KNOWLEDGE STORAGE & RETRIEVAL TO ONLINE COP IN THAI CALL CENTER

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ABSTRACT

In the business world nowadays, service is also a key factor for business competition as it could lead to brand loyalty and repeated purchase. Thus, call center had been used as one of channels to manage relationship with customers (Timothy L. et al, 2006). Organizations also applied knowledge management to maintain and improve call center performances (Amit K., 2004). In order to reduce knowledge problems, Online Community of Practice (CoP) was applied as it was believed to be the most effective way (Jens G. & Thomas R., 2005). Online CoP was the interactive platform that allowed users to share knowledge with each other. Shared knowledge was recorded in the system for later retrieval (Donath et al., 1999; Erickson et al., 1999). However, how to successfully implement Online CoP, especially in Thai call centers, was not widely discussed. The conceptual framework for this thesis was adopted from the Theory of Reasoned Action (TRA), which assumed that Attitude towards Using Online CoP and Social Influence had positive association with Intention to Use Online CoP. Attitude towards Using Online CoP, in this research, consisted of Extrinsic Motivation, Intrinsic Motivation, Perceived Ease of Use, Perceived Usefulness, and Social Media. Social influence consisted of Upper Level and Colleague. Data collection was done through quantitative methodology by distributing questionnaire to 400 call center agents. Data analysis was done through Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). The result turned out that, with their components, Attitude towards Using Online CoP and Social Influence had positive association with Intention to Use Online CoP. This led to the theoretical implication that the proposed conceptual framework was the extension of Theory of Reasoned Action (TRA). For the managerial implication, it led to the conclusion that the management is the key to create the successful Online CoP and setting the direction and organization culture. Plus, the organization should develop the online CoP which is easy to use and able to retrieve the knowledge within a short time. Moreover, the organization should also use extrinsic motivation (rewards) to stimulate the use in short term and long term engagement.

KEY WORDS: Call Center, Knowledge Management, Online Community of Practice, Online CoP

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CHAPTER I
INTRODUCTION

1.1 Background of the Study

Being in the business competition nowadays is not easy. Producing or developing the products alone is not the only key success since competitors in the same industry could also produce the similar products with exactly the same or even better standard. As the result, many leading companies/ organizations pay attention to their customers as well. Therefore, in order to satisfy the customers and expand the business base, several strategies have been applied. One of these strategies that is widely used by many organizations is Call Center.

Call Center is the channel that allows customers to interact directly with the specific companies. It has the significant association with customers' perceptions toward the particular company. Mainly, Call Center was established in order to help or support their customers by fulfilling enquiries, requests or even solving problems. Call Center was first established in 1960s at Birmingham Press and Mail in United Kingdom, which, at that time, was known as "Private Automated Business Exchanges (PABX)". Commonly, Call Center does not only receive the inbound calls from customers. It also make interaction with them through outbound calls, which could be usefully applied with telemarketing as well.

As the technology has significantly been developed consistently during the last decade, it allows Call Center to work with more efficiency as customers' information, interactions or even their purchasing behaviors could been recorded in the system for further customer insight analysis. Originally, Call Center only interacts with customers via calls, but technology and innovation nowadays also allow them to interact with customers through more alternative channels such as email, website, and social media. Consequently, technology application in Call Center's operation could also be the key role in getting into deeper customer insight and offering better service quality when additional opportunities were provided (Walker and Craig-Lees, 1998).

Moreover, the benefit for operating Call Center is that customers would be able to contact the specific companies easily at any point of time. Customers do not have to waste their time travelling from their places to the customer service centers in order to fulfill their requests. They could just make calls and have their requests done on the phone instead (Lovelock, 1997). This benefit does not only reduce the cost of travelling from place to place for customers, but also reduces the cost of setting up the customer service center for the companies.

However, comparing to customer service centers, the service quality of Call Center was significantly lower (Bennington and Cummane, 1998). The reasons might be from the cultural factors, mobile phone technology, and internet access (ABS, 1998). The customers who used Call Center would be cautious with the time for getting their transactions done because they could not see the ongoing processes at the other side of the call. Regarding the responding time issue, Zeithaml and Bitner (1996) also provided 8 assumptions about different perceptions of waiting time:

1. Unoccupied time feels longer than occupied time
2. Pre-process waits feel longer than in-process waits
3. Anxiety makes waits seem longer
4. Uncertain waits are longer than known finite waits
5. Unexplained waits are longer than explained waits
6. Unfair waits are longer than equitable waits
7. The more valuable the service the longer the customer will wait
8. Waiting alone feels longer than when waiting with a group

Zeithaml and Bitner (1996) described that, without visual or other possible cues of what the other side is doing, customers were more likely to focus on the time they were waiting. Especially, when there were emotional factors like anger or anxiety, the expectation for fast responding would be stronger. This was the reason why responding time and the number of receiving calls are considered as the main KPI for every Call Center agents.

Apart from human capital management that is important for reducing waiting time, knowledge could also be considered as the crucial factor for this matter. Since customer would contact Call Center anytime they have questions, requests, or problems; Call Center agents must have sufficient knowledge to handle these cases. That means

they have to know the information of company's products, the processes of how things are done, or even the initial ways to solve the customer's problems by themselves, which would be impossible to do so unless the company applies and standardize the knowledge management flow.

According to the statement of Davenport (1994), Knowledge Management was the process of capturing, distributing, and using knowledge effectively. It was the management function that created and managed the knowledge flow to ensure that it was used effectively and efficiently and results in the long-term benefits of the organization (Darroch J., McNaughton R. 2002). That meant knowledge process would allow the company to manage employees' knowledge capital and distribute it throughout the organization. The main activities of knowledge management consist of 4 parts, which are knowledge creation, knowledge application, knowledge storage, and knowledge transfer/ sharing. These activities were driven through 3 main components, which are people, organization, and technology.

People are the ones who perform knowledge activities with each other in the specific communities/ organizations. They are the biggest challenges for all organizations to make them participate knowledge activities actively and effectively, which, in many cases, requires the change of traditional mindsets of individuals and organizational cultures. Processes includes the standardized ways for knowledge contribution, content management, knowledge retrieval, membership of Community of Practice, and best-practice and case studies documenting. These are significantly important for making successful knowledge management. Therefore, knowledge management needs to be as clear and simple as possible in order to make employees across the organization have the same understanding. Technology is the supporting key factor that facilitate and enable knowledge activities to be more effective and efficient. Organizations must choose the tools that fit right to their KM objectives as they should not distract the business intention and should be user-friendly and simple.
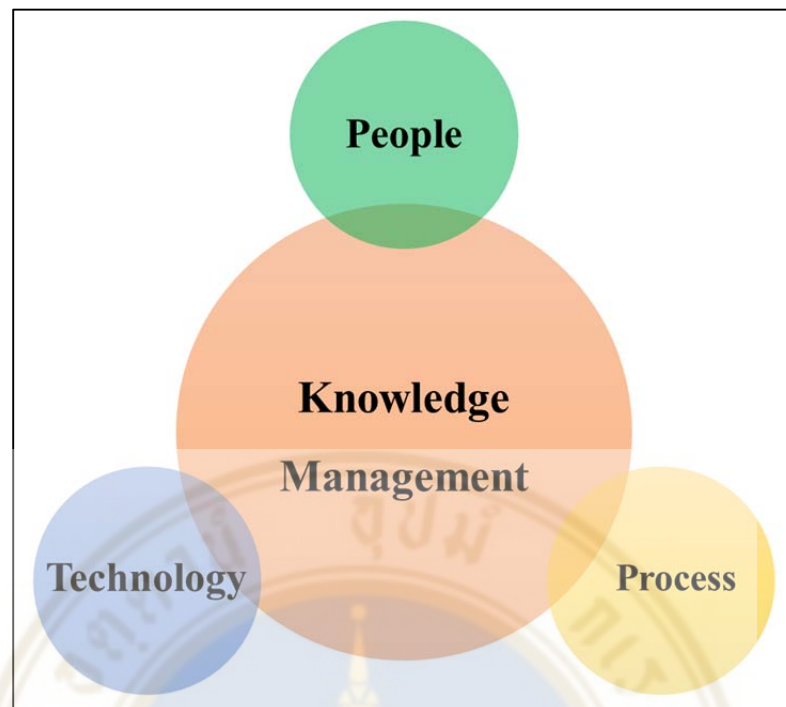
Figure 1.1   Components of Knowledge Management

As previously mentioned, with the support from technology, knowledge management provides several competitive advantages to the organizations, especially, in the era that new innovation is the important key success in the business competition. In the perspective of business world, knowledge management did not just the key that enabled knowledge to be shared or distributed throughout the organization, but it was also the significant key resource that was used to reduce the complexity in the process of creating new innovation that requires the availability and well management of knowledge (Adams and Lamont, 2003; Cardinal et al., 2001; Darroch and McNaughton, 2002; Pyka, 2002; Shani et al., 2003). More interestingly, Shani et al. (2003), however, stated that the availability and well management of knowledge did not reduce the complexity in creating new innovation. On the other hand, it provided the access and virtual understanding that allowed people or organizations to extensively add more complexity to the innovation design and development of the particular products or services. As the result, knowledge management and knowledge-intensive units were considered as the strategic key success in nature.

1.2 Research Problem

As Call Center plays the important role as the channel that allow customers to directly interact with the companies to fulfill the questions, requests or solve the problems within the limited time. Sufficient skills are required. One of the factors that could significantly help Call Center agents to complete one transaction timely is sufficient and accurate knowledge. However, there is not just a few products' information that agents need to use. In reality, Call Center agents need to acquire a lot of information in order to complete tons of transactions a day. Thus, it would be very difficult and not quite possible for them to remember everything about the company's products and services. As the result, knowledge management is used for solving this problem. According to Corso et al. (2009), many Call Centers applied knowledge management to their organizations to improve operation efficiency.

Initially, they established the knowledge portals or knowledge-bases in order to keep all necessary information about their products and services so that their agents could search and use it anytime. However, as information on the knowledge-bases increased from time to time, Call Center agents started to find it difficult to search for what they wanted on the portal since information was now overloaded. As the result, many organizations applied the new integrated solution, named Online Community of Practice. This solution was proven to solve information overload problem and, at the same time, encourage knowledge sharing in several Call Centers (Corso et al., 2009). Nevertheless, how they have successfully implemented online CoP and encouraged its members to use still has not been widely discussed.

1.3 Research Objectives

The intention of this thesis was to explore and find out how to successfully establish the online Community of Practice, especially, in Thai Call Center environment, where time and timely response were expected. Moreover, The researcher expected that the finding or result found from this research could usefully solve the knowledge overload problem in Call Center and, hence, enhance operation efficiency through better knowledge flow as a whole.

CHAPTER II
LITERATURE REVIEW

To understand the theoretical background in determining the most suitable knowledge management strategy that should be applied for Call Center operation, especially, in Thailand, these relevant literatures from many related fields would be presented in this chapter. The body of this chapter would mainly be the content regarding Call Center's work nature & conditions and knowledge management in Call Center context to find the most practical knowledge use in Call Center's operation:

1. Call Center's Work Nature & Conditions
2. Knowledge Storage and Retrieval
3. Online Community of Practice (CoP)

As I had previously mentioned in the problem statement, this thesis emphasized on how to practically manage all knowledge in Call Center operation effectively, because, even though currently there were many supporting tools, such as knowledge-based system, we could still find it possible for Call Center agents to provide the incorrect information or take long time to find the right one. This was because the knowledge they required in order to fulfill a thousand of cases was overloaded. Thereby, One-way communication of knowledge-based system alone did not seem to solve what they faced, Community of Practice (CoP) and Learning Organization were also necessary. However, to mainly focus on CoP did not mean the organization should ignore benefits from the use and strategy of knowledge storage and retrieval. Consequently, this thesis aimed to find the best way to make the successful knowledge flow for Call Center in Thailand by analyzing information gathered from related literatures plus both direct and indirect researches.

2.1 Call Center's Work Nature and Conditions

Call Center could be considered as the customer interaction channel. It was one sort of Customer Relationship Management or CRM, which could be traced back to the concept of Relationship Management or RM (Levitt, 1983). Relationship Management originally aimed to build up and maintain the relationship with the customers for mutual benefits of both side (Singer, 2002).

The importance of Call Center nowadays was significantly increasing in the business world as the business competition was not focusing only on the product itself, but also focusing on CRM (Keiningham et al., 2006). Call Center played the role to take care of any particular customers as the company's representative. Their direct responsibility was to fulfill all requests in both enquiries and complaints. That meant Call Center agents were required to contain a lot of knowledge related to the company's products and handling processes. To effectively do this, it was necessary for companies that directly owned their Call Centers to have supporting tools and strategies to help their agents maintain or improve the performance, which was related to customer satisfaction and company brand image (Walker and Craig-Lees, 1998).

In order to manage the knowledge in Call Center operation, the company needed to make sure that all agents had up-to-date knowledge. According to Amit Kotwal's "Contact Center Knowledge Management", 2004, Call Center should empower all of its agents with knowledge to make them productive and able to provide the first call resolution, which was one of the critical success factors for Call Center's operation efficiency. With the excellent knowledge management, the following outcomes were to be found:

2.1.1 Consistent Service

Knowledge management could ensure that customers with same questions were likely to receive the same responses from any agent, interaction channels, or even service organizations. The consistency of service was not only with the increased satisfaction, but also the trust in the service quality standard from all channels.

2.1.2 Revenue Generation

With the proper knowledge management, Call Center agents could potentially use the opportunity to provide the customer relevant information about upgrades, and

new or complementary products and services in the context of service interactions along with upsell/cross-sell to add to the top-line revenue.

2.1.3 Managing the Experts

To ensure that the experts in the company were really in touch with issues even from the most non-technical customers so that this information would also be kept in the knowledgebase was as important as ensuring that these experts would also contribute what they had to the knowledgebase itself. Another best practice in this area was for enterprises to create incentives for experts to encourage them to share their knowledge freely without fear of being replaced.

2.1.4 Controlling the Content

It was important for organizations to set up the validation process for approving knowledge content. There were reasons for not leaving this decision to content experts alone. The organization should also allow agents or even external users to make suggestions or contribute new content, which would need to be approved by authorized individuals from the related team. Moreover, knowledge content needed to be managed on an ongoing basis, based on its performance. Therefore, it was important that robust workflow and automation capabilities were used to create, authorize, maintain and evolve content over time.

2.1.5 Providing the Right Content Access Methods

Different users, problems and service situations required different access methods to knowledge content. For example, a dialog-based path might be more suitable for novice agents and end-customers that were looking to get answers to complex inquiries. A search access to the same content might be more suitable for highly knowledgeable or level-two agents. Keep the user and using scenarios when you were to implement access methods.

2.1.6 Leveraging a Common Knowledge Management Platform

Using the same knowledge content across interaction channels, access methods, agents, or even the service organization was also important to ensure service consistency.

As customers increasingly demand service through multiple channels and interaction modes, an isolate approach alone to knowledge management is not the best way to maximize knowledge or improve service consistency.

However, it was not easy to gain the benefits that were mentioned as there were still some critical problems in Call Center management that could significantly reduce the effectiveness of having an excellent knowledge management.

From the analysis and research conducted by Coxon (2010) regarding problems for effectively managing Call Center, there were several major problems that could affect Call Center operation and keep it far away from being efficient and productive as following:

2.1.7 Agent Absenteeism

According to benchmarking firm Dimension Data, the average annual absence rate in Call Centers worldwide was approximately 11%. This might not seem to be particularly high. However, if we re-consider the number again, we would see the fact that, from a 100-seat Call Center, 11% absenteeism would leave only 89 seats occupied at any certain point of time.

Unsurprisingly, this degree of absenteeism could have a huge impact on service quality and handling performance. As there were fewer agents available to handle customers, the waiting queue tends to increase and agents would be unavoidably put under pressure to spend less time on each call. Over the certain periods of time, absenteeism could, moreover, affect staff's morale and may even foster similar behavior in those left to the overloaded interaction.

2.1.8 High Turnover

High staff turnover could negatively affect Call Centre service quality and operation efficiency, because, every time a trained agent leaves, fewer agents must be on hand to ensure an optimum level of service quality/ operation efficiency.

In addition, this problem could also lead to heavy cost associated with the fact that the particular organization needs to keep recruiting, hiring, training and developing new staff all the time.

2.1.9 Agent Engagement

At any point of time, Call Center work could be boring, and lacking of interest and challenge due to the highly repetitive nature of the job. However, Call Center work could still give agents the stressful feeling as the management always set the impossible targets.

In both instances, Call Center runs the risk that their agents could easily lose enthusiasm and becoming demoralized, which, finally, could lead to absenteeism and ultimately turnover.

2.1.10 Flat Structure

The research from Dimension Data showed that the volume of Call Center planning for up-skill their agents increased year by year. However, less than a third actually defines a career development path for their staff. The problem is that Call Center is a flat structure. Career advancement was often limited – a situation that had become more acute since the start of the recession in 2008.

The impact was quite clear that organizations would have risk in losing their best people if they could not provide the appropriate career opportunities for the future. Talented agents might also become demotivated and stop working to the same high standards they used to achieve.

2.1.11 Mandatory Cost-cutting

Tight budgets had also been a problem for Call Center for a long time, because of the costs related with recruiting them. However, the issue had been widespread in recent years due to the effect from the global recession. Furthermore, many senior executives nowadays no longer regard Call Center efficiency savings as a 'nice to have'; instead, they are demanding them as the standard.

2.1.12 Poor First-call-resolution Rates

First-call resolution (FCR) was widely regarded as the most important point for achieving customer satisfaction in Call Center. However, as today's customers tended to contact Call Center with increasingly complex queries, it was not always possible to provide an immediate answer. If customers ended up having to speak to several agents

regarding a single enquiry, their experience would become diluted and satisfaction level would consequently drop.

2.1.13 Inability to Improve Performance Level

Most call centers were struggle to increase their performance levels, often reaching the goal, or, in a worse case, finding that their performance according to target starts to drop away. This problem could lead to the emotional exhaustion/ burnout, which finally made agents decide to quit their jobs due to lower and lower self-esteem from failure of not being able to maintain or improve their performance.

2.1.14 Poor Integration

Apart from the agents themselves, Call Center nowadays also required the assistance from technology, ranging from predictive call forecast, CRM databases and application, workforce management tool, and automated voice response system, to support and maintain the operation efficiency.

As Ben Dale-Gough, site operations manager at insurance Call Center operator Domestic & General (D&G) put it: "With a variety of different vendors and products, Call Center agents can be working with more than ten different software systems. Each application is designed to perform a specific task such as data capture or outbound dialing. With many in use at once, the job becomes far more complicated. Agents often find it tricky to tackle the maze of different systems, which have detrimental effects on their work."

Without proper system integration, this fact could lead to operation inefficiency as agents would find it difficult or complicated to complete their job if all systems required for Call Center work were not in line with each other.

2.1.15 The Proliferation of Communication Technology

The way we communicated had changed massively over the past 20 years. Today, consumers did not just use the phone or a letter to get their message across; they also communicated or contacted Call Center through email, SMS and other alternative Social Media channels such as Facebook and Twitter.

Because consumers were using these methods to communicate in their personal lives, it was inevitable that they now expected to be able to conduct their business interactions in the same way. The problem, of course, was that Call Center struggled to keep up because they had difficulty in providing available human resource to fulfill the requests from multiple channels in the same standard.

2.1.16 Customer churn

Customer churn was a huge problem for British Call Centers, with research from Genesys-EMG; Alcatel-Lucent revealed that a massive 73% of UK consumers had deliberately chosen to end their relationship with the particular product or service providers.

The cost of such losses could be enormous. Indeed, Genesys estimates that UK businesses lost approximately £15.3billion every year because customers had either chosen to abandon the purchase they were originally making or have defected to a competitor instead.

From all problems mentioned above, there were many items that were both directly and indirectly related to the efficiency of knowledge management in Call Center. Poor integration of the technology in Call Center's work could lead to not just poor performance, but also inconsistency in knowledge exchange activities inside the line operation. This problem could significantly link to the customer satisfaction and the potential that agents could solve the problem according to First Call Resolution concept as well. Moreover, high absenteeism and turnover rate were also the important challenges that Management needed to find the way to overcome in order to make the successful-and-consistent knowledge management mechanism and maintain the stability of Call Center performance.

In addition to the problems of Call Center in the previous part, the research about Call Center Personality Factor and Factors and Service Performance conducted by Sawyerr et al. (2009) could also elaborate some critical problems – service performance, absenteeism, and turnover – with other related factors. According to the research, there are mainly 3 problems that had always been the great obstacles for Call Center operation efficiency. They were service performance, absenteeism, and intention to turnover. In this research, the conductors assumed that these major problems in Call Center operation

were related to the personality of Call Center agents. In order to find out the relationship between problems and personality, they applied the Five Factors Model theory (FFM), which has been frequently used to describe the personality structure in various organizations worldwide (Digman, 1990).

The Five Factor Model or FFM was defined by various characteristics of individuals. It consisted of 5 personality aspects, which were conscientiousness, agreeableness, emotional stability, extraversion, and openness to new things.

1. Conscientiousness represented being hard working, responsible, and persevering.

2. Agreeableness represented being cooperative, trusting, caring and flexible.

3. Emotional stability represented being relaxed, stable, tolerant to stress, and secure.

4. Extraversion represented being outgoing, energetic, and enthusiastic.

5. Openness to new things represented being broadminded, imaginative, and curious.

During the last decade, several researches regarding Five Factors Model theory had been extensively used. 11 studies had proved that all five personality dimensions were related to job performance (Mount et al., 1998). For instance, McCrae and John (1992) found the fact about conscientiousness that this factor was associated with characteristics such as being well-organized, diligent, willing to take responsibility, and reliable with their jobs. Agreeableness and emotional stability had been found to be positively related to job performance and job turnover (Mount et al., 1998; Skyrme et al., 2005) as the previous research also assumed and believed that Call Center agents had been called "emotional labor" (Taylor, 1998). In addition, it was also found that extraversion and openness to new things were directly linked to performance efficiency and absenteeism that could be reflecting in Call Center routine operation (Griffin and Hesketh, 2004; Tett et al., 1991).

2.2 Knowledge Storage & Retrieval

Knowledge management was the way to effectively manage and drive the knowledge flow in the particular organization. It was the way to capture, maintain, and share the knowledge both inside and outside the organization. We could not deny that it is quite obvious that, recently, knowledge management had become extremely important for the global business competition. Moreover, during the past decades, the global economy had also been changed from industrial/ mass product economy to knowledge economy, which was the combination between technological innovation, new product/ services and processes. There were many leading profit and non-profit organizations around the world that intentionally established and dedicated their resources, especially, for knowledge management as it was the irreplaceable capital of each organization, which could usefully enhance their business competitive advantages and innovation development (Carnegie, 1919).

According to Garfield (2014), there were several significant benefits organizations could gain from application of knowledge management as following:

2.2.1 Enabling Better and Faster Decision Making

By delivering relevant information through structure, search, subscription, and support, knowledge management environment could provide the basis for making good decisions. Collaboration brought the power through the variety of opinions, and several experiences. Moreover, the repetition of using the knowledge in repositories would allow decisions to be more accurate and less risky based on actual experience, large sample sizes, and practical lessons learned.

2.2.2 Making It Easy to Find Relevant Information and Resources

When facing with the need to respond to a particular customer, solve a problem, analyze trends, asses markets, benchmark against peers, understand competition, create new offerings, plan strategy, and think critically, you typically looked for information and resources to support these activities. If it was easy and fast to find what you needed in the time that you needed it, you would be able to perform all of these tasks efficiently with a lot less difficulty.

2.2.3   Reusing Ideas, Documents, and Expertise

Once you have developed an effective process, you may want to ensure that others would use the process each time the similar requirement arises. If someone had written documents or created presentations, which addressed the recurring need, it should be used in all future similar situations. When members of the organization had figured out how to solve a common problem, know how to deliver the same service, or had invented any new products, you surely wanted that same solution, service, and products to be replicated as much as possible. Just as the recycling of materials is good for the environment, knowledge reuse was good for organizations because it could minimize rework, prevent the same problems, save time, and accelerate the progress.

2.2.4   Avoiding Making the Same Mistakes Twice

The philosopher, named George Santayana said that "Those who ignore history are doomed to repeat it." If we did not learn from mistakes in the past, we were likely to experience them over and over again in the future. Knowledge management utterly allowed us to share lessons that had been learned throughout the past, not only about successes, but also about failures. In order to do so, we must have a culture of trust, openness, and valuable reward for willingness to talk about what we have done wrong. The potential benefits were enormous. If you learned that your last bid or estimate was underestimated by 50%, you could make the next one more accurate and thus earn a healthy profit instead of incurring a large loss.

2.2.5   Stimulating Innovation and Growth

Most businesses would like to increase their revenues, but it became increasingly difficult as industries mature and competition increases. Creating new knowledge through effective knowledge sharing, collaboration, and information delivery could stimulate innovation as you would be able to use the knowledge to improve your capability in the competition or even to analyze the status of your business competitors to support your own business.

In order to effectively use and manage the knowledge for the benefits of the particular organization, various knowledge processes and strategies were required. Apart from knowledge creation, another important part for effective knowledge

management was knowledge storage and retrieval. It was the process of the organization to capture both internal and external knowledge and maintain it in the repository. This knowledge repository served as the organizational memory that was there to apply or integrate knowledge for decision making and other business purposes (Walsh and Ungson, 1991).

However, storing all knowledge one particular organization held was not always giving benefits in return. According to Gammelgaard and Ritter (2005), there were 3 critical problems that challenge the organization's knowledge management from being used efficiently and effectively, especially in storage and retrieval process. These mentioned problems consisted of knowledge fragmentation, knowledge/ information overload, and knowledge de-contextualization between the owners and the receivers.

For knowledge fragmentation, it was the problem that happened with any organization, which had several branches with geographic location dispersal. The problem would be when knowledge of one specific branch was also beneficial or necessary for other teams located in different sites (Buckley and Carter, 2002; Olivera, 2000). This impact would be upon the operation efficiency as they held different levels of knowledge and response or fulfill the business operation in the different way. This could affect the business efficiency as a whole. To overcome knowledge fragmentation, IT support for online knowledge repository was required. With this way, when everyone in the organization had ability to access one similar knowledge source (Grant, 1996), they would be able to make use of tremendous information available for them equally.

Secondly, as it was mentioned previously, putting all knowledge to the repository alone did not guarantee that organization's knowledge would always be managed and used effectively. While the problem regarding knowledge fragmentation could be solved through online knowledge repository, the problem about information overloaded could possibly happen as the consequence. For example, the consultancy company Ernst & Young estimates that it had 1.2 million documents in its general unfiltered repository, 875,000 documents in its discussion databases, and 50,000 documents in comprehensive packs of material on specific topics (Wenger et al., 2002). In this situation, a particular knowledge would be hidden by the other knowledge. as employees could not find what they needed. Finally, the repository with knowledge overloaded could

lead to the low use rate and had also been characterized as information junkyards (McDermott, 1999).

Lastly, knowledge de-contextualization problem, this was an unavoidable problem that may possibly happen anytime. This was likely to happen when the knowledge was located in the specific repository, but could not be retrieved and made use effectively due to the problems about understanding by the cultural, technical, or organizational difference/ distance. When the same message was not understood or interpreted in the same direction, misunderstanding or mistake could consequently lead to the negative effect with both organizations and receivers. As the result, it was important that, when storing knowledge, it should also include contextual background information, because when the context surrounding the knowledge creation process was not shared, it would become questionable whether retrieval will result in effective use (Alavi and Leidner, 2001).

Originally, the knowledge was transferred through codification and personalization strategies which were related to the strong and weak ties of individual relationship (Hansen, 1999; Rindfleisch and Moorman, 2001). The weak tie represented the distant or infrequent relationship. On the other hand, the strong tie represented the close and long lasting one reflecting the personalized knowledge approach. The weak tie would be helpful when it came to searching or seeking for the general information. Whereas, the strong tie was required for transferring complex or advance knowledge that was difficult to understand through merely communication technologies (Granovetter, 1972; Hansen, 1999; Steensma and Corley, 2000). Therefore, advanced knowledge was more likely to be transferred and stored through the personalized and socialized processes in more tacit forms from a particular individual directly to another (Cohendet et al., 1999; Nonaka and Takeuchi, 1995).

To provide clear picture in both knowledge storage and retrieval through codification and personalization strategies, 4 standard methods were explained in the following section.

2.2.6 Individual Memory

Individual memory was developed through a person's observations, experiences, and actions (Alavi and Leidner, 2001). It consisted of both general knowledge, experiences in the past, and skill knowledge of how to perform things (Stein and Zwass, 1995; Tulving,

1983). This type of knowledge was codified in an individual level. As the result, other people or the organization would not be able to make use of it (Walsh and Ungson, 1991; Stein and Zwass, 1995). It had the low level of knowledge codification and personalization that could reflect isolation or the fragmentation in knowledge storage and retrieval in the organization.

2.2.7 Databases

As mentioned earlier, combining all fragmented knowledge into one opened repository along with support from information technology could significantly reduce knowledge fragmentation problem. This method would codify all knowledge into the platform (Constant et al., 1997; Pickering and King, 1995; Purvis et al., 2001) and reduce individual's effort to retrieve and make use of the information (Huber, 1991). By doing this, all members of an organization would theoretically be able to retrieve similar information from the organizational memory. According to Halbwachs (1992), with these ''thought collectives'', individuals would prompt each other to recollect information and remember the past more efficiently. Nevertheless, there would still be risk of information overload, which needs to focus more on the need to reduce data into recognizable patterns of information through the use of computer algorithms (Norton, 2000).

2.2.8 Social Capital

The term ''social capital'' referred to ''the value of an individual's relationships with other individuals in helping to get things done in a firm'' (McElroy, 2002). According to Coleman (1988), Social capital was originally addressed in sociology, political science, and economic development literature papers and had recently been applied to business and management issues (e.g. Burt, 1997; Walker et al., 1997; Cohen and Fields, 1998). Social capital was considered as the personalization strategy that aimed at running knowledge management by building the strong relationship or connection between members in the specific team or unit to increase the social capital itself. It could be defined as both individual and organizational levels. Social Capital could link people together, reduce the impact of cultural difference (Daniel et al.2003), and run by trust-based relationship from members to members (Jarvenpaa and Leidner, 1999). The highlight

of this method was that it could bring out high efficiency in knowledge retrieval because senders and receivers were holding the same page of understanding (Cowan et al., 2000, Lave and Wenger, 1991; Brown and Duguid, 1991).

2.2.9 Online Community of Practice

According to Wenger (2002), Communities of practice (CoP) were groups of people who shared concerns, sets of problems, and passion about any topics. It also included those who could deepen their knowledge and expertise in any areas by interacting on the ongoing basis. Online communities were similar to traditional CoPs, which were groups of frequently interacting individuals sharing knowledge and best practices. The only difference was that both communication and coordination of work took place online by the support from information technology. This Online community was, therefore, relational without reference to a specific location (Ahuja and Carley, 1999). As the result, knowledge flow could be driven more smoothly since there was no limitation from distance or location dispersal. With the Online CoP, both codification and personalization methods could be established. Technology played an important role in this method. Unlike the normal community of practice, the online community could increase the interaction frequency and create linkage between community members with more standard information flows and less difficulty (Bowman, 2002; Ensign, 1998).

According to the research conducted by Jens Gammelgaard and Thomas Ritter (2005), they insisted that codification and personalization strategies should be combined in order to create an effective knowledge storage and retrieval flow. This concept would, thereby, lead to the development of the matrix with four different knowledge retrieval methods – individual memory, knowledge database, social capital, and online community of practice. Moreover, they also suggested that the most effective way to enhance the knowledge storage & retrieval process in one particular organization was to apply the online CoP as its members could take advantage of the simultaneous use of several boundary objects together through plenty forms of conversations via variety form of media such as e-mail, phone, and video conference. However, one organization should not merely focus on the online CoP, it should also consider the rest methods in order to balance and enhance overall knowledge management.

2.3 More Details about Online Community of Practice

According to Wenger and Snyder (2000), Community of Practice or CoP was ''a group of people informally bound together by shared expertise and passion for a joint enterprise''. In this community, individuals' experiences were shared, new knowledge was created, and problems were solved through interactions between community members (Brown and Duguid, 1991, 1998, 2001; Wenger, 1998). Several researches in the past focused on the community that members met and interacted with each other face-to-face (Brown and Duguid, 1991; Lave and Wenger, 1991; Wenger, 1998). However, as the world was moving forward, technology took part in CoP since many organizations had become geographically dispersed with several sites in order to support their business strategies. Expanded CoPs could pool distributed knowledge across the organization and allow accumulated knowledge to be shared and utilized enterprise-wide.

Wenger (1998) characterized CoPs in terms of practice and identity:

- Practice defined what members did.
- Identity defined who the members were in regards to the practice.

Moreover, Wenger (1998) also suggested that the relation between practice and a community could be reflected in 3 dimensions-mutual engagement, joint enterprