FACTORS AFFECTING INTENTION TO USE NATIONAL SINGLE WINDOW (NSW) THROUGH PERCEIVED EASE OF USE AND PERCEIVED USEFULNESS IN IMPORT, EXPORT AND LOGISTICS ENTERPRISES

Orawee Sriboonlue[a]*

[a] Faculty of Business Administration, Kasetsart University, Bangkok, Thailand
*Corresponding author's e-mail: orawee.sr@ku.th

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ABSTRACT

Purpose – The purposes of this research were to study factors affecting intention to use National Single Window (NSW) through perceived ease of use and perceived usefulness in import, export, and logistics enterprises.

Methodology – The research methodology was quantitative research with survey method by using questionnaires for data collection. The respondents were 400 participants, who are importers, exporters, and logistics service providers which are located in the Bangkok Metropolitan Region. Descriptive statistics used for data analysis included frequency, percentage, mean, and standard deviation. Due to hypothesis testing, inferential statistics were used, specifically Pearson's Product Moment Correlation Coefficient and Partial Least Squares-Structural Equation Modeling (PLS-SEM).

Results – The results of hypothesis testing revealed that acceptance and use of technology had a positive and significant effect on perceived ease of use and perceived usefulness whereas organizational support had a positive and significant effect on perceived ease of use, and technology experience had a positive and significant effect on perceived ease of use and perceived usefulness at a significance level of 0.001. In addition, perceived ease of use had a positive and significant effect on perceived usefulness and intention to use, and perceived usefulness had a positive and significant effect on intention to use at a significance level of 0.001. Nevertheless, the results showed that organizational support did not have a significant effect on perceived ease of use. Finally, there were significant indirect effects on the relationships among acceptance and use of technology, perceived ease of use, perceived usefulness, and intention to use.

Implications –The findings present several implications for both academia and management practitioners, providing insights into crafting effective strategies to enhance users' or employees' technology adoption once new technologies and/or systems are introduced in the workplace.

Originality/Value – This research sought to enhance comprehensive comprehension of the intricate interplay among the UTAUT Model, perceived ease of use, perceived usefulness, and intention to use, interpreting their collective influence on potential users' decisions toward the use of systems or IT. Also, the research can fill existing gaps in the literature and provide valuable insights for refining technological capability and competencies, particularly focusing on international entrepreneurship.

Keywords: UTAUT Model, Perceived ease of use, Perceived usefulness, Import, Export, Logistics, National single window

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INTRODUCTION

Currently, information technology plays a crucial role in the growth and development of countries, affecting various levels such as national, industrial, and individual. The integration of technology is rapidly transforming business operations and organizational management. The utilization of information technology aims to enhance management capabilities, improve operational efficiency, and elevate competitiveness for businesses, especially for micro, small, and medium enterprises (MSMEs) (Arjang et al., 2023; Nugroho, 2015).

The readiness of organizations to adopt information technology for supporting their operations is a critical factor in their overall performance (Nugroho, 2015; Sani et al., 2020). Technological advancements must be driven by national policies to reform the country's processes and ensure stability, prosperity, and sustainability. The shift towards a digital economy emphasizes the use of information and communication technology to connect all sectors, both public and private, fostering electronic transactions securely and paperlessly (Yau et al., 2020; Mohanarajan, 2016).

One key industry driving the Thai economy is the import, export, and logistics services sector, with continually increasing statistics in trade activities and significant importance placed on customs-related documentation. The Thailand National Single Window (NSW) system is a platform that links data between government agencies and businesses (G2G, G2B, and B2B) for imports, exports, and logistics, supporting data connections among ASEAN member countries and other regional nations. The NSW operates as an automated and semi-automated service, accompanying the reformation of service processes and reducing paperwork. It provides convenience for service users, such as importers, exporters, and logistics operators, allowing them to conduct secure electronic transactions with government agencies and e-commerce activities, facilitating the entire process from licensing to customs clearance automatically. The e-Tracking feature enables users to monitor the progress of their transactions online 24/7 (NSW Operator, 2021).

Past research has shown that user perception influences behavioral intentions. Regarding the NSW system, many businesses in the import, export, and logistics sectors have yet to use the system themselves. This research aims to investigate acceptance and use of technology, organizational support, and technology experience affecting intention to use NSW system. In addition, this research focuses on the mediating effects of perceived ease of use and perceived usefulness on intention to drive efficient industry operations. for import, export, and logistics businesses.

