How ICT adoption can help enhancing business performance in law firm

Thada Boonthipjumpa

5817192007

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Author	:	Thada Boonthipjumpa
ID	:	5817192007
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(Dr. TeerachotePongtaveewould)

Advisor

Date........12 June 2019.................

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(Assoc. Prof. Dr. JomphongMongkolvanich)

Dean, Graduate School of Business

Siam University, Bangkok, Thailand

Date........13 June 2019.................

Abstract

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Advisor:...

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This research aimed to investigate how ICT adoption can help enhancing business performance in law firm. There were two objectives in this study which were; 1) to examine factors influencing ICT adoption in the firm using Technology Acceptance Model (TAM), and 2) to explore the impact of ICT adoption on business performance.

This study was focused on lawyers that were working in firms based in Thailand. It was a quantitative study (n=398), focusing on how lawyers in Thailand may use ICT to improve their own performance in their profession along with improving the accessibility of the law for members of the public as well. The data was collected using a questionnaire survey. The data collected was then analyzed using descriptive statistics and regression analysis.

The result indicated that ICT adoption increases business performance in law firms by an interplay of the factors perceived usefulness, perceived ease of use, behavioral attitude, behavioral intention, and actual system use. The study linked these factors with business

Performance of the firm. Although quantitative methods are typically unsuited to answering questions such as how, the reviewed literature was used to infer how these factors work to produce synergistic effects. Thus, ICT adoption enhance business performance in law firms through improving response times, communication and interactions with customers, issue tracking , billing and cash flows , and reducing workload by automating menial and repetitive tasks.

Keywords: Information and communication technology , Technology acceptance model , Business performance.
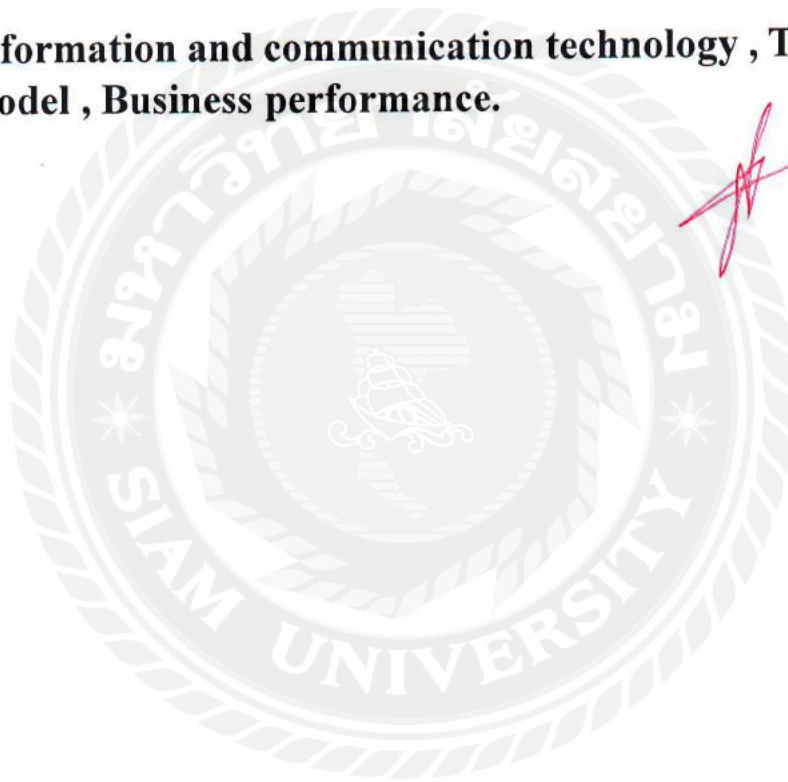
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In this section, I would like to express my gratitude to Dr.Teerachote Pongtaveewould, who is my advisor and Dr.Jomphong Mongkolvanich who is the Dean of Graduate School of Business, Siam University, Bangkok, Thailand for their thoughtful and caring supervision by means of their educational excellence. I am most grateful to them especially for their deep understanding of the Independent Study and their good communications skills.

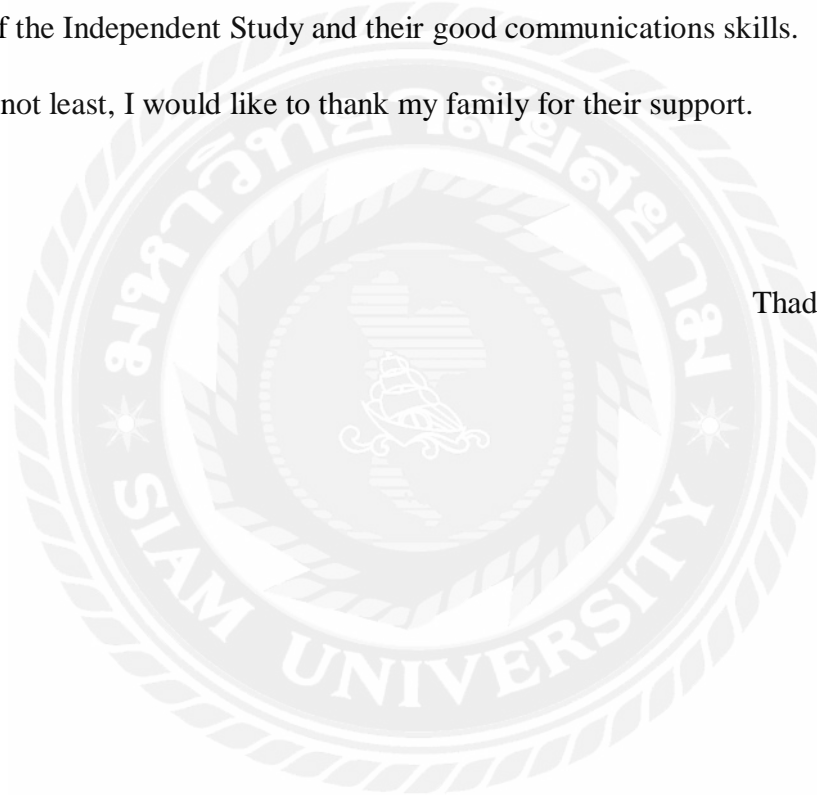Last but not least, I would like to thank my family for their support.

Thada Boonthipjumpa

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CHAPTER 1: INTRODUCTION

BACKGROUND AND RATIONALE

Information and communication technology are collectively known as 'ICT' is basically the setup and its moving parts that enable modern day computing. Even though there is no single definitive definition of ICT, it helps to say that ICT is basically every device, tool of networking, application and structure that collectively allow individuals and businesses to have interactions in the digital universe (Dery, 2016). ICT contains many different components, such as internet access, cloud computing, hardware, software, data, transactions and communications technology. For more than 10 years, Thailand's government has considered the use of ICT acts to enable trade and industry and improve the development of the population encouraging an increase in competition between domestic businesses. Establishing the National Information Technology Committee in 2002 was a big step to promote the culture of the ICT in Thailand (Winley, 2012). In Thailand by 1994, all government-run universities had become online in nature and internet providers started to operate in 1995 (Prammanee, 2003). With respect to the use of ICT by law firms in Thailand, it can be stated that law firms in Thailand can turn regular processes such as drafting, filing, court processes and so forth into easy tasks with the aid of ICT in relation to computer software. Clients can even pay for legal services via electronic banking systems which are present due to ICT. Lawyers can also further their own education and conduct research in regards to the case they have online by the virtue of ICT. ICT has enabled many firms to go paperless in their work, using only electronic means to carry out their work. (Du Plessis, 2008) Furthermore, electronic legal publishing can be used by Thai lawyers to publish decisions of courts online so that there is an easy access to that information to the general public Lawyers that are skilled in their profession

but are skilled in regards to the use of ICT can still use the astounding number of computer apparatuses to improve their skills in research and making their argument's more logical.

RESEARCH AIM AND OBJECTIVES

The aim of this study is to investigate how ICT adoption can help enhancing business performance in law firm. There are 2 objectives in this study which are;

1. To examine factors influencing ICT adoption in the firm using Technology Acceptance Model (TAM)
2. To explore the impact of ICT adoption on business performance

SCOPE OF THE STUDY

The scope of this study is focused on lawyers that are working in firms based in Thailand. It is a quantitative study, focusing on how lawyers in Thailand may use ICT to improve their own performance in their profession along with improving the accessibility of the law for members of the public as well. This study also explains the different uses ICT may have in the world and specifically Thailand as well, explaining just how ICT has had a major impact on day to day tasks, businesses and otherworldly affairs. For lawyers, according to (Schnell, 2004), when the first computer was installed in a law office, the law was subjected to an insightful change. For the first time, lawyers had a way to manage and store the plethora of information that they had to deal with every day.

SIGNIFICANCE OF THE STUDY

There are many benefits of using ICT in all aspects of life such as education, business, law and so forth. ICT is seen as a serious tool used to build knowledge-based societies (Sangra, 2016). For academic purposes, the use of ICT is seen as vital in improving the quality of education which is provided to students. Alongside the fact that by using ICT students are more interactive in nature, will retain more knowledge and technology can also help in developing important practical skills, such as the ability to create presentations, write emails, prepare documents, these are all the important skills. For practical use in regards to business, it can be said that business processes can be subjected to automation and employees may be given ICT related tools, through this, a business owner can improve his manufacturing productivity along with an improved performance financially as ICT tools help to reduce costs in business (Linton, 2018). And with respect to law, tasks such as drafting, filing, receipt issuing to clients can also be done through ICT. Clients can now make payments for legal services by using electronic banking systems, thanks to ICT. It is safe to say that the use of ICT has been beneficial for the world and will continue to be.

CHAPTER 2: THEORIES AND RELATED RESEARCH

This chapter provides a review of the literature on ICT adoption. It begins with an introduction to the TAM, which is the theoretical framework for this study, along with a brief description of ICT and its benefits for law firms. This is followed by an in-depth review of prior studies that have found relationships among the perceived ease of use (PEoU) of an ICT, its perceived usefulness (PU), attitudes toward using it (AU), behavioral intentions to use it (BI), actual system use (ASU), and business performance (BP). This review includes studies that have been conducted with employees in various industries because there has been very little TAM research focusing on law firms. A brief overview of the conceptual model for this study is provided after the research review, followed by a chapter summary.

THEORIES

The Technology Acceptance Model (TAM)

The TAM (Figure 1) specifies a number of relationships among technology acceptance variables. First, it proposes that PEoU affects PU, as the easier a system is to use, the more useful potential adopters will perceive it to be (Venkatesh & Davis, 2000). The original model also predicts that both PEoU and PU will directly influence attitudes, which in turn influence intentions, and proposes that PU directly affects intentions as well (Legris, Ingham, & Collerette, 2003). The final relationship specified by the TAM is that BI will predict ASU, and this relationship has been confirmed by prior research (Kijsanayotin, Pannarunothai, & Speedie, 2009; Venkatesh & Davis, 2000). The TAM has proven effective for predicting technology-related intentions and usage, explaining approximately 40% of the variance in both outcomes, on average (Venkatesh & Davis, 2000). The findings of a research review (Chen, Li, & Li, 2011) and a meta-analysis (King & He,

2006) of TAM studies indicate that the model provides a valid, reliable means of examining predictive factors for ICT adoption.
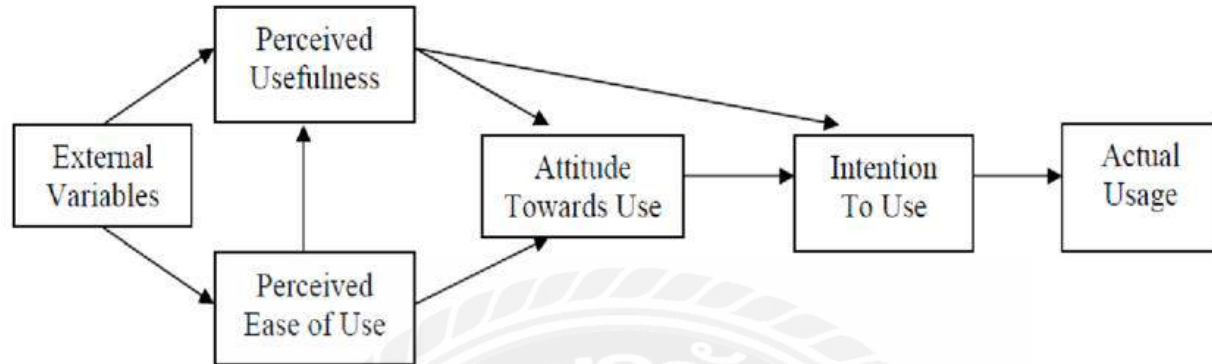

Figure 1. The original TAM model (Legris et al., 2003)

The TAM has been used in many studies of ICT adoption in workplace settings (Amoako-Gyampah & Salam, 2004; Chen, Yang, Tang, Huang, & Yu, 2006; Cho & Cheung, 2003; Gamal Aboelmaged, 2009; Huh, Kim, & Law, 2008; Kijsanayotin et al., 2009; Legris et al., 2003; Pai and Huang, 2011; Teo, Lee, Chang, & Wong, 2009; Venkatesh & Davis, 2000; Wu, Shen, Lin, Greenes, & Bates, 2008; Zain, Rose, Abdullah, & Masrom, 2005). However, researchers have often used modified versions, either extending the model to add additional components or leaving out components such as attitudes or intentions, or they have used intentions as the final outcome variable rather than behaviors, likely due to the challenges inherent in measuring ASU, though some researchers have done so with observations (Venkatesh & Davis, 2000) or by recording hours of system use (Zain et al., 2005).

PU is typically measured by asking respondents whether the technology increases their productivity, job performance, and effectiveness as well as how useful they find it in general, and PEoU is usually measured with questions about ease of operation and getting the ICT to do what

the user wants it to do, whether it is rigid and inflexible (a negative indicator of PEoU), and whether the technology is easy and enjoyable to use (Legris et al., 2003). Measures of attitude include perceptions of the technology as pleasant to work with, a wise choice, generally good, suitable to the job, and satisfying (Davis, Bagozzi, & Warshaw, 1992).

The TAM is suitable for this study because it has good predictive value for technology-related intentions and behaviors (Chen et al., 2011; King & He, 2006; Venkatesh & Davis, 2000). There are established instruments for measuring TAM variables that have been tested for validity and reliability by other researchers, and the variables can be assessed using self-administered questionnaires for easy data collection and analysis. TAM questionnaires produce scores for the ICT adoption variables, so they facilitate the quantitative analysis required to determine whether technology adoption predictors have statistically significant effects on ICT-related intentions and behaviors.

Information and Communication Technology (ICT)

ICT encompasses a variety of devices and systems, including computers, mobile/wireless gadgets, networks, and technology-enabled support systems that facilitate information access, processing, and management as well as communication and international business activities (Zuppo, 2012). ICT provides many benefits for law firms, including quick access to good information (which improves efficiency and productivity), the ability to respond more quickly to client requests (thereby increasing customer satisfaction), enhanced information security, better records management, and reduced operational costs (Du Plessis, 2011), all of which may contribute to improved business performance.

A survey of legal professionals in South Africa found `that common uses for ICT in law firms include intranets, email management systems, billing systems, research archive databases, records management systems, case management systems, and online legal services systems that use artificial intelligence (Du Plessis, 2011). Despite the benefits these systems can bring, there is evidence that ICT adoption varies from one law firm to the next. Gottschalk and Khandelwal (2004), who examined the use of knowledge management ICT in Norwegian law firms, found that although nearly half had reached the final adoption stage in which they were using ICT to solve problems, approximately one-fourth were at the initial adoption stage, the point at which TAM factors are likely to play an important role in technology acceptance. Norway is further along in its transformation to a digital economy than Thailand, so it is likely that a higher proportion of Thai law firms are at the initial ICT adoption stage.

