THE IMPACT OF FINANCIAL TECHNOLOGY ADAPTATION ON EMPLOYEE EFFICIENCY: A CASE STUDY OF THE GOVERNMENT SAVINGS BANK IN UBONRATCHATHANI PROVINCE, THAILAND

[1]THUMWIMON SUKSERM, [2]PATCHARAPON DUANGKAEW

[1,2]Master of Business Administration Program, Faculty of Management Science, UbonRatchathani University, Thailand
E-mail: [1]thumwimon.s@ubu.ac.th, [2]patcharapon.du.64@ubu.ac.th

Abstract - The rapid integration of financial technology (FinTech) has significantly transformed the financial industry. This study investigates the impact of FinTech adaptation on the work efficiency of Government Savings Bank (GSB) employees in UbonRatchathani, Thailand. A quantitative research approach was employed, involving a survey of 229 employees. Statistic for analysis is the multiple regression.

The findings indicate that three key factors significantly influence work efficiency: technology knowledge and understanding, perceived technology benefits, and technology change management. Among these, technology change management emerged as the most influential factor, emphasizing the importance of effective change management strategies in technological transitions.

These results highlight the need for GSB to prioritize change management, employee training, and communication efforts to facilitate smooth technological adaptation and enhance work efficiency. By implementing strategic change management, raising awareness of technology benefits, and providing adequate technical training, GSB can empower its employees to effectively utilize FinTech tools, ultimately leading to improved operational efficiency and customer service.

Keywords - Financial Technology, Efficiency, Government Savings Bank

I. INTRODUCTION

Nowadays' rapidly evolving digital landscape, technological advancements have significantly impacted various sectors, particularly the financial industry. The financial sector, being a pioneer in adopting technology, is experiencing drastic changes through the rise of financial technology, commonly referred to as the financial technology (FinTech). FinTech encompasses innovations such as mobile banking, blockchain, artificial intelligence (AI), and big data, which enable banks and financial institutions to offer improved services, enhance operational efficiency, and cater to consumer needs more effectively (World Economic Forum, 2015). The integration of technology within financial services has brought about a shift from traditional banking methods to more sophisticated, customer-centric approaches. This shift has implications not only for the efficiency of banking operations but also for the competencies and adaptability required from employees in the sector.

Digital transformation and the subsequent "Digital Disruption" phenomenon have prompted organizations to re-evaluate their operational models. The Royal Institute Dictionary of Thailand defines "Digital Disruption" as the transformative change in working practices, often replacing manual tasks with digital processes, thus rendering certain traditional job roles obsolete (Royal Institute, 2022). The banking sector, particularly, faces competitive pressures to adapt to technological trends likewise mobile applications and online platforms that offer cost-effective and consumer-friendly solutions. According to a report by the Government Savings Bank (GSB) Research Center (GSBResearch Center, 2017), the number of bank branches in Thailand has been declining, a trend anticipated to continue as digital services expand and traditional roles within banks evolve.

The Government Savings Bank (GSB) employees in UbonRatchathani branch represent an example of this transformation, where technological adaptations significantly affect their works efficiency. This study investigates how financial technology adaptations influence the work efficiency of GSB employees in UbonRatchathani'sbranch. Analyzing such impacts is critical, as technological disruption within financial services demands employees not only to understand new tools but also to integrate them into their daily operations. The findings aim to provide actionable insights for enhancing employee performance within GSB, focusing on personal characteristics, adaptation to financial technology, and overall work efficiency.

II. LITERATURE REVIEW

The adoption of financial technology (FinTech) has transformed the financial sector, particularly in areas of operational efficiency and customer service. Technology applications such as mobile banking, AI, and blockchain technology are driving this evolution, allowing financial institutions to enhance productivity and cater to customer demands effectively. This literature review examines key theories and research that highlight the factors influencing technology adaptation and its impact on employee performance, particularly in banking.

Theories on Efficiency and Performance

Work efficiency is the degree to which an organization or individual can accomplish goals with minimal waste of resources. Zaleanick et al. (1958) describe work efficiency as the effective utilization of resources such as time and labor to achieve maximum productivity. In this regard, Podsakoff et al. (2000) suggest that an employee's adaptability to new systems is critical for maintaining organizational efficiency. They argue that employees who adapt to change not only improve their productivity but also contribute to a supportive work environment, enhancing overall performance.

Further supporting this, Roy's Adaptation Model (Roy, 1976) emphasizes that adaptation is essential for individuals facing changing environments, including technological shifts. Adaptation involves altering one's behavior to manage and thrive within new contexts. Roy and Andrews (1999) extend this to suggest that the ability to adapt to technology specifically can lead to improvements in employee satisfaction, which is a key factor in driving organizational success.

Technology Adaptation in Financial Services

Financial technology, also known as FinTech, involves the integration of advanced technologies within financial services to improve efficiency and accessibility. The World Economic Forum (2015) identifies six key financial activities impacted by FinTech: payments, investment management, fundraising, deposits, lending, and insurance. These technological innovations are making transactions faster, more secure, and accessible to a broader audience.

Studies in the Thai banking sector show that FinTech significantly influences the way banks operate and the expectations placed on their employees. A study by Warunee and Wannakit (2020) found that digital transformation initiatives in Thailand, such as the National E-payment policy, created new competencies within financial institutions, requiring employees to learn and manage digital banking tools. Employees trained in digital skills reported improved performance and greater job satisfaction, underscoring the benefits of adapting to technology.

Adaptation Strategies and Employee Performance

Successful adaptation to technology in the workplace hinges on three main factors: understanding the technology, recognizing its benefits, and managing change effectively. ChutimaCheychum et al. (2022) explored these factors and found that employees who possess a higher understanding of technology and perceive its benefits are more motivated to use new tools effectively. Their research also highlights the role of management in creating an environment conducive to change by offering resources and training to ease the transition.

Research by Wofford (1989) and others has shown that employees' adaptation to technology significantly affects their work efficiency and performance. For instance, the adoption of data management systems in banking has enabled staff to handle a higher workload with fewer errors. This also aligns with findings from Cheychum and colleagues, who observed a direct correlation between employees' perception of technology's benefits and their willingness to adapt and learn new systems.

In addition, individual traits such as age, education, and job position influence the effectiveness of technology adaptation. In a study on IT executives, Wirinrat et al. (2018) observed that younger employees and those in management roles adapted more easily to new technologies due to their familiarity with digital tools and higher motivation levels to integrate new skills into their daily tasks. This suggests that organizational support for diverse employee demographics is crucial to ensure effective adaptation.

Challenges in Technological Adaptation

Despite the advantages, adapting to new technology presents challenges for financial institutions and employees. According to JirapatNimjit and GowitKangsanand (2021), employees at Thailand's Government Savings Bank expressed concerns over the need for continuous training and the potential job insecurity brought by automation. They indicated that while technology enhances operational efficiency, it also changes job roles, which can be unsettling for employees unfamiliar with digital tools.

A related study by SophinPhayomrattanasin, and WattanaAramthienthamrong (2020) suggests that organizational readiness for change, including budget allocation for technology training, can help alleviate these challenges. By investing in employee training, financial institutions can facilitate smoother transitions, thereby enhancing employee performance and satisfaction in the long term.

Conclusion

The literature underscores the significant impact of FinTech on employee performance within the financial sector. As FinTech continues to evolve, employees' adaptability to new technology remains a critical determinant of operational efficiency. Research indicates that a supportive environment, adequate training, and management's proactive role in facilitating technology adaptation are essential for successful integration. Future studies could focus on long-term effects of digital adaptation on job security and employee morale, providing insights for creating sustainable adaptation strategies.

III. METHODOLOGY

This quantitative research examined the adaptation to financial technology and its impact on work efficiency among Government Savings Bank employees in Zones 1 and 2 of UbonRatchathani Province. The study population comprised employees from 23 branches, 2 zone offices, and 2 debt management centers across 25 districts in UbonRatchathani Province, with a sample size of 229 respondents.

The research instrument was a questionnaire consisting of four sections: demographic information, financial technology adaptation, work efficiency, and additional suggestions. The questionnaire employed a 5-point Likert scale (5 = highest importance to 1 = lowest importance). The interpretation of mean scores followed these ranges: 4.51-5.00 (highest), 3.51-4.50 (high), 2.51-3.50 (moderate), 1.51-2.50 (low), and 1.00-1.50 (lowest).

The questionnaire development process included studying relevant literature, drafting questions aligned with research objectives, and validation by three experts who assessed content validity using the IOC (Index of Item-Objective Congruence) method. The IOC value was between 0.67 – 1.00, confirming the instrument's validity. Reliability testing was conducted with 30 participants from a similar population, requiring a minimum reliability coefficient of 0.7 (Hair et al. 2019). The reliability results of the questionnaire testing revealed the Cronbach alpha between 0.70 – 0.87. This presented that the questionnaire was reliability.

Data collection was conducted through Google Forms distributed via Line application to employee groups in both zones. The collected data were analyzed using the inferential statistic (Multiple Regression Analysis).

IV. RESULTS

The analysis of financial technology adaptation's influence on work efficiency among Government Savings Bank employees revealed significant findings through multiple regression analysis. The results demonstrated that the model could explain 67% of the variance in work performance efficiency (Adjusted $R^2 = 0.67$, $F = 122.15$, $p < .05$).

The regression analysis revealed three key factors significantly influencing work efficiency: technology knowledge and understanding ($\beta = 0.244$, $p < .05$), perceived technology benefits ($\beta = 0.296$, $p < .05$), and technology change management ($\beta = 0.347$, $p < .05$). The most influential factor was technology change management, followed by perceived technology benefits and technology knowledge and understanding.

Variables	b	Beta	t	Sig	Tolerance	VIF
(Constant)	0.45	-	2.32	0.02*	-	-
Technology Knowledge and Understanding	0.24	0.24	3.10	0.00**	0.30	3.38
Perceived Technology Benefits	0.29	0.30	3.48	0.00**	0.25	3.96
Technology Change Management	0.34	0.35	4.92	0.00**	0.37	2.71
$R^2 = 0.67$, Adjusted $R^2 = 0.67$; $F = 122.15$, Sig = 0.000*						

*p <0.05
**P < 0.01

Table 1: Regression analysis of the study

The analysis of multicollinearity indicators showed acceptable levels, with Tolerance values ranging from 0.253 to 0.369 (all > 0.1) and VIF values between 2.712 and 3.956 (all < 10), indicating no significant multicollinearity issues among the independent variables (Hair et al. 2005).

The regression equation can be expressed as:
Work Efficiency = 0.447 + 0.238(Technology Knowledge) + 0.285(Perceived Benefits) + 0.335(Change Management)

These findings suggest that technology change management has the strongest impact on work efficiency ($\beta = 0.347$), indicating that employees who better manage technological changes tend to demonstrate higher work efficiency. The second most influential factor was perceived technology benefits ($\beta = 0.296$), suggesting that employees who recognize the advantages of new technologies are more likely to perform efficiently. Technology knowledge and understanding, while still significant, had a relatively lower impact ($\beta = 0.244$) on work efficiency.

The significant F-value (122.15, $p < .05$) indicates that the regression model is valid and reliable for predicting work efficiency based on these three technological adaptation factors. The high adjusted R^2 value (0.67) suggests that these three factors collectively explain a substantial portion (67%) of the variance in work efficiency among bank employees.