LITERATURE REVIEW

Acceptance and Use of Technology (UTAUT)

This research applies the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003) to investigate the acceptance and use of the National Single Windows (NSW) within the context of Import-Export enterprises and logistics providers. The UTAUT model, consolidating fundamental relationships from various theories, serves as the theoretical framework, emphasizing four primary factors which consist of performance expectation, effort expectancy, social influence, and facilitating conditions, influencing the intention and behavior associated with information technology systems. The research extended the UTAUT model by introducing additional variables, including gender, age, experience, and voluntariness of use, to enhance the predictive accuracy of technology acceptance. The details of each variable are drawn from Venkatesh et al.'s (2003 cited in Chao, 2019) research.

Performance expectancy involves an individual's belief in the benefits of technology use, specifically the NSW, in enhancing operational efficiency. It encompasses perceived benefits, system capabilities, and the anticipated impact on work effectiveness, and it is a significant predictor of intentions, particularly within the UTAUT model. *Effort expectancy* assesses the ease of accessing the NSW, considering factors such as system complexity, ease of understanding, and the learning curve. This variable is particularly significant during the initial stages of system use but diminishes in importance as users become familiar with the technology. *Social influence*

explores the perception that social factors and norms, such as opinions from close connections, play a crucial role in encouraging the use of the NSW. Social Influence directly impacts intentions, operating through acceptance, understanding, and identification mechanisms. *Facilitating conditions* refer to the environmental factors supporting the use of the NSW, including readiness and consistency suitable for users. Consumer perception of resources and support in using the technology, as articulated by Venkatesh et al. (2003), is crucial in the adoption process. Past research has confirmed that the condition of facilities in use affects the adoption and utilization of the system, representing behavior occurring post-intention.

In this research, the UTAUT model is applied at the organizational level, specifically examining the acceptance and use of the NSW by Import-Export enterprises and logistics providers. Therefore, individual-level variables are not included in the research framework, aligning with the organizational perspective adopted for this study. This research contributes to the understanding of technology acceptance and utilization within the organizational context of National Single Windows (NSW). By applying the UTAUT model, the study provides insights into the factors influencing technology adoption at the entrepreneur level, shedding light on the unique dynamics of technology use within the Import-Export and logistics sectors.

Organizational Support (OS)

Organizational support pertains to the degree to which senior and middle management allocate sufficient resources to assist employees in accomplishing organizational objectives. This support may include provisions like computer system assistance, targeted coaching, and guidance for utilizing various computer applications (Grover, 1993). It is endorsement, encouragement and positive attitude of the organization in the provision of information, system development, operations and reward system to meet organizational goals (Anandarajan et al., 2002 cited in Zainab, 2016). The widely held belief is that organizational support is a crucial factor influencing the utilization of information technology (IT) in organizations. Research conducted by Kim et al. (2007) and McFarland and Hamilton (2006) discovered a connection between organizational support and factors including perceived ease of use (PEOU), perceived usefulness (PU), and subjective norm. Moreover, Lee et al. (2011) concluded that the effectiveness of organizational support systems significantly influences the adoption of computer technology and the intention to use it (Derouin et al., 2005). Previous studies also found that organizational support has a positive effect on PEOU (Anandarajan et al., 2002; Lee et al., 2013; Sawang et al., 2013; Kim et al., 2007). Meanwhile, Park and Jung (2021) investigated how perceived organizational support influences the relationship between the PU of artificial intelligence (AI) and trust. The research results revealed that perceived organizational support played a moderating role in the impact of AI's perceived usefulness on affective trust. Specifically, the positive effect was observed only among individuals with low perceived organizational support.

Technology Experience (EX)

Technology experience pertains to the skills an individual gains in dealing with technology over time. In examining this experience factor, Alharbi and Drew (2014) conducted a study and found that experience did not positively influence perceived ease of use (PEOU) and perceived usefulness (PU). Abdullah et al. (2016) emphasized that, in addition to computer self-efficacy and motivation, various external variables play a significant role in affecting the acceptance of e-learning systems. These variables include subjective norm (Farahat, 2012), perceived enjoyment (Wu, & Gao, 2011), computer anxiety (Alenezi et al., 2010), and experience (Martin, 2012). Experience stands out as a well-examined moderator variable within the Technology Acceptance Model (TAM). Previous research consistently indicates that technology-related experience positively influences individuals' behavioral intentions to use a system or technology. Studies on individual learning and e-learning adoption emphasize that experience affects both students' PEOU (De Smet et al., 2012; Lee et al., 2011, 2013; Purnomo, & Lee, 2013) and PU (Lee et al., 2013; Martin, 2012; Purnomo, & Lee, 2013; Rezaei et al., 2008) about the e-learning system as well.

Perceived Ease of Use (PEOU)

Perceived ease of use (PEOU) refers to "the degree to which a person believes that using a particular system would be free from effort" (Davis, 1989 cited in Kampa, 2023). In other words, it involves service users' attitudes toward using information technology services, recognizing the value and benefits which enhance their work efficiency. When individuals perceive that the advantages of technology align with their needs, it fosters greater acceptance of that technology. Due to Phillips and O'Flaherty (2019), the concept of PEOU reflects users' confidence that implementing flipped learning will not be challenging. The ease of flipping a skill serves as a notable example of PEOU. Previous research has highlighted the significant impact of structure on behavioral attitudes (Phillips, & O'Flaherty, 2019). It also influences the long-term success of a flipped classroom. When technology is perceived as user-friendly, users tend to have a more positive view of it. Consequently, users can assess its benefits more clearly (Al-Rahmi et al., 2015; Scherer et al., 2019). Besides, they are more willing to adopt technology when they recognize its benefits.

Perceived Usefulness (PU)

Perceived Usefulness (PU) refers to "the degree to which a person believes that using a particular system would enhance his or her job performance." (Davis, 1989 cited in Kampa, 2023). It indicates how much users believe that technology helps increase work efficiency (Davis et al., 1989). Awa et al. (2010) explained that entrepreneurs who see the usefulness of an application or innovation are likely to believe that the application or innovation contributes to increasing the productivity, efficiency, and potential of their company. Previous research of Mohamed and Lamia (2018) indicated that the perceived benefit of a flipped classroom is how much users believe it can be a driving force in achieving learning objectives; thus, it is the extent to which users perceive that using a flipped classroom may improve their learning system. According to Al-Rahmi et al. (2015) and Huang et al. (2019), PU is a concept that has been proven to affect attitude. Similarly, it may influence users' intentions to use the flipped classroom in the future. Therefore, users' perceptions of its usefulness are important. In addition, students are more enthusiastic about embracing technology when they find it useful (Al-Rahmi et al., 2015; Scherer et al., 2019). Meanwhile, the study by Park and Jung (2021) revealed that cognitive trust and affective trust fully mediated the effects of PU of AI on intention to use it.

Behavioral Intention to Use (INT)

Behavioral Intention an individual's preparedness to engage in a specific behavior. This factor is considered to occur before the actual behavior takes place (Ajzen, 2002). It serves a dual function as a predictor (Cigdem, & Topcu, 2015) and as an explanatory factor (Gaitán et al., 2015). Within the theoretical framework of the UTAUT (Unified Theory of Acceptance and Use of Technology) proposed by Venkatesh et al. (2003 cited in Chao, 2019), it has been identified that factors predicting behavioral intentions and behaviors include performance expectation, effort expectancy, social influence, and facilitating conditions.

National Single Window (NSW)

The National Single Window (NSW) is a system that connects government and business agencies (G2G, G2B, and B2B) for import, export, and logistics. It supports data exchange among ASEAN member countries and other regions. NSW offers automated and semi-automated services, streamlining processes, reducing paperwork, and providing convenience for users like importers, exporters, and logistics providers to conduct secure electronic transactions with both government and business entities. Users can track import, export, and approval processes online 24/7 via e-Tracking.

Key components of Thailand's NSW, led by Thai Customs, include (1) electronic data exchange centers for relevant government and business agencies involved in import, export, and logistics, (2) development of national data standards for electronic data exchange among government and business agencies, including international standards, (3) mechanisms for supervision, pricing, and quality assurance of the NSW services, (4) registration system for

issuing licenses and certificates within Thailand, involving approximately 35 government agencies, (5) user registration system for businesses within Thailand, with around 125,000 registered companies, (6) technical and legal infrastructure standards related to the NSW system, (7) secure electronic issuance of licenses and certificates for government agencies without their own systems, (8) data linkage between Thai government agencies and international agencies, and (9) data linkage between Thai and foreign business entities.

Expected outcomes of a fully developed NSW system include reducing the burden of redundant data entry by allowing submission of a single set of data electronically to relevant agencies, facilitating data sharing among both domestic and foreign organizations, decreasing the service delivery time of government agencies involved in import and export processes, and lowering the overall costs for businesses in import and export processes by approximately 82,000 - 100,000 million baht per year compared to paper-based systems. (NSW Operator, 2021).

Conceptual Framework and Hypothesis

Based on the review of the literatures on acceptance and use of technology, organizational support, and technology experience affecting intention to use NSW system, the conceptual research framework was drawn in Figure 1. In addition, the research hypotheses were drawn in the next part.

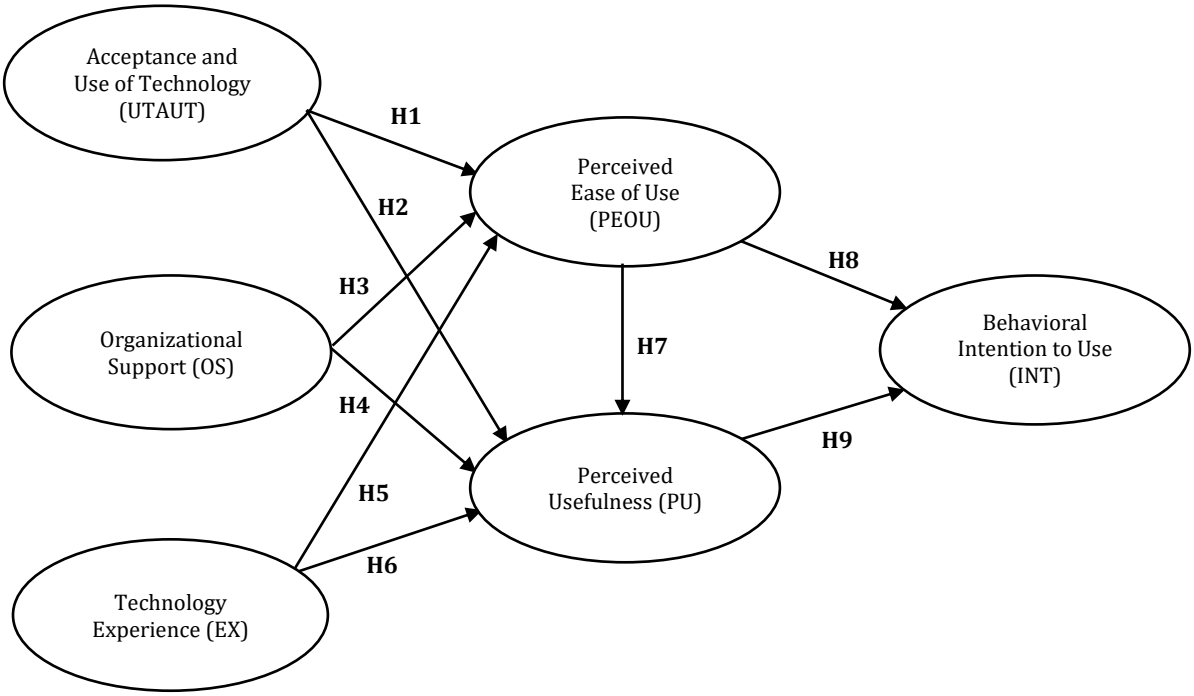

Figure 1. Conceptual Framework

The research hypotheses were drawn as follows:

H1: Acceptance and use of technology significantly affects perceived ease of use.
H2: Acceptance and use of technology significantly affects perceived usefulness.
H3: Organizational support significantly affects perceived ease of use.
H4: Organizational support significantly affects perceived usefulness.
H5: Technology experience significantly affects perceived ease of use.
H6: Technology experience significantly affects perceived usefulness.
H7: Perceived ease of use significantly affects perceived usefulness.
H8: Perceived ease of use significantly affects intention to use.

H9: Perceived usefulness significantly affects intention to use.

H10: Perceived ease of use plays a mediating role in the relationships between acceptance and use of technology and intention to use.

H11: Perceived ease of use plays a mediating role in the relationships between organizational support and intention to use.

H12: Perceived ease of use plays a mediating role in the relationships between technology experience and intention to use.

H13: Perceived usefulness plays a mediating role in the relationships between acceptance and use of technology and intention to use.

H14: Perceived usefulness plays a mediating role in the relationships between organizational support and intention to use.

H15: Perceived usefulness plays a mediating role in the relationships between technology experience and intention to use.

H16: Perceived ease of use and perceived usefulness play mediating roles in the relationships between acceptance and use of technology and intention to use.

H17: Perceived ease of use and perceived usefulness play mediating roles in the relationships between organizational support and intention to use.

H18: Perceived ease of use and perceived usefulness play mediating roles in the relationships between technology experience and intention to use.

METHODOLOGY

For Sample and Data Collection

Regarding sample and data collection, the research population consisted of importers, exporters, and logistics service providers located in the Bangkok Metropolitan Region. To estimate the total research population, the overall population for importers, exporters, and logistics service providers in the Bangkok Metropolitan Region was used to determine the population size. Employing the basis of sampling formula given by Cochran (1953) for infinite sample size determination with a confidence level of 95% and a margin of error of ±5% eventually yielded a total of 385 participants. Since this study employs structural equation modeling, it is essential that the sample size is at least 400, following the recommendations of Yuan and Bentler (2000) and Savalei and Bentler (2005). This research employed a non-probability sampling method with a purposive sampling technique to distribute the questionnaire to importers, exporters, and logistics service providers located in the Bangkok Metropolitan Region.

The research methodology employed in this research was quantitative research, utilizing the survey method. Data collection was conducted using questionnaires comprising 6 sections. Sections 1 to 5 consisted of 5-point Likert scale items, measuring variables such as acceptance and use of technology, organizational support, technology experience, perceived ease of use, perceived usefulness, and intention to use. The scale ranged from 1, indicating "strongly disagree," to 5, indicating "strongly agree." Section 6 of the questionnaire contained closed-ended questions focusing on capturing organizational background and business experience. These questions encompassed variables such as type of business, experience, and total employees.

Descriptive statistics used in quantitative data analysis included frequency, percentage, mean, and standard deviation. Due to hypothesis testing, inferential statistics were used, specifically Pearson's Product Moment Correlation Coefficient and Partial Least Squares-Structural Equation Modeling (PLS-SEM).

RESULTS

The research results indicated that the respondents had an overall agreement towards the acceptance and use of technology, organizational support, technology experience, perceived ease of use, perceived usefulness, and intention to use, at the agree level, with mean scores of 3.83, 3.93, 3.95, 4.04, 4.05, and 4.09, respectively, as depicted in Table 1.

Table 1. Mean and Standard Deviation for Variables

Latent Variable	Mean	Standard Deviation	Agreement Level
Acceptance and Use of Technology (UTAUT)	3.83	0.59	Agree
Organizational Support (OS)	3.93	0.62	Agree
Technology Experience (EX)	3.95	0.65	Agree
Perceived Ease of Use (PEOU)	4.04	0.66	Agree
Perceived Usefulness (PU)	4.05	0.64	Agree
Intention to Use (INT)	4.09	0.63	Agree

Validity and Reliability

Cronbach's alpha and composite reliability were investigated to measure construct reliability. In terms of composite reliability, all factor loading values ranged from 0.881 to 0.934, which is more than the recommended value of 0.70; hence, the constructs in the research model are acceptable (Hair et al., 2016). The measurement model in table 2 also showed that Cronbach's alpha coefficient of each construct ranged from 0.880 to 0.926, meaning that all constructs are acceptable according to the recommended threshold value of 0.70 (Fornell & Larcker, 1981). In terms of composite reliability, all values ranged from 0.881 to 0.934, which is more than the recommended value of 0.70; hence, the constructs in the research model are acceptable (Hair et al., 2016).

Table 2. Factor Loading, Cronbach's Alpha Coefficient (CA), Composite Reliability (CR) and Average variance extracted (AVE) for Measurement Model

Latent Variable	CA	CR	AVE	Indicators	Loads
Acceptance and Use of Technology (UTAUT)	0.926	0.934	0.947	PE	0.862
				EE	0.947
				SI	0.911
				FC	0.895
Organizational Support (OS)	0.882	0.888	0.914	OS1	0.816
				OS2	0.760
				OS3	0.830
				OS4	0.848
				OS5	0.864
Technology Experience (EX)	0.896	0.896	0.923	EX1	0.867
				EX2	0.812
				EX3	0.818
				EX4	0.843
				EX5	0.859
Perceived Ease of Use (PEOU)	0.880	0.881	0.918	PEOU1	0.862
				PEOU2	0.820
				PEOU3	0.869
				PEOU4	0.878
Perceived Usefulness (PU)	0.903	0.904	0.928	PU1	0.863
				PU2	0.818
				PU3	0.814
				PU4	0.867
				PU5	0.883
Intention to Use (INT)	0.904	0.907	0.929	INT1	0.859
				INT2	0.775
				INT3	0.855
				INT4	0.882
				INT5	0.879

In addition, AVE was in the range of 0.914 to 0.947, which exceeded the minimum threshold value of 0.50, confirming convergent validity. The discriminant validity was tested and the square roots of AVEs were more than the 0.40 minimum threshold, and all values were more than the correlations among the latent constructs (0.757 – 0.959); thus, it is valid (Henseler et al., 2015).

Analysis of Structural Model

From the structural model in this research, the direct effects indicated that R^2 of the dependent variable, or intention to use (INT) was 0.804 indicating that 80.4% of employee's intention variance was explained by the independent variable. For the indirect effects, R^2 of the mediating variables showed that R^2 of perceived ease of use (PEOU) was 0.776 and R^2 of perceived usefulness (PU) was 0.815.

Table 3. Structural Model

	β	T Statistics	P-value
H1: UTAUT → PEOU	0.092	2.756	0.006**
H2: UTAUT → PU	0.139	3.39	0.001***
H3: OS→ PEOU	0.177	3.297	0.001***
H4: OS→ PU	0.107	1.672	0.095
H5: EX → PEOU	0.657	12.419	0.000***
H6: EX → PU	0.319	5.064	0.000***
H7: PEOU → PU	0.407	7.759	0.000***
H8: PEOU → INT	0.266	3.93	0.000***
H9: PU → INT	0.656	10.357	0.000***
H10: UTAUT → PEOU → INT	0.024	2.228	0.026*
H11: OS→ PEOU → INT	0.047	2.392	0.017*
H12: EX → PEOU → INT	0.175	3.854	0.000***
H13: UTAUT → PU → INT	0.091	3.139	0.002**
H14: OS→ PU → INT	0.07	1.62	0.105
H15: EX → PU → INT	0.21	4.822	0.000***
H16: UTAUT → PEOU → PU → INT	0.025	2.401	0.016**
H17: OS→ PEOU → PU → INT	0.047	3.083	0.002**
H18: EX → PEOU → PU → INT	0.175	5.077	0.000***

Note: ***p <. 001, **p <. 01, *p <. 05 (two-tailed test)

Table 4. Total Effect

Item	PEOU	PU	INT
UTAUT	0.092	0.176	0.140
OS	0.177	0.179	0.164
EX	0.657	0.587	0.560
PEOU	-	0.407	0.533
PU	-	-	0.656

Table 5. Direct Effect

Item	PEOU	PU	INT
UTAUT	0.092	0.139	-
OS	0.177	0.107	-
EX	0.657	0.319	-
PEOU	-	0.407	0.266
PU	-	-	0.656

Table 6. Indirect Effect

Item	PEOU	PU	INT
UTAUT	-	0.037	0.140
OS	-	0.072	0.164
EX	-	0.267	0.560
PEOU	-	-	0.267
PU	-	-	-

The results in table 3, 4, 5, and 6 showed that acceptance and use of technology had a positive and significant effect on perceived ease of use ($\beta = 0.092$, $p < 0.01$) and perceived usefulness ($\beta = 0.139$, $p < 0.001$), while organizational support had a positive and significant effect on perceived ease of use ($\beta = 0.177$, $p < 0.001$), so hypothesis 1, 2, and 3 were supported. The results also revealed that technology experience had a positive and significant effect on perceived ease of use ($\beta = 0.657$, $p < 0.001$) and perceived usefulness ($\beta = 0.319$, $p < 0.001$), perceived ease of use had a positive and significant effect on perceived usefulness ($\beta = 0.407$, $p < 0.001$) and intention ($\beta = 0.266$, $p < 0.001$), and finally perceived usefulness had a positive and significant effect on intention ($\beta = 00.656$, $p < 0.001$), so hypothesis 5, 6, 7, 8 and 9 were supported. On the other hand, the results showed that organizational support ($\beta = 0.107$, $p > 0.05$) did not have significant effect on perceived ease of use, so hypothesis 4 was rejected.

