. What improvements do you think would enhance the current task management system? *

Section 4: Perception of the Proposed Office 365 Solution

12. 12. How familiar are you with Office 365 tools such as Microsoft Teams, Planner, or SharePoint? *

Chỉ đánh dấu một hình ôvan.

- Very familiar
- Somewhat familiar
- Neutral
- Somewhat unfamiliar
- Very unfamiliar

13. 13. Do you think integrating Office 365 into your workflow could improve task management? *

Chỉ đánh dấu một hình ôvan.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

14. 14. What features of Office 365 do you believe could address current task management challenges? (Select all that apply) *

Chọn tất cả mục phù hợp.

- [ ] Centralized task tracking (Planner)
- [ ] Improved communication (Teams)
- [ ] Document collaboration (SharePoint)
- [ ] Real-time updates and notifications
- [ ] Other: _____

15. 15. What challenges do you foresee in adopting Office 365 for task management? *

16. 16. What training or support would you need to effectively use Office 365 for task management? *

Không có tiêu đề

Appendix – Survey result

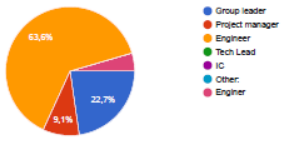
Section 1: Demographics and Background Information

22 câu trả lời

Xuất bản phân tích

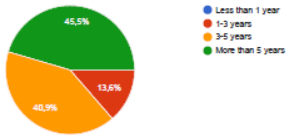
1. What is your role in the organization? Sao chép

22 câu trả lời



2. How long have you been working at current role? Sao chép

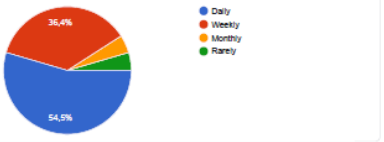
22 câu trả lời



3. How frequently do you participate in task management activities

Sao chép

22 câu trả lời

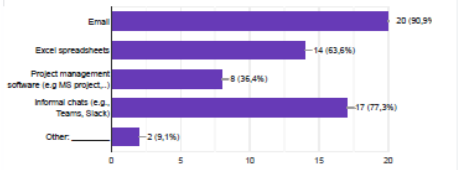


Section 2: Current Task Management Practices

4. What tools do you currently use for task management? (Select all that apply)

Sao chép

22 câu trả lời



5. How would you rate the effectiveness of your current task management process?

Sao chép

22 câu trả lời

6. On average, how much time do you spend managing tasks each week?

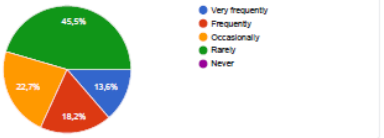
Sao chép

22 câu trả lời

7. How frequently do you encounter issues such as missed deadlines or unclear responsibilities?

Sao chép

22 câu trả lời

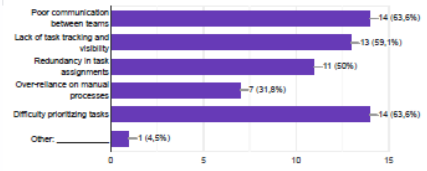


Section 3: Challenges in Existing Systems

8. What are the most significant challenges you face in task management? (Select all that apply)

Sao chép

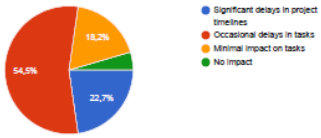
22 câu trả lời



9. How do communication delays affect your work?

Sao chép

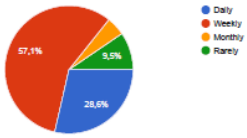
22 câu trả lời



10. How often are task management tools updated in your workflow?

Sao chép

21 câu trả lời



11. What improvements do you think would enhance the current task management system?

22 câu trả lời

N/A

Should have 1 app manage all project management tasks, now I am using multiple apps

Overalll project

Need to check priority of ad-hoc tasks coming before doing

Manage stakeholders

Split urgent and important score and auto prioritize task.

Myself discipline

.

Na

Daily trigger tasks pending but low priority

Have a system to track the standard tasks across products

Communication, tracking, prioritize easily

Effective tracking

High

clear to do list, next task, timeline

Tracking Deadline and Reminder

N/a

2ways communication

Auto system

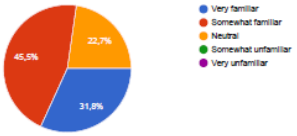
Everybody in organization using a single task management so we can sync up timely, such as, Planner on MS Team

Section 4: Perception of the Proposed Office 365 Solution

12. How familiar are you with Office 365 tools such as Microsoft Teams, Planner, or SharePoint?

Sao chép

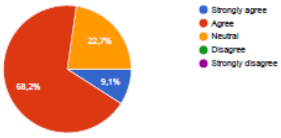
22 câu trả lời



13. Do you think integrating Office 365 into your workflow could improve task management?

Sao chép

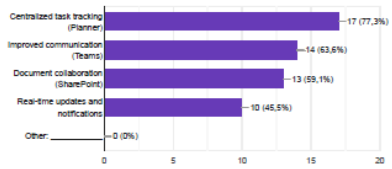
22 câu trả lời



14. What features of Office 365 do you believe could address current task management challenges? (Select all that apply)

Sao chép

22 câu trả lời



15. What challenges do you foresee in adopting Office 365 for task management?

22 câu trả lời

N/A

Cost

License

Money

Em Phụng nè, đang say r, thấy a Cầud kêu gọi e votr

Need friendly trigger to remind

Lack of tool

Not aligned tool even in same organization, mae use loop, other may use planer or tasks

NA

.

Na

Setting rules for tasks

Complicated to use

Many apps

Training

na

I don't see anything

No

no

Change user habit

16. What training or support would you need to effectively use Office 365 for task management?

22 câu trả lời

N/A

How to link info between each application in office 365 together

NA

Ko biết á

Task planner and how make it advance compared with another tools

No neeed

Just aligned same tool in a organization. Most of coding company only use jira or azure devops for task planning

How to use tool effectively

-

Na

Planner + rules setting

How to utilize its function

Planner

Task ; planner; how to link between mail and task appp

sync up between application of office 365

No need

No

no

Coding, system
Set up

Not sure what training but there are many function that I'm not sure if I'm using it correctly or effectively

Không có tiêu đề