All three independent variables showed positive coefficients, indicating that improvements in any of

these areas would likely result in enhanced work efficiency. The constant term (0.447) represents the baseline work efficiency when all other factors are zero, and its significance ($p = 0.022$) suggests a meaningful baseline efficiency level.

V. DISCUSSION

The findings from this study provide significant insights into how financial technology adaptation influences work efficiency among Government Savings Bank employees. The results reveal three critical factors that collectively explain 67% of the variance in work efficiency, suggesting a robust model for understanding technological adaptation in banking operations.

The strongest predictor of work efficiency was technology change management ($\beta = 0.347$), highlighting the crucial role of effective change management strategies in technological transitions. This finding aligns with Kotter's (2014) organizational change theory and supports previous research indicating that successful technological implementation heavily depends on how changes are managed within organizations. The result suggests that banks should prioritize change management protocols when implementing new financial technologies.

Perceived technology benefits emerged as the second most influential factor ($\beta = 0.296$), consistent with Davis's Technology Acceptance Model (TAM). This finding reinforces Venkatesh and (Davis et al., 1992)Davis's (2000) assertion that employees are more likely to embrace and effectively utilize new technologies when they clearly understand their benefits. The practical implication is that banks should emphasize communicating the advantages of new technologies to their employees during implementation phases.

Technology knowledge and understanding, while significant ($\beta = 0.244$), had the lowest impact among the three factors. This finding is particularly interesting as it suggests that while technical knowledge is important, it may not be as crucial as change management and perceived benefits. This aligns with Rogers's (2003) diffusion of innovation theory, which emphasizes that adoption is not solely dependent on technical understanding but rather on a combination of factors including perceived usefulness and ease of use.

The absence of multicollinearity issues ($VIF < 4$) strengthens the reliability of these findings and suggests that each factor contributes uniquely to work efficiency. The high explained variance ($R^2 = 0.67$) indicates that these three factors are essential considerations for banking institutions implementing new financial technologies.

These findings have practical implications for banking management. First, they suggest that resources should be allocated primarily to change management processes when implementing new technologies. Second, they highlight the importance of building positive perceptions about technological benefits among employees. Third, while technical training remains important, it should be balanced with other aspects of technology adaptation.

Implementation Recommendations for GSB Employee Efficiency Enhancement
Based on the research findings and introduction context, the following implementation strategies are recommended for GSB to improve employee efficiency through technological adaptation:

1. Strategic Change Management Implementation
- Establish a dedicated change management team to oversee technological transitions
- Develop a structured change management framework specific to GSB's context
- Create clear communication channels for technology-related updates and support
- Implement regular feedback mechanisms to monitor adaptation progress

2. Employee Benefit Awareness Program
- Design comprehensive training programs highlighting the practical benefits of new technologies
- Create case studies demonstrating successful technology implementation outcomes
- Develop metrics to measure and showcase productivity improvements through technology adoption
- Implement peer-learning programs where tech-savvy employees mentor others

3. Technical Knowledge Enhancement
- Implement a tiered training approach based on employee roles and existing knowledge levels
- Provide hands-on practice sessions with new technologies in a controlled environment
- Create readily accessible online resources for self-paced learning
- Establish a technical support system for immediate assistance

4. Performance Monitoring and Support System
- Develop KPIs specifically aligned with technological adaptation goals
- Create a reward system for employees who successfully integrate new technologies
- Implement regular performance reviews focusing on technology utilization

- Establish mentorship programs pairing experienced and new employees

5. Customer Service Enhancement Through Technology

- Train employees to effectively communicate the benefits of digital services to customers
- Develop guidelines for helping customers transition to digital banking
- Create customer feedback mechanisms to improve service delivery
- Implement service quality metrics incorporating technological efficiency

6. Risk Management and Security Awareness

- Develop comprehensive security protocols for digital operations
- Conduct regular training on cybersecurity best practices
- Implement incident reporting and response procedures
- Create awareness programs about digital fraud and prevention measures

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