The results also demonstrated that there was a significant indirect effect on the relationships among acceptance and use of technology, perceived ease of use, perceived usefulness, and intention. Perceived ease of use played a mediating role in the relationships among acceptance and use of technology and intention ($\beta = 0.024$, $p < 0.05$), organizational support and intention ($\beta = 0.047$, $p < 0.05$), and technology experience and intention ($\beta = 0.175$, $p < 0.001$), so hypothesis 10, 11, and 12 were supported. Second, perceived usefulness played a mediating role in the relationships among acceptance and use of technology and intention ($\beta = 0.091$, $p < 0.01$), and technology experience and intention ($\beta = 0.21$, $p < 0.001$), but did not have effect on the relationship between organizational support and intention. Thus, hypothesis 13 and 15 were supported while hypothesis 14 was rejected. Finally, perceived ease of use and perceived usefulness played mediating roles in the relationships among acceptance and use of technology and intention ($\beta = 0.025$, $p < 0.01$), organizational support and intention ($\beta = 0.047$, $p < 0.01$), and technology experience and intention ($\beta = 0.175$, $p < 0.001$), so hypothesis 16, 17, and 18 were supported.

DISCUSSION AND IMPLICATIONS

The findings of the research, indicating the significant effects of acceptance and use of technology, organizational support, and technology experience on employees' intention to use the system, with the mediating roles of perceived ease of use and perceived usefulness, revealed important insights into the dynamics of technology adoption in the workplace. The research results showed that employees had a strong acceptance and usage of technology, indicating openness to adopting and utilizing technological tools. They perceived significant organizational support, including policies and resources as well as facilitating technology integration. Respondents reported substantial experience with technology, suggesting familiarity and competence. They found the technology easy to use, indicating minimal challenges. Moreover, they believed that technology was valuable and beneficial to their tasks, influencing their decisions to adopt IT to their work. Finally, a high intention to continue using technology indicated a positive attitude and willingness to incorporate it into future activities. This was consistent with previous studies which revealed the effects of two constructs of acceptance and use of technology, social influence and facilitating conditions, on perceive usefulness, perceived ease of use, and behavioral intention to use. In other words, social influence has a significant direct effect on perceived usefulness (Räckers et al., 2013) and perceived ease of use (Abdullah & Ward, 2016; Chen & Aklikokou, 2020) while

facilitating conditions has a significant positive influence on perceived usefulness and perceived ease of use (Chen & Aklikokou, 2020).

Due to hypothesis testing on the effect of organizational support on perceived usefulness and perceived ease of use, the research results were supported. This implies that support from the organization contributes to employees perceiving the technology as easy to use. The research result was in accordance with previous studies by Lee et al. (2013) and Anandarajan et al. (2002) which revealed that organizational support has a positive effect on perceived ease of use and concluded that it is a motivating factor for users to accept new system and the same results were also found in some other studies (Kim et al., 2006; Sawang et al., 2013).

Regarding technological experience, the results indicated that individuals with more experience with technology find it easier to use and more useful. This suggests that when users find a technology easy to use, they are more likely to perceive it as useful and express an intention to use it. Users who perceive technology as highly useful are more inclined to express an intention to use it. The research results aligned with the previous studies which emphasized the importance of experience influencing perceived usefulness, perceived ease of use, and intention to use. Irani (2000) found the effect of prior experience and high level of experience on perceived usefulness and intent to use Internet communication tools whereas Rivera et al. (2015) indicated in their study that technological experience has a significant direct impact on perceived usefulness and attitude toward mobile apps. The result also aligned with the study by Saadé and Kira (2007) which revealed that computer experience and internet experience have a significant effect on perceived ease of use.

In addition, the results revealed a significant effect of perceived ease of use on perceived usefulness. This was consistent with some previous studies confirming the significant effect of perceived ease of use on perceived usefulness (Chen & Aklikokou, 2020; Abdullah & Ward, 2016; Alalwan et al., 2018; Baabdullah et al., 2016). This implies that the less complicated National Single Window (NSW) system is for using, the more users will find it useful. Moreover, perceived ease of use was also found to have a significant effect on behavioral intention to use suggesting the importance of NSW free of complication and easy to use. The easier employees perceived NSW is, the more they will make use of them. This result aligned with previous research (Chen & Aklikokou, 2020; Alalwan et al., 2018; Baabdullah et al., 2016; Martins et al., 2014; Mensah & Mi, 2018; Ruffin et al., 2014) Meanwhile, the results also indicated that perceived usefulness has a significant positive influence on employees' intention to use NSW. This is consistent with many previous studies (Chen & Aklikokou, 2020; Abdullah & Ward, 2016; Alalwan et al., 2018; Baabdullah et al., 2016; Baganzi & Lau, 2017; Martins et al., 2014; Mensah & Mi, 2018) indicating that the more useful NSW is perceived, the more users make use of them. The usefulness of NSW relates to the benefits it provides to users. The more apparent such usefulness is to a user, utilization or even re-utilization of NSW becomes evident.

