The Development of an Academic Work Management Model Using a Digital Calendar to Enhance Collaboration: A Case Study of General Education, Suan Sunandha Rajabhat University

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Abstract

This research, "The Development of an Academic Work Management Model Using a Digital Calendar to Enhance Collaboration," aimed to develop a work management model and evaluate the satisfaction level of personnel towards it. The sample group consisted of academic staff from The Office of General Education and Innovative Electronic Learning, Suan Sunandha Rajabhat University. A questionnaire was used as the research instrument to measure satisfaction across six dimensions of collaboration: 1) Data Connectivity, 2) Redundancy Reduction, 3)Team Efficiency, 4) Collaboration Satisfaction, 5) Communication Clarity, and 6) Team Involvement. Data were analyzed using mean and standard deviation.

The findings revealed that the overall satisfaction with the management model using a digital calendar was at the highest level ($\bar{x}$ = 4.78, S.D. = 0.48). When considering each dimension, all were rated at the highest level. The dimension with the highest mean score was Collaboration Satisfaction ($\bar{x}$ = 4.86), followed by Data Connectivity ($\bar{x}$ = 4.81), and both Team Efficiency and Team Involvement ($\bar{x}$ = 4.77), respectively.

In conclusion, the academic work management model using a digital calendar is a highly effective tool for promoting collaborative work. It demonstrably improves satisfaction and enhances coordination among academic staff. This model can serve as a guideline for implementation in other departments to improve operational efficiency..

Keywords: Digital Calendar, Collaborative Work, Work Management, Academic Staff**.**

1. Introduction

In the present era, the world is rapidly transitioning into a fully digital society. Advancements in technology and structural shifts within the education system have significantly influenced academic work management, particularly in higher education institutions that face continual challenges related to time management, resource allocation, and the enhancement of collaborative work efficiency (Al-Samarraie & Saeed, 2018; Brynjolfsson & McAfee, 2017). These technological changes have necessitated a transformation in the working processes of educational institutions to align with the demands of the digital age (Zhang et al., 2020).

The Office of General Education and Innovative Electronic Learning,Suan Sunandha Rajabhat University (SSRU) plays a crucial role in administering general education courses

and promoting electronic learning. Its operations require a management system capable of supporting diverse tasks while maintaining strong linkages among personnel to ensure effective and seamless collaboration. However, despite technological progress, many organizations still rely heavily on traditional methods such as paper-based documentation, repetitive meetings, and unstructured communication. These practices often lead to delays, misunderstandings, disorganization, and a lack of coordination—factors that hinder long-term organizational development.

Within the context of the Office of General Education and Electronic Learning Innovations, the absence of a digital coordination system can result in overlapping schedules, limited tracking of project progress, and unclear internal communication. These issues underscore the need for a structured, efficient, and technology-enhanced work management system.

A digital work calendar (Digital Work Calendar) presents a compelling solution to these challenges. It enables systematic work planning, efficient task monitoring, and transparency in communication. Digital calendars also provide integration with other platforms such as online meeting tools (Microsoft Teams, Zoom), data storage systems (Google Drive), and email communication. These capabilities collectively enhance the quality of collaborative work and streamline task execution.

The persistence of traditional work management methods continues to impede organizational productivity. A McKinsey Global Institute report (2017) found that reliance on non-digital systems reduces work efficiency by 20–30% compared to the use of digital tools. Other studies (Johnson & Williams, 2021; Smith et al., 2019) also indicate that traditional systems contribute to delays, redundancy, and communication barriers. Similarly, research conducted in academic settings (Rodriguez & Chen, 2020; Thompson et al., 2018) has shown that the lack of effective work management systems significantly diminishes overall institutional performance and educational quality.