RELATED RESEARCH

Six TAM hypotheses will be tested for this research. The first predicts that that PEoU will influence PU, as prior studies of ICT implementation in organizational contexts provide support for this proposition. Gamal Aboelmaged (2009), who examined e-procurement adoption by various organizations in the United Arab Emirates (UAE), found that PEoU explained 31% of the variance in PU. Huh et al. (2008) also found that PEoU contributed to the PU of hotel information systems for hospitality employees, and further evidence for PU effects on PEoU comes from the research of Teo et al. (2009), who examined the factors that contribute to ICT adoption intentions among preservice teachers in Malaysia and Singapore. Only one study focusing on legal services was identified during the literature search: Cho and Cheung (2003) found that PEoU positively influenced the PU of online legal services. However, this research examined customer adoption of

online services rather than the use of ICT systems by employees in law firms. Additional support for the relationship between PEoU and PU in workplace contexts comes from TAM studies conducted in other industries (Amoako-Gyampah & Salam, 2004; Pai & Huang, 2011; Venkatesh & Davis, 2000; Wu et al., 2008). Given the evidence for PEoU effects on PU, the first hypothesis proposes that there will be a positive relationship between these two variables in Thai law firms:

H1: PEoU positively influences PU.

The original TAM also proposes that PU directly influences AU, and this supposition has empirical support from past studies as well. Hu et al. (2008) found that PU influenced attitudes toward new technological systems in hotels, and Gamal Aboelmaged (2009) found that PU influenced user attitudes toward e-procurement (PU and PEoU collectively explained 68% of the variance in attitudes in this study). Chen et al. (2006) also found that PU contributed to public health nurses' attitudes toward using web-based learning systems, and Amoako-Gyampah and Salam (2004) demonstrated that PU predicts workplace attitudes toward enterprise resource systems (ERPs). In addition, Teo et al. (2009) found that PU contributed to educators' attitudes toward new ICT, and Cho and Cheung (2003) found that PU was a factor in customer attitudes toward online legal services. Given the evidence for a positive relationship between perceived usefulness and attitudes toward ICT, the second hypotheses proposes that PU will predict AU in Thailand-based law firms:

H2: PU positively influences AU.

According to the TAM, there should also be a positive relationship between PEoU and AU, and studies of organizations representing a wide range of industries provide support for this proposition (Chen et al., 2006; Gamal Aboelmaged, 2009; Hu et al., 2008; Teo et al., 2009; Zain et al., 2005). Thus, it can be predicted that the PEoU of new ICT will also have a direct effect on AU for legal professionals in Thailand:

H3: PEoU positively influences AU.

Attitudes predict intentions in the TAM, and this relationship has been verified in a number of ICT adoption studies as well. Gamal Aboelmaged (2009) found that AU influenced BI with regard to e-procurement. However, this research examined the influence of attitudes in conjunction with two Theory of Planned Behavior (TPB) variables, subjective norms and perceived behavioral control, finding that the three variables collectively explained 62% of the variance in intentions (the individual contribution of AU to BI was not specified). Other researchers have found that AU influences BI for hotel information systems (Huh et al., 2009), educational ICT (Teo et al., 2009), healthcare information systems (Pai & Huang, 2011), ERPs (Amoako-Gyampah & Salam, 2004), and online legal services (Cho & Cheung, 2003). Teo et al. (2009) found national differences in the degree to which TAM factors such as AU influenced intentions to use educational ICT, which suggests that culture plays a role in technology adoption, possibly moderating relationships among the TAM variables. Given the evidence for a positive relationship between attitudes and intentions, the fourth hypothesis proposes that AU toward ICT will directly contribute to the BI of Thai legal professionals:

H4: AU positively influences BI.

Intentions predict behaviors within the TAM, but fewer researchers have examined ICT-related behavioral outcomes, given the challenges of assessing actual behaviors rather than simply recording intentions. However, there is some evidence that intentions predict technology-related behaviors. Venkatesh and Davis (2000), who conducted multiple studies to assess the predictive value of an extended TAM, found that BI was a strong (though imperfect) predictor of ASU. Also, in one of the few studies examining ICT adoption in a Thailand-based workplace, Kijsanayotin et al. (2009) found that intentions predicted the actual use of ICT systems by community healthcare workers. This study used a modified TAM with additional predictor variables, including social influence, facilitating conditions, and experience, and did not include attitudes, instead finding a direct influence for PU and PEoU on intentions. Given the evidence that BI predicts ASU, the fifth hypothesis proposes that intentions will correlate with actual ICT system use in Thai law firms:

H5: BI positively influences ASU.

The conceptual model for this research incorporates an additional outcome variable not included in the TAM, BP, as there is evidence that ICT adoption can improve performance. Sircar, Turnbow, and Bordoloi (2000), who examined relationships among different types of business investments and outcomes for 624 firms, found that ICT had a strong, positive relationship with a variety of BP indicators, including equity, assets, and sales. Also, Consoli (2012), who conducted a review of ICT effects on businesses, found that BP could be enhanced by ICT in a number of areas, including efficiency, effectiveness, productivity, sales, strategic growth, product and service

development, and customer satisfaction. Further evidence for the effect of ASU on BP comes from other research showing that business performance improves in response to ICT investment; in these studies, BP was assessed with indicators such as sales and assets (Euripidis & Konstantinos, 2008) or general productivity (Cardona, Kretschmer, Strobel, 2013). Mihalic and Buhalis (2013), who examined the impacts of ICT on hotel performance, found that while ICT adoption did not directly increase profitability, it had indirect positive impacts on revenues by improving hotels' competitiveness through enhanced image, quality, or differentiation. In addition, Cardona et al. (2013), who conducted a review of research examining ICT effects on business performance, found that increasing ICT investment by 10% triggered average growth of 0.6%, and that the effect of ICT on business growth had increased over time. Because there is evidence that ICT adoption contributes to business performance, the final hypothesis proposes that the use of ICT systems will correlate with enhanced BP for Thai law firms, as indicted by outcomes such as revenues and productivity:

H6: ASU positively influences BP.

Table 1 provides a summary of research on ICT adoption and BP in various workplace contexts. Although there was only one TAM study of law firms identified during the literature search, and this research focused on users of online legal services rather than legal professionals (Cho & Cheung, 2003), studies of technology adoption in other types of organizations provide insights into the factors that contribute to ICT technology use and the degree to which it can improve BP.

Table 1

Studies of ICT adoption in workplaces

Researchers	Purpose	Method	Findings
Sircar et al. (2000)	Determine the effects of different types of ICT and corporate investments on BP	Analysis of data from the International Data Corporation, Standard & Poor's Compustat, and Moody's representing 624 firms	ICT and corporate investment predicted BP indicators such as equity, assets, and sales (but not net income).
Venkatesh and Davis (2000)	Test the predictive value of an expanded version of the TAM for technology-related intentions and behaviors	Multiple longitudinal field studies of manufacturing and financial services organizations	PEoU influenced PU, PU and PEoU influenced BI directly, and BI predicted ASU; AU was not included in these studies.
Cho and Cheung (2003)	Investigate the factors that influence customer intentions to use online legal services	Survey of potential users of online legal services	PEoU influenced PU, PU influenced BI both directly and indirectly via AU, and AU and trust contributed to BI.
Amoako-Gyampah and Salam (2004)	Identify the factors that contribute to intentions to use enterprise resource systems (ERP)	Survey of 1,562 employees working for a large organization with departments throughout the U.S.	PEoU positively influenced PU, PU contributed to AU, AU predicted BI, and facilitating conditions contributed to PU and PEoU.