The mediating roles of perceived ease of use and perceived usefulness in the relationships between acceptance and use of technology, organizational support, technology experience, and employees' intention highlight the cognitive processes involved in shaping employees' intentions (Davis et al., 1989; Venkatesh et al., 2003). Perceived ease of use acts as a mediator, suggesting that when employees find the technology easy to use, it positively influences their intention. This aligned with the foundational principles of Technology Acceptance Model (TAM), emphasizing that ease of use contributes to positive attitudes toward technology. Similarly, perceived usefulness serves as a mediator, indicating that employees are more likely to express positive intentions when they perceive the technology as valuable and beneficial. The research findings underscore the importance of considering both individual and organizational factors in promoting the successful adoption of technology in the workplace. Aligning with established theories in technology acceptance, the research highlights that ensuring ease of use, perceived usefulness, and organizational support are critical for fostering positive intentions toward technology adoption among employees. The result is consistent with previous studies conducted by using Acceptance and Use of Technology (UTAUT) factors and Technology Acceptance Model

(TAM) in terms of perceived ease of use and perceived usefulness (Alyoussef, 2022), effort expectation, perceived ease of use, and perceived usefulness (Rezvani et al., 2022), social influence, performance expectancy, and perceived ease of use (Guo et al., 2023), and UTAUT model and intention to use technology (Almaiah et al., 2019; Venkatesh et al., 2003; Kissi et al., 2018; Yang et al.,2019; Luo et al., 2021; Alwahaishi & Snásel, 2013; Rumangkit et al., 2023).

These insights have practical implications for organizations aiming to introduce new technologies in the workplace. Efforts to enhance employees' technology adoption should not only focus on the technical features but also consider the broader organizational support and employees' technology experiences. Creating a user-friendly and supportive technological environment can contribute to a positive user experience, ultimately enhancing employees' intentions to use the system.

LIMITATIONS AND FUTURE RESEARCH POSSIBILITIES

The researcher's focus in this research was factors affecting intention to use National Single Window (NSW) through perceived ease of use and perceived usefulness in import, export and logistics enterprises in Thailand ignoring other countries. Since the data were collected from 400 respondents toward Thailand only, the generalization of the results could be limited. Besides, other variables, such as, self-efficacy, perceived anxiety, relative advantage perceived enjoyment, attitude toward using NSW, and demographics were not included in this research. As this research was cross-sectional, data was collected at one specific time point. Furthermore, the hypotheses were tested using quantitative research approach, but the qualitative approach techniques such as in-depth interview or focus group were excluded from the research. Consequently, there are more opportunities for future research. First of all, further studies are advised to replicate the research in other industries, besides import-export and logistics industry, where the environments are different, and take these limitations into further consideration. It is also recommended that additional follow-up experimental and mixed-methods research be conducted in this area of study. There should also be a study related to any other aspects from organizational perspective, including employee commitment, employee performance, and employee citizenship behavior in the import-export and logistics industry. In addition, further studies could concentrate on cross-cultural comparisons regarding factors influencing intention to use a specific technology or system through perceived ease of use and perceived usefulness from other countries or regions.

CONCLUSION

The research results indicated a comprehensive understanding of the factors influencing technology acceptance. Users who are exposed to and have experience with technology tend to find it more usable and valuable. Organizational support also plays a crucial role, emphasizing the importance of a supportive organizational environment in enhancing the perceived ease of use. The positive relationships among perceived ease of use, perceived usefulness, and intention highlight the interconnected nature of these factors in shaping users' attitudes and behavioral intentions toward technology adoption.

These findings have practical implications for organizations aiming to promote technology acceptance among their users. Strategies focusing on enhancing technology experience, providing organizational support, and emphasizing perceived ease of use and usefulness could contribute to increased user acceptance and intention to use the technology.

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CONFLICTS OF INTEREST

The author declares that there are no conflicts of interest found in this research.

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