Collaborative work is a core driver of organizational success, especially in educational environments. It promotes creativity, reduces redundancy, and strengthens interpersonal connections among staff members (Collins et al., 2020; Moore & Jackson, 2018). According to the Harvard Business Review (2019), organizations with strong collaborative cultures outperform others by up to 35%. Integrating digital calendar systems to support collaborative work, therefore, offers a practical and impactful approach to improve organizational efficiency (Roberts & Miller, 2021; Collaborative Work Institute, 2020). Evans and Green (2018) further noted that well-designed collaborative technologies significantly enhance employee satisfaction and team performance.

Given this context, the present study focuses on developing an academic work management model using a digital work calendar to enhance collaboration within The Office of General Education and Innovative Electronic Learning at Suan Sunandha Rajabhat University. The study aims to design and develop the model, examine its implementation outcomes, and evaluate the level of collaborative work satisfaction among personnel This result is consistent with student learning satisfaction reported by Kalanyoo Petcharaporn (2025).

2. Research Objectives

This research study was aimed to:

1) Design and develop an academic work management model using a digital calendar to enhance collaborative work.

2) Examine the outcomes of implementing the developed model within the Office of General Education and Electronic Learning Innovations.

3) Evaluate the level of satisfaction with collaborative work among users of the digital calendar model.

3. Conceptual Framework

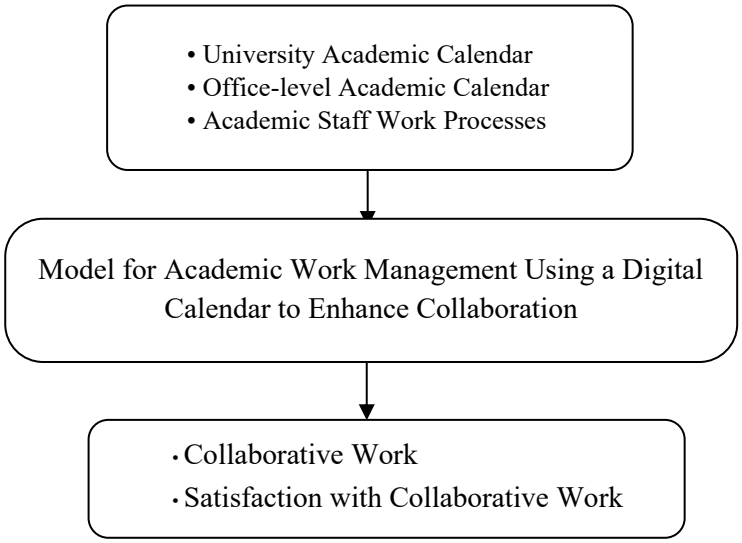

Figure 1. Conceptual Framework of the Study

4. Methodology

Population and Sample Group

Population

The population consisted of instructors and teaching assistants responsible for general education courses at Suan Sunandha Rajabhat University.

Sample Group

The sample group comprised 30 instructors and teaching assistants who taught general education courses during the first semester of the 2025 academic year. The sampling technique used was purposive sampling, selecting participants based on their relevance to the study.

Research Instruments

The research employed digital tools, a prototype work management model, and a satisfaction questionnaire to support the development of an academic work management model using a digital work calendar. The instruments were as follows:

1) Digital Tools and Platforms

Google Calendar / Microsoft Outlook Calendar: Used as primary tools for creating and managing the digital work calendar.

Google Workspace (Docs, Sheets, Drive): Used for data storage, document sharing, and tracking work progress.

Microsoft Teams / Zoom: Used for online meetings and communication to support collaborative work.

2) Prototype of the Academic Work Management Model Using a Digital Calendar

A model developed to facilitate coordination, task scheduling, and progress monitoring among academic staff.

3) Satisfaction Assessment Questionnaire

A five-point Likert-scale questionnaire assessing appropriateness, ease of use, completeness of information, and effectiveness in enhancing collaborative work.

Research Procedures

1) The research procedures consisted of the following steps:

Development of the Academic Work Management Model Using a Digital Work Calendar

Examining and analyzing current work processes and existing problems within the organization.