Researchers	Purpose	Method	Findings
Zain et al. (2005)	Determine the factors that contribute to ICT system use and organizational agility in the manufacturing industry	Survey of managers and executives in Malaysian manufacturing firms, supplemented with recordings of ICT system usage time	PEoU contributed to AU; PU contributed directly to ASU (BI was not included in this study); AU, ASU, support, and job and system characteristics also contributed to ASU; and information quality contributed to agility.
Chen et al. (2006)	Identify the factors that contribute to public health nurses' intentions to use web-based learning systems	Survey of public health nurses at various health centers throughout Taiwan	PEoU and PU both influenced attitudes, PU also influenced BI directly, and AU had no effect on BI; additional variables within an expanded TAM model contributed to PEoU and PU as well.
Euripidis and Konstantinos (2008)	Examine the effects of ICT and non-ICT investment on BP, and assess the intervening role of business process reengineering (BPR)	Survey of representatives from various companies	ICT investment affects business performance both directly and indirectly via BPR; non-ICT investment affects performance directly.
Wu et al. (2008)	Determine which factors influence the intentions of medical staff to use an adverse event reporting system	Survey of medical personnel	PEoU contributed to PU; PEoU and PU contributed directly to BI (AU was not examined in this study).

Researchers	Purpose	Method	Findings
Gamal Aboelmaged (2009)	Identify the factors that contribute to e-procurement adoption	Survey of managers and officers representing various organizations in the UAE	All relationships specified in the TAM were confirmed except for ASU, which was not included in the analysis.
Huh et al. (2009)	Investigate the factors that influence employees' intentions to use hotel information systems	Survey of employees at 13 hotels	All relationships specified in the TAM were confirmed except for BI's effect on ASU, as the researchers did not assess actual behaviors.
Kijsanayotin et al. (2009)	Determine which factors influence healthcare ICT use by community healthcare center staff	Survey of healthcare center staff	PU and PEoU influenced intentions directly (AU was not included in the study); BI predicted actual system use.
Teo et al. (2009)	Investigate the factors that encourage preservice teachers to use educational ICT	Survey of preservice teachers in Singapore and Malaysia	All relationships specified in the TAM were confirmed except for ASU, which was not included in the analysis; the degree to which TAM factors influenced intentions differed between the two nations, suggesting a cultural effect.

Researchers	Purpose	Method	Findings
Pai and Huang (2011)	Examine the factors that influence nurses' intentions to use healthcare information systems	Survey of nurses at various hospitals	Quality of information, service, and system characteristics contribute to PU and PEoU, which in turn influence BI (AU was not included in this study); PEoU also influenced PU.
Consoli (2012)	Investigate ICT benefits for businesses	Research review	ICT brings many benefits, including performance enhancements such as increased sales, productivity, efficiency, effectiveness, and growth.
Cardona et al. (2013)	Examine the effects of ICT on BP, as indicated by productivity	Research review	Most studies have found that ICT has significant, positive effects on productivity.
Mihalic and Buhalis (2013)	Assess the impacts of ICT implementation on hotel performance	Survey of hotel managers, supplemented with tourism data	ICT does not influence profitability directly, but it increases revenues indirectly by enhancing hotels' competitive positioning with better quality, image, and differentiation.

CONCEPTUAL FRAMEWORK

The conceptual framework for this research (Figure 2) is an extended version of the TAM. This model retains most of the original TAM relationships for which there is substantial empirical support but adds an additional outcome variable: business performance. The first relationship proposed by the model is a PEoU effect on PU, as research has shown that ease of use contributes to the perceived usefulness of ICT (Amoako-Gyampah & Salam, 2004; Cho & Cheung, 2003; Pai & Huang, 2011; Teo et al., 2009; Venkatesh & Davis, 2000; Wu et al., 2008). The second proposed relationship is between PU and AU, as other researchers have found that the perceived usefulness of a new ICT contributes to user attitudes toward the technology (Amoako-Gyampah & Salam, 2004; Chen et al., 2006; Cho & Cheung, 2003; Gamal Aboelmaged, 2009; Hu et al., 2008; Teo et al., 2009). The third proposed relationship is a PEoU effect on attitudes, as past research has also demonstrated that ease of use contributes to user attitudes (Gamal Aboelmaged, 2009; Chen et al., 2006; Hu et al., 2008; Teo et al., 2009; Zain et al., 2005). The fourth proposed relationship is an AU effect on BI, given the evidence linking attitudes and intentions toward ICT (Cho & Cheung, 2003; Gamal Aboelmaged, 2009; Huh et al., 2009; Pai & Huang, 2011; Teo et al., 2009). Like the original TAM, the model also proposes that BI will predict actual system use, a relationship that has been verified by past research as well (Kijsanayotin et al., 2009; Venkatesh & Davis, 2000). However, the model incorporates an additional outcome beyond actual system use, proposing an ASU effect on BP, based on past research linking ICT adoption and performance benefits (Bordoloi, 2015; Cardona et al., 2013; Consoli, 2012; Euripidis & Konstantinos, 2008; Mihalic & Buhalis, 2013).
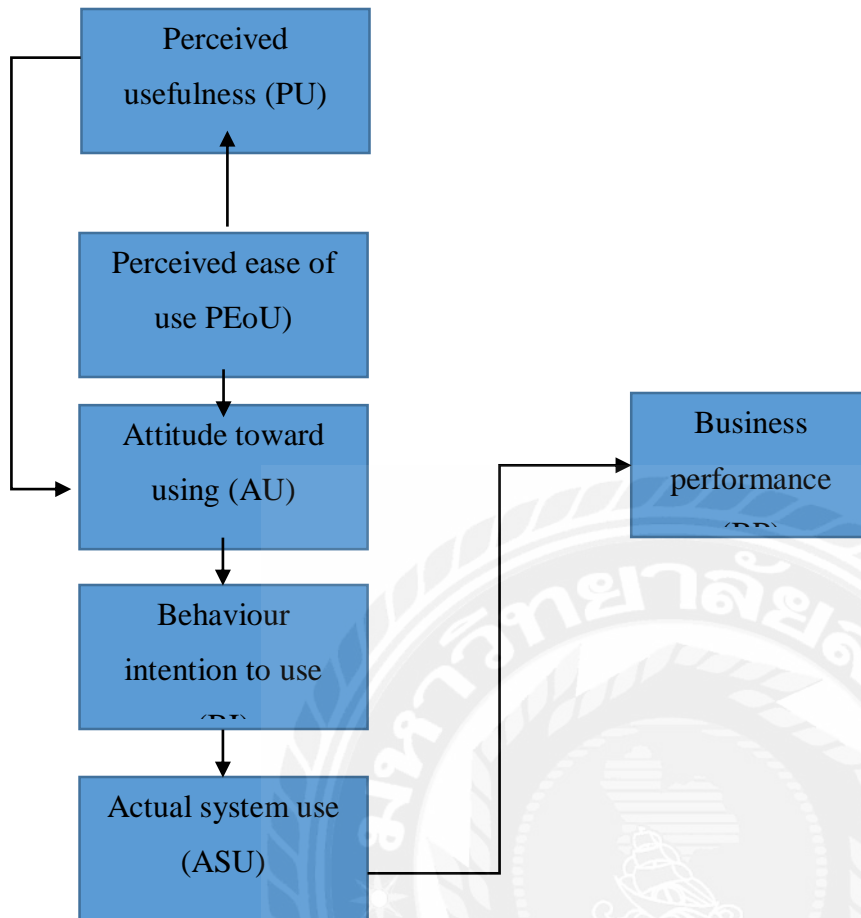
Figure 2. Conceptual Model

SUMMARY

ICTs can bring many benefits to law firms, including increased efficiency, productivity, information access, and other performance enhancements while reducing operational costs. However, the likelihood that staff will be willing to use new technologies depends on a number of factors, including whether or not they believe that the new ICT is useful and easy to use, as these beliefs affect attitudes toward the technology and, by extension, intentions to use it, which in turn predict actual system use.

The TAM provides a useful theoretical framework for examining interactions among PEoU, PU, AU, BI, and ASU, and there is a large body of empirical evidence attesting to the model's predictive value for ICT adoption. Past studies also provide evidence for a relationship between ICT implementation and improved business performance in various industries, as indicated by measurable outcomes such as increased productivity, sales, assets, or growth. However, very little TAM research has been conducted within the context of law firms thus far, and no researchers have examined ICT adoption by law firms in Thailand.

CHAPTER 3: METHODOLOGY

This chapter introduces the research methodology selected for the study and explains how the study was designed. The chapter begins with an overview of the research method and approach. It then explains the research sample and the sampling procedure and the data collection process. The design of the research instrument is discussed next. Finally, the data analysis procedure is discussed.

Research Method and Approach

This research used a quantitative, deductive research approach. Quantitative research uses collection of standardized data and statistical analysis techniques to answer questions about frequency of occurrences, relationships between different concepts or phenomena, or similar questions (Cooper & Schindler, 2013). The choice of quantitative research rather than qualitative research was made because the research questions are about the relationship between user attitudes and beliefs about ICTs, their use, and their effect on business performance. This type of question could not be answered adequately using qualitative research, since qualitative findings cannot be generalized (Cooper & Schindler, 2013).

Quantitative research typically employs a deductive logical approach, or in other words a theory-first approach (Trochim, Donnelly, & Arora, 2016). In a deductive approach, the researcher establishes expected findings (a theoretical framework) from the existing knowledge about the topic, and then makes observations to find out whether the theoretical framework applies to the situation (Trochim, et al., 2016). This approach was the most appropriate for the current study because the goal was to test an existing theory (the TAM) in a new context (Thai law firms), rather than to develop a new theory, which would be the goal of inductive research (Trochim, et al., 2016).

Sample and Sampling Procedure

The population of this research was lawyers working in Thai law firms. A good estimate of the size of this population was difficult to find because public statistics are not updated routinely. However, one estimate from 2008 indicated there were about 54,000 lawyers operating at the time (Munger, 2008). Since the population has grown since that time, this was taken as the minimum population size to estimate the required sample size. Using a standard estimation table for this

sample size, the minimum sample size for the study was 382 members (Krejcie & Morgan, 1970). The sample was selected via convenience sampling. Convenience sampling is a non-random method, but it is still used in quantitative research in situations where there is no way to select a random sample (for example if there is no list of the population or its characteristics are not known) (Krejcie & Morgan, 1970). To select the sample, the researcher contacted law firms using a standard law directory by mail, with an explanation letter for the study, consent form, and a paper survey and self-addressed envelope for return. All responses that were received within a period of one month were included in the study.

Data Collection

Data collection was conducted using a self-administered questionnaire. Self-administered questionnaires, which are standardized instruments that the research participant completes on their own, are a commonly used research instrument (Fowler, 2008). Although self-administered questionnaires do have disadvantages for some populations, such as lack of familiarity with questionnaires or potential difficulty in understanding the questions, this was not anticipated in this research because of the educational level of respondents. The self-administered questionnaire is also faster for both the respondent and the researcher. This was important for the researcher given the required sample size, but it was also important for the participants, who were expected to be busy and not want to spend more time than required. Data collection was conducted using mailed paper questionnaires, which helped the researcher to reach more law firms, including firms that may not make of Internet services and older lawyers.

Research Instrument

Because there are many studies that have been used to measure the variables in the questionnaire, the research instrument was designed using an adaptation approach (Fowler, 2008). In this approach, the researcher selects items and scales previously used in other contexts and adapts them as required for the existing context. While the instrument still needs to be tested for reliability and validity, this provides a theoretically founded source for measuring the variables (Fowler, 2008).

There were two sections in the questionnaire. Section 1 used categorical items to measure demographics and organizational characteristics of the respondents. Section 2 uses five-point Likert items to measure attitudes, intentions and actual use along with firm performance. Likert items were selected because these items are ideal for measuring attitudes and subjective

perceptions (Fowler, 2008). Because financial information for most firms is expected to be private, new items were developed to measure non-financial performance. Table 2 summarizes the items and their sources. Items were measured using a standard scale, including: 1) Strongly disagree; 2) Disagree; 3) Neutral; 4) Agree; and 5) Strongly agree (Fowler, 2008).

Table 1: Questionnaire variables

Variable	Items	Source
Perceived usefulness	PU1. Using the system improves my job performance. PU2. I find the system to be useful in my job. PU3. Using the system improves my effectiveness in my job.	Venkatesh and Davis (2000)
Perceived ease of use	PEOU1. My interaction with the system is clear and understandable. PEOU2. Interacting with the system does not require a lot of mental effort. PEOU3. I find the system easy to use.	Venkatesh and Davis (2000)
Attitude	ATT1. Using the system is good. ATT2. Using the system is wise. ATT3. Using the system is beneficial. ATT4. Using the system is positive.	Davis (1985)
Behavioral intention to use	BI1. Assuming I have access to the system, I intend to use it. BI2. Given that I have access to the system, I predict I would use it. BI3. I am likely to use the system.	Venkatesh and Davis (2000)
Actual system use	SU1. I use the system regularly. SU2. I use the system when I need to. SU3. I have used the system.	Davis (1985)
Business performance	BP1. The firm meets its revenue goals. BP2. The firm meets its client requirements. BP3. The firm is growing.	

The questionnaire was test reliability using Cronbach Alpha. The result (Table 3) showed that all items are understandable and reliable (Cronbach Alpha score> 0.7) (Fowler, 2008).

Table 2: Reliability Result

Variable	Cronbach Alpha's scores
Perceived usefulness	0.826
Perceived ease of use	0.830
Attitude	0.917
Behavioral intention to use	0.871
Actual system use	0.835
Business performance	0.784

Data Analysis

Data analysis was conducted in SPSS Version 25. SPSS was chosen as the main analysis tool because it is a reliable, flexible and powerful analytical tool that offered all the required analysis techniques (McCormick & Salcedo, 2017). All variables were analyzed using descriptive statistics, including frequency distributions (for categorical variables) and mean and standard deviation (for Likert variables). This allowed for investigation of the distribution of variables, evaluation of trends, and examination of the characteristics of the sample. A combination of single and multiple linear regression was used to test the hypotheses. Linear regression was selected because it is a reliable approach for evaluating causal relationships between variables (McCormick & Salcedo, 2017). Single regression is used in hypotheses with a single predictor, while those with more than one predictor use multiple regression.

Summary

This chapter has explained that the study was conducted as a quantitative survey of lawyers working in Thai law firms. The sample was selected using convenience sampling. Data was collected a self-administered questionnaire, which was adapted for this study from previous research. Data was analyzed in SPSS, including descriptive statistics and a combination of single and multiple linear regression. The result of this research process is presented and interpreted in Chapter 4.

CHAPTER 4: RESULTS

This chapter is focused on discussing the empirical results of the study obtained from numerical analysis of collected data. The aim of this study was to investigate how ICT adoption can enhance business performance in law firms by examining the factors influencing ICT adoption via the Technology Acceptance Model and by exploring the impact of ICT adoption on business performance.

The first section of this chapter presents the demographic structure of the sample of respondents used in the study in terms of gender, age, education, and years of experience as a lawyer. The second section is dedicated to the analysis of descriptive results. These results are the answers to questions referring to, for example, the intention to use IT systems or the current degree of development of the firm. This discussion is followed by the hypothesis results in section 4.4, and then a discussion using extant literature to triangulate the findings.

4.1 Demographic Information

The demographic data for the sample used in this study is presented in full in the table below. Thus, the sample (total n = 398) contained 274 males (f = 274, p = 68.8%) and 124 females (f = 124, p = 31.2%). Since data about the distribution of the population of law firm employees who use IT services and are therefore suited to becoming respondents in this study is not known, it cannot be said if the gender skew of the sample is representative of the general population or it must be interpreted as a bias. However, it is known that survey participation have dropped over the past decade due to saturation of the public in response to marketing surveys (SIRUS. 2013). Prior to this drop, older females were more likely to answer than young males (Smith, 2008; SIRUS, 2013). This suggests that the present sample skew is not due to the natural gender influence on survey participation but to population characteristics, for example the perception of legal profession as a gendered occupation.

Most participants in the survey were young, ages 20 to 29 (f = 141, p = 35.4%) and 30 to 39 (f = 151, p = 37.9%) accounting for over 60% of respondents. Consequently, most respondents (f = 237, p = 59.5%) had an overall experience in working as a lawyer between 1 and 3 years. The least respondents had 50 to 59 years of age (f = 40, p = 10.1%) and respectively 60 and above (f = 25, p = 6.3%) despite an increasingly aged country population.

In terms of education, all respondents had tertiary education, which was to be expected from the study aim. Most had a master's degree (f= 201, p = 50.5%), or a bachelor's degree (f = 174, p = 43.7%). Only under 10% (f = 23, p = 5.8%) had postgraduate degrees.

Table 1: Demographic Information

Gender	Frequency (n = 398)	Percent
Male	274	68.8
Female	124	31.2
Age	**Frequency (n = 398)**	**Percent**
20 to 29 years	141	35.4
30 to 39 years	151	37.9
40 to 49 years	41	10.3
50 to 59 Years	40	10.1
60 and above	25	6.3
Education	**Frequency (n = 398)**	**Percent**
Bachelor Degree	174	43.7
Master Degree	201	50.5
Higher than Master Degree	23	5.8
Years of working as lawyer	**Frequency (n = 398)**	**Percent**
Less than a year	45	11.3
1 to 3 years	237	59.5
4 to 6 years	46	11.6
7 to 9 years	37	9.3
More than 9 years	33	8.3

4.2 Descriptive Results

The descriptive results of the study are outlined in the table below. The table includes the 19 questions used in the survey together with the means, standard deviations, and interpretations of the means. In addition, each question is associated with an abbreviation denoting the hypothesis that it was aimed to test. The variables in the survey were defined as perceived usefulness, perceived ease of use, attitude, behavioural intention to use, actual system use, and business performance, based on the technology acceptance model.

In general, descriptive results are useful for understanding the background of the survey in a way that is inaccessible in the aggregate approach. By observing the means and standard

deviations of each item, the readers can better understand how homogeneous the group was, if any of the items yielded unusual results, or infer the reasons behind certain correlation relationships (Leech, Barrett and Morgan, 2013).

Among all items, the lowest in-group heterogeneity scores as indicated by standard deviations were those on uncontroversial questions from the business performance category where assessment is possible based on numerical measures, such as firm fulfilment of revenue goals (M = 3.86, SD = .62451) and client requirements (M = 3.95, SD = .65070). While agreement with the statements was moderate, their standard deviations were the absolute lower ones. Firm growth question in item 19 had significantly higher SD = .73862 showing in-group disagreement with regards to the answer, possibly due to the absence of growth measurements from law firms, in general, as performance indicators.

The 3 items measuring perceived usefulness had moderate agreement and averagely high standard deviations showing some in-group heterogeneity. The items enquired whether the system is useful (M = 3.95, SD = .75948), improves job performance (M = 3.96, SD = .79715), and on the job effectiveness (M = 3.93, SD = .76495). Thus, the perceived usefulness was measured with respect to an actual system and results depend on actual system quality. However, the correlations between items are not depending on contextual factors, being absolute.

Perceived ease of use was found as being similar with perceived usefulness in mean magnitude. However, the system interaction item (M = 3.94, SD = .78806) had higher heterogeneity than mental effort (M = 3.85, SD = .69480) or system ease of use (M = 3.97, SD = .68594). Thus, users agreed that the system is moderately easy to use but some of them understood how to use better than others.

Attitude items had highest in-group answer heterogeneity, with wisdom of system usage gathering high agreement but also high standard deviation (M = 4.11, SD = .81722). In general, users agreed that it is good to use the system (M = 3.72, SD = .75457) and that system usage has benefits (M = 4.01, SD = .66575).

The items evaluating behavioural intention towards the system had a relatively narrow spread of data points. Usage intention was average (M = 3.98, SD = .69876) and likeliness of usage was high (M = 4.09, SD = .69529). When asked whether they predict they will use the system

assuming that they have access to it, respondents agreed moderately to high (M = 3.95, SD = .70799).

Table 2: Descriptive Results

Statement	Mean	Std. Deviation	Interpretation of mean
PU1. Using the system improves my job performance.	3.95	.75948	Agree
PU2. I find the system to be useful in my job.	3.96	.79715	Agree
PU3. Using the system improves my effectiveness in my job.	3.93	.76495	Agree
PEOU1. My interaction with the system is clear and understandable.	3.94	.78806	Agree
PEOU2. Interacting with the system does not require a lot of mental effort.	3.85	.69480	Agree
PEOU3. I find the system easy to use.	3.97	.68594	Agree
ATT1. Using the system is good.	3.72	.75457	Agree
ATT2. Using the system is wise.	4.11	.81722	Agree
ATT3. Using the system is beneficial.	4.01	.66575	Agree
ATT4. Using the system is positive.	3.92	.66911	Agree
BI1. Assuming I have access to the system, I intend to use it.	3.98	.69876	Agree
BI2. Given that I have access to the system, I predict I would use it.	3.95	.70799	Agree
BI3. I am likely to use the system.	4.09	.69529	Agree
SU1. I use the system regularly.	4.13	.77055	Agree
SU2. I use the system when I need to.	3.88	.78552	Agree
SU3. I have used the system.	4.01	.67510	Agree
BP1. The firm meets its revenue goals.	3.86	.62451	Agree
BP2. The firm meets its client requirements.	3.95	.65070	Agree
BP3. The firm is growing.	3.92	.73862	Agree

4.3 Hypothesis Results

Six working hypotheses have been proposed for empirical testing within this study. All the hypotheses have been analysed using descriptive statistics, including frequency distributions of categorical variables and mean and standard deviation for Likert scale items, the latter having been introduced in the previous sections. A combination of single and multiple linear regression was used to test the hypotheses. Linear regression was selected because it is a reliable approach for evaluating causal relationships between variables (McCormick & Salcedo, 2017). Single regression is used in hypotheses with a single predictor, while those with multiple predictors used multiple regression. The significance level used to test all six hypotheses was $p < .001$. The results of the tests are presented below as tables that include the significance of the model, the regression slopes, and the goodness of fit for all variables. As the findings show, the null hypothesis has been rejected for all six hypotheses, which have reached the selected significance threshold.

Hypothesis 1 stated that: Perceived ease of use positively influences perceived usefulness.

The results of hypothesis testing for H1 are shown in Tables 6. The hypothesis was significant ($F = 1200.963$, $p < .001$). The variable PEoU was found to have relatively high predictive power, with adj. $R^2 = .751$. This value indicates that 75.1% of the observed variance in perceived usefulness is correlated with the perceived ease of use.

The correlation of the two factors can be described by the slope equation below:

$$Y_{PU} = .974X_{PEOU} + .129$$

The model significance and predictive power confirm that the perceived usefulness is influenced by perceived ease of use. Therefore, hypothesis 1 has been validated.

Table 3: Summary of H1

Independent variables	Dependent variable: PU			
	B	**Beta**	**t**	**Sig.**
PEOU	.974	.867	34.655	.000
P value= .000, R^2 = .752, Adjusted R^2 = .751, F= 1200.963, Constant = .129				

Hypothesis 2 stated that: Perceived usefulness positively influences attitude towards usage.

Hypothesis 3 stated that: Perceived ease of use positively influences attitude towards usage.

The two hypotheses H2 and H3 have been tested together as a multi variable model.

The results of hypothesis testing for H2 and H3 have been outlined below in Tables 7. Thus, the testing for both hypotheses has been found to yield significant results (F = 1122.888, p < .001) corresponding to a confidence level of 99% based on the assumption that the population represented by the sample of respondents is normally distributed.

The bivariate model composed of perceived usefulness and perceived ease of use was found to have relatively high to high predictive power due to the adj. R^2 = .850. This value indicates that 85% of the observed variance in behavioural attitude towards usage is correlated with the perceived usefulness and perceived ease of use.

The correlation of the three factors has been modelled through the linear slope equation below, using the correlation coefficients in the corresponding Table 11:

$$Y_{ATT} = .375X_{PU} + .539Z_{PU} + .350$$

The model significance corresponding to 99% confidence and high predictive power confirm that the perceived usefulness is influenced by perceived ease of use. Therefore, the null hypothesis has been rejected in both cases and the observed effect is not due to random chance.

Table 4: Summary of H2 and H3

Independent variables	Dependent variable: Attitude			
	B	**Beta**	**t**	**Sig.**
PU	.375	.418	10.704	.000
PEOU	.539	.536	13.706	.000
P value= .000, R^2 = .850, Adjusted R^2 = .850, F= 1122.888, Constant = .350				

Hypothesis 4 stated that: Behavioural attitude positively influences behavioural intention.

The results of hypothesis testing for H4 have been outlined below in Tables 12, 13, and 14. The hypothesis was significant (F = 690.477, p < .001) with a confidence level of 99%. The variable behavioural attitude was found to have robust predictive power, with adj. R^2 = .635. This value indicates that 63.5% of the observed variance in behavioural intention is explained by the behavioural attitude variable.

The correlation of the two factors can be modelled by the slope equation below:

$$Y_{BI} = .753X_{ATT} + 1.037$$

The model significance and predictive power confirm that the behavioural intention is influenced by behavioural attitude. Therefore, the null hypothesis for H4 has been rejected as the observed effect is not due to random chance.

Table 5: Summary of H4

Independent variables	Dependent variable: BI			
	B	Beta	t	Sig.
Attitude	.753	.797	26.277	.000
P value= .000, R^2 = .636, Adjusted R^2 = .635, F= 690.477, Constant = .350				

Hypothesis 5 stated that: Behavioural intention positively influences actual system use.

The results of hypothesis testing for H5 have been outlined below in Tables 9. The hypothesis was significant (F = 1035.611, p < .001) with a confidence level of 99%. The variable behavioural intention was found to have relatively high predictive power, with adj. R^2 = .723. This value indicates that 72.3% of the observed variance in behavioural intention is explained by the behavioural intention variable.

The correlation of the two variables can be modelled by the slope equation below:

$$Y_{ASU} = .903X_{BI} + .390$$

The model significance and predictive power confirm that the actual system use is influenced by behavioural intention. Therefore, the null hypothesis for H5 has been rejected as the observed effect is not due to random chance.

Table 6: Summary of H5

Independent variables	Dependent variable: ASU			
	B	Beta	t	Sig.
BI	.903	.851	32.181	.000
P value= .000, R^2 = .723, Adjusted R^2 = .723, F= 1035.611, Constant = .390				

Hypothesis 6 stated that: Actual system use positively influences business performance.

The results of hypothesis testing for H6 have been outlined below in Tables 10. The hypothesis was significant (F = 722.633, p < .001) with a confidence level of 99%. The variable behavioural intention was found to have robust predictive power, with adj. R^2 = .645. This value indicates that 64.5% of the observed variance in behavioural intention is explained by the actual system use variable.

The correlation of the two variables can be modelled by the slope equation below:

$$Y_{BP} = .918X_{ASU} + .416$$

The model significance and predictive power confirm that the business performance is influenced by actual system use actual system use. Therefore, the null hypothesis for H6 has been rejected as the observed effect is not due to random chance.

Table 7: Summary of H6

Independent variables	Dependent variable: BP			
	B	Beta	t	Sig.
ASU	.918	.804	26.882	.000
P value= .000, R^2 = .646, Adjusted R^2 = .645, F= 722.633, Constant = .416				

Table below summarizes hypotheses result in this research. It shows that all hypotheses (H1 to H6) are accepted.

Table 8: Summary of Hypotheses Result

Hypothesis	Result
H1: Perceived ease of use positively influences perceived usefulness.	Accepted
H2: Perceived usefulness positively influences attitude towards usage.	Accepted
H3: Perceived ease of use positively influences attitude towards usage.	Accepted
H4: Behavioural attitude positively influences behavioural intention.	Accepted
H5: Behavioural intention positively influences actual system use.	Accepted
H6: Actual system use positively influences business performance.	Accepted

4.4 Discussion

The results of descriptive statistics and regression outlined in the previous sections have helped outline answers addressing the aims and objectives of this study. Thus, the aim of the study was to investigate how ICT adoption can help enhancing business performance in law firms. This aim relied on two secondary objectives which were:

1. To examine factors influencing ICT adoption in the firm using Technology Acceptance Model (TAM)
2. To explore the impact of ICT adoption on business performance

In this section, the statistical results are compared with the extant literature reviewed in Chapter 2 using the method of triangulation to provide more complete answers to the research objectives and questions. The discussion in this section helps identify the remaining gaps in the current knowledge and the contributions made by this study.

4.4.1 How ICT adoption enhances business performance in law firms (main aim)

ICT adoption in business has been intensively studies in recent years, being considered a source of competitive advantage (Kushwaha, 2011). Most studies have been focused on the adoption and use of ICT in small and medium enterprises (Ghobakhloo et al, 2011) from the standpoint of determinants (Haller and Siedschlag, 2011; Alonso-Almeida and Llach, 2013) and consequences (Bayo-Moriones, Billón and Lera-López, 2013; Popa, Soto-Acosta and Perez-Gonzalez, 2018).

However, studies have also been performed in the hospitality industry (Sirirak, Islam and Ba Khang, 2011), services (Ifinedo, 2011; Ghobakhloo, Arias-Aranda and Benitez-Amado, 2011; Cardona, Kretschmer and Strobel, 2013; Abebe, 2014) and manufacturing (Kushwaha, 2011; Bayo-Moriones, Billón and Lera-López, 2013; Popa, Soto-Acosta and Perez-Gonzalez, 2018). Despite the relevance of ICT adoption in service companies that maintain high levels of interaction with clients, this topic has not been previously investigated for law firms. Although it was known that the business and operational performance of SME increase when ICT systems are used to streamline the work in customer facing interactions (Cardona, Kretschmer and Strobel, 2013; Popa, Soto-Acosta and Perez-Gonzalez, 2018), this has never been confirmed previously to this study. This study confirmed, through empirical testing of 6 working hypotheses, that the variables influencing and shaping the adoption and use of ICT systems in law firms are perceived usefulness, perceived ease of use, behavioural attitude, behavioural intention, and actual system use. Moreover, the study showed the link between these factors are business performance of the firm, as the constructs perceived performance and measured performance. Notably, quantitative methods are typically unsuited to answering questions such as *how*, these questions being addressed mostly by qualitative means (Marshall, 2006; Taylor, Bogdan and DeVault, 2015). However, the reviewed literature already suggests how these factors work to produce synergistic effects (Cardona, Kretschmer and Strobel, 2013). This study was necessary as an empirical test of this knowledge when applied to law firms specifically. Thus, ICT adoption enhance business performance in law firms through mechanisms similar to those found in other industries and in service firms, namely through improving response times, communication and interactions with customers, issue tracking, billing and cash flows, and reducing workload by automating menial and repetitive tasks (Sirirak, Islam and Ba Khang, 2011; Bayo-Moriones, Billón and Lera-López, 2013; Popa, Soto-Acosta and Perez-Gonzalez, 2018). Thus, the findings are consistent with the literature but extend it to a new case.

4.4.2 *Factors influencing ICT adoption in law firms using Technology Acceptance Model (objective 1)*

Although the technology acceptance model has been initially developed to explain the adoption of technological systems in corporate environments (Legris, Ingham and Collerette,2013; Awa, Ojiabo and Emecheta, 2015), in recent years the model has been used mainly to model consumer

behaviour regarding e.g. adoption of internet banking (Lule, Omwansa and Waema, 2012; Nasri and Charfeddine, 2012; Martins, Oliveira and Popovič, 2014), mobile internet (Xu, Thong and Tam, 2017), and other consumer technologies, focus motivated by a consumer market exploding in size. Despite the different applications of the theory, there is significant overlap in the determinants of ICT systems adoption regardless of the studied market segment. Thus, the variables that influence ICT adoption in law firms are perceived usefulness, perceived ease of use, behavioural attitude, behavioural intention, and actual system use. Perceived usefulness and perceived ease of use have been the first two determinants defined by the model authors (Venkatesh and Davis, 2000; Venkatesh and Bala, 2008) and have been confirmed by this study as being present in technology users in law firms. Although some behavioural factors have been found to vary over time as a result of shifting social norms, perceived usefulness and perceived ease of use have remained constant since the model was first proposed (Legris, Ingham and Collerette, 2013). The other factors included in this study were behavioural attitude, behavioural intention, and actual system use, which were part of the extended technology acceptance model extending the initial bivariate model (Davis, Bagozzi and Warshaw, 1989; Fathema, Ross and Witte, 2014; Fathema, Shannon and Ross, 2015). These factors have been empirically tested as part of user behaviour science but never in law firms specifically (Marangunić and Granić, 2015). Moreover, before this study, no research papers have explicitly linked these factors with business performance. Instead, studies so far have investigated either user behaviour by validating the TAM (Hsiao and Chen, 2015; Joo, Park and Lim, 2018) or have linked ICT adoption with business performance but have never before showed how TAM influences business performance in a continuous model.

4.4.3 *The impact of ICT adoption on business performance (objective 2)*

The final objective was to explore the impact of ICT adoption on business performance. Previous studies have found a significant improvement of business performance in all companies but especially SMEs upon adoption of IT systems (Kushwaha, 2011; Ghobakhloo et al, 2011; Cardona, Kretschmer and Strobel, 2013; Abebe, 2014; Popa, Soto-Acosta and Perez-Gonzalez, 2018). This finding was generally put to the ability of ICT systems to automate tasks that are considered unpleasant by human beings, e.g. repetitive tasks, and increase the ability to track open issues and customer interactions. This study confirms that the adoption of ICT systems increases

business performance as reported from two standpoints, namely perceived business performance and actual performance. These constructs are different (Dele, 2012; Real, Roldán and Leal, 2014) because certain aspects of business performance are intangible, or simply not included in the metrics, or perception is not fully correlated with actual performance. The questions in the survey used in this study differentiated between perceived and actual business performance by asking separately about financial performance (measurable) and business growth (partially intangible).

4.5 Summary

The aim of the study was to investigate how ICT adoption can help enhancing business performance in law firms. The secondary objectives were:

1. To examine factors influencing ICT adoption in the firm using Technology Acceptance Model (TAM)
2. To explore the impact of ICT adoption on business performance

This study confirmed, through empirical testing of 6 working hypotheses, that the variables influencing and shaping the adoption and use of ICT systems in law firms are perceived usefulness, perceived ease of use, behavioural attitude, behavioural intention, and actual system use. The study showed linked these factors with business performance of the firm. Although quantitative methods are typically unsuited to answering questions such as *how*, the reviewed literature was used to infer how these factors work to produce synergistic effects.

This study was necessary as an empirical test of this knowledge when applied to law firms specifically. Thus, ICT adoption enhance business performance in law firms through mechanisms similar to those found in other industries and in service firms, namely through improving response times, communication and interactions with customers, issue tracking, billing and cash flows, and reducing workload by automating menial and repetitive tasks. Therefore, the findings of this study are consistent with the literature but extend it to a previously unexplored case, showing that business performance is a function of behavioural factors and user perception mediated by ICT system adoption and subsequent usage.

CHAPTER5: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This research was conducted to investigate how ICT adoption can help enhancing business performance in law firms. This aim relied on two secondary objectives which were:

1. To examine factors influencing ICT adoption in the firm using Technology Acceptance Model (TAM)
2. To explore the impact of ICT adoption on business performance

The results of descriptive statistics and regression outlined in the previous sections have helped outline the answers addressing the aims and objectives of this study. The statistical results have been compared with the extant literature in the previous section 4.3, by using the method of triangulation to provide more complete answers to the research objectives and questions.

Six working hypotheses have been proposed for empirical testing and have been analysed using descriptive statistics, including frequency distributions of categorical variables and mean and standard deviation for Likert scale items. A combination of single and multiple linear regression was used to test the hypotheses. The significance level used to test all six hypotheses was $p < .001$. At this threshold, all hypotheses have been found significant with robust to high adjusted R squared values corresponding to effect sizes between 63% and 85%.

Research aim and objectives have been addressed in the discussion chapter in full. Thus, ICT adoption increases business performance in law firms by an interplay of the factors perceived usefulness, perceived ease of use, behavioural attitude, behavioural intention, and actual system use. The study linked these factors with business performance of the firm. Although quantitative methods are typically unsuited to answering questions such as *how*, the reviewed literature was used to infer how these factors work to produce synergistic effects. Thus, ICT adoption enhance business performance in law firms through improving response times, communication and interactions with customers, issue tracking, billing and cash flows, and reducing workload by automating menial and repetitive tasks.

5.2 Research Implications

A clear set of recommendations emerges for practitioners in law firms based on the findings of this study. These recommendations address to business owners or top managers but also to middle managers, who are the best placed managers to make behavioural interventions within their teams. Thus, since the adoption of ICT systems increases business performance in law firms, owners and top managers must keep in mind that they should find ways to leverage the capabilities offered by modern technology systems in order to streamline work, simplify processes and workflows, and improve customer communication and issue tracking. Importantly, it was found that actual system usage improves attitude towards system use and increases behavioural intention to use. This effect appears because ICT system users have a more relaxed attitude towards the systems in question as they learn to use them. For this reason, middle managers must slowly and patiently prepare their teams prior to adoption of new systems in order to create the psychological premises of adoption. Moreover, business owners must offer their employees training when a new system is adopted such that users can learn to use the system and leverage its capabilities. As they learn, the barriers to adoption, e.g. anxiety vis-à-vis of usage disappear and perceived ease of use increases, which also increases perceived usefulness. This is especially true to employees of law firms, which are typically educated in humanities and may have difficulties in learning to use ICT-intensive systems. To summarise, business owners must adopt ICT systems to improve efficiency and also to help their employees learn how to use them.

5.3 Research Limitations

The limitations of the study stem primarily from the sampling procedure. A good estimate of the size of the population of lawyers working in Thai law firms was difficult to find because public statistics are not updated routinely. An estimate from 2008 was used to determine a lower cut off value but this estimation did not contain population distribution data that would have allowed a probabilistic sampling procedure, therefore convenience sampling was used. For this reason, it is not clear whether the findings of the study can be perfectly extended to all members of the population. Another limitation is a logical one, namely that some law firms may offer employees poorer visibility over business performance, which may reduce the employees' understanding of the consequences of adoption of ICT systems, which may indirectly reduce

perceived usefulness. However, the study used a large sample, which suggests that the results should generalise well.

5.4 Recommendations for Future Research

Future research studies should focus more on testing the extended technology acceptance model to more industries, as the model was intended for use in corporate environments as opposed to consumer environments as it is mostly used by most studies today. This study has clearly shown that the extended TAM can be linked to essential aspects of corporate life such as business performance. Although the results of the hypothesis testing were robust, it is likely that more factors contribute to the overall link between technology acceptance and business performance. For example, it should be studied if the existence of metrics of business performance and the employee visibility over such metrics influences perceived usefulness. Moreover, future studies should ideally use random sampling procedures to verify whether the results can be fully replicated in such research settings. Another potential future application would be to test the same variables as a single multivariate model and compare the results with those obtained in the current study. It may be useful to verify whether there are significant size differences between the effect sizes thus obtained and possibly try to infer why that should be the case. Typically, this model is assumed to be linear but it may be interesting to see if any hints regarding nonlinearities may occur.

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