Designing a digital calendar–based work management model that aligns with organizational context and staff needs.

Developing a prototype and testing its functionality with the sample group.

2) Evaluation of Collaborative Work and User Satisfaction

Constructing a questionnaire to assess appropriateness, usability, completeness of information, and collaborative impact.

Distributing the questionnaire to staff members who used the digital work calendar model.

Analyzing quantitative data using descriptive statistics, including mean and standard deviation.

5. Result

The results of the study are presented in two main sections:

(1) the evaluation of collaborative work, and

(2) the satisfaction with the use of the digital work calendar.

A summary of the findings is shown in Table 1.

Table 1. Summary of the Evaluation of Collaborative Work Performance and Satisfaction

Evaluation Items	$\bar{x}$	S.D.	Percent	Satisfaction
Collaborative Work Performance				
1. Data Connectivity	4.81	0.47	96.13	Very High
2. Redundancy Reduction	4.75	0.53	94.93	Very High
3. Team Efficiency	4.77	0.49	95.33	Very High
Satisfaction with Collaborative Work				
4. Collaboration Satisfaction	4.86	0.35	97.17	Very High
5. Communication Clarity	4.75	0.50	95.00	Very High
6. Team Involvement	4.77	0.51	95.33	Very High
Overall Average	**4.78**	**0.48**	**95.63**	**Very High**

Based on the analysis of the data presented in Tables 1, the evaluation of collaborative work performance and satisfaction can be summarized as follows:

Overall Summary

The overall assessment of collaborative work across all dimensions revealed that users reported the highest level of satisfaction. The overall mean score was 4.78 out of 5, with a standard deviation of 0.48, indicating a very strong positive perception toward the collaborative work system. The relatively low variability of responses further reflects a high degree of agreement among users regarding the system's effectiveness.

Dimensional Analysis

When examining the mean scores of each key dimension, the results can be ranked from highest to lowest as follows:

1. Collaboration Satisfaction : This dimension received the highest mean score at 4.86 with the lowest standard deviation (S.D. = 0.35). This indicates that users were unanimously and strongly satisfied with their direct experiences of collaborative work.

2. Data Connectivity : The second-highest score was in the dimension of Data Connectivity, with a mean score of 4.81 (S.D. = 0.47). This result suggests that the system's ability to link and integrate data to support smooth teamwork was highly appreciated.

3. Team Efficiency and Team Involvement : Both dimensions received identical mean scores of 4.77, reflecting a very high level of satisfaction with team performance outcomes and a strong sense of belonging and engagement within the team.

4. Redundancy Reduction and Communication Clarity : Although both dimensions were still rated at the highest satisfaction level, they received the lowest average scores in the group, each with a mean of 4.75. Notably, Redundancy Reduction showed the highest standard deviation (S.D. = 0.53), suggesting that user experiences in this area varied more widely compared to other dimensions.

6. Conclusion

This study aimed to evaluate the effectiveness and user satisfaction toward the collaborative work system across six key dimensions. Based on the collection and analysis of questionnaire data, the findings can be summarized as follows:

Overall Evaluation: Users reported the highest level of satisfaction with the collaborative work system, with an overall mean score of **4.78** (S.D. = **0.48**), equivalent to **95.63** percent. This indicates that the system significantly met user needs and provided a highly positive experience.

Evaluation by Dimension: All six dimensions were rated at the highest satisfaction level. The dimension with the highest mean score was Collaboration Satisfaction ($\bar{x}$ = **4.86**), followed by Data Connectivity ($\bar{x}$ = **4.81**). The dimensions with the lowest average ratings—though still at the highest satisfaction level—were Redundancy Reduction and Communication Clarity, both with a mean score of **4.75.**

Discussion

The finding that users expressed the highest level of overall satisfaction with the collaborative work system aligns strongly with current organizational trends that increasingly adopt digital tools to address limitations inherent in traditional work practices. Existing research has highlighted challenges commonly found in academic settings, including inefficiencies in task management (Smith et al., **2019**), communication barriers (Thompson et al., **2018**), and coordination difficulties (Rodriguez & Chen, **2020**). The high evaluation received by the system in this study suggests that it effectively addresses these issues, supporting the broader movement toward digital transformation (Vial, **2019**; Zhang et al., **2020**).

When examining individual dimensions, user satisfaction with Team Efficiency and Team Involvement was notably high. This supports the proposition that well-designed digital tools can strengthen a collaborative work culture (Moore & Jackson, **2018**) and enhance staff satisfaction (Evans & Green, **2018**). This outcome can also be interpreted through the lens of the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use are key drivers of user acceptance and perceived value of technology (Al-Emran et al., **2018**).

Interestingly, Data Connectivity was among the highest-rated dimensions, particularly reflecting user confidence in having a single source of truth for shared data. This emphasizes the importance of data integration and consolidated calendars in collaborative work systems, consistent with previous studies focusing on real-time workflow management systems. Smooth data connectivity also contributes to reducing task redundancy—another dimension that received positive evaluations—and is considered a core element of flexible organizational management (Akoumianakis & Ktistakis, 2017).

Although Communication Clarity and Redundancy Reduction received slightly lower scores than other dimensions, both were still rated at the highest level of satisfaction. These results reflect the ongoing complexities of communication and workflow improvements even in the presence of advanced digital tools (Thompson et al., 2018). Nonetheless, the system's ability to document key decisions, streamline tasks, and enhance operational clarity signifies meaningful progress toward minimizing these obstacles. This is consistent with organizational

goals that seek to build efficient and interconnected work networks (Harvard Business Review, 2019).

Overall, the findings of this study provide strong empirical evidence supporting the benefits of adopting a digital collaborative work system in academic institutions. The very high satisfaction scores confirm that the system is highly effective in practice. This aligns directly with the research Access to online learning systems and the use of digital technologies remain uneven among certain groups of learners, particularly those from remote areas or those with limitations in technological devices and digital literacy. These disparities may lead to inequitable learning opportunities between urban and rural learners. Therefore, the development learning activities should take into account the diverse characteristics of learner groups and promote equitable access to technology, ensuring that all learners can fully benefit from online learning (Nookhong,J & Jeerungsuwan, N 2023).

Recommendations

Based on the research findings, several recommendations can be proposed for relevant stakeholders as well as for future research directions, as follows:

1. Recommendations for Practical Application

For System Developers and Administrators

Preserve and enhance core strengths: It is essential to maintain and further develop the functions that received high and consistent ratings, such as task prioritization, establishing a Single Source of Truth, and supporting teams in experimenting with new approaches.

Focus on areas needing refinement: Attention should be given to improving user experience in aspects where user opinions varied widely. Examples include developing features to reduce redundant data entry or redesigning communication interfaces to provide clearer contextual information.

For Organizational Leaders or Team Managers

Promote continued system usage: Encourage consistent and long-term use of the system to sustain a strong collaborative culture, particularly in terms of team involvement and efficiency. The findings indicate that this tool effectively supports these important aspects of teamwork.

2. Recommendations for Future Research

Qualitative Research

Future studies should include in-depth interviews or focus group discussions to explore the underlying reasons behind the high satisfaction levels and to better understand the diverse user experiences, particularly in areas with high standard deviation values.

Comparative Research

A comparative study could be conducted to evaluate the differences in efficiency and satisfaction between teams using this system, teams using alternative tools, or teams not using any digital collaborative tools. This would provide clearer insights into the unique impact of the system.

Longitudinal Research

Long-term studies are recommended to examine whether the effectiveness and satisfaction levels remain sustainable over time and to identify any factors that may evolve or influence user experience in the long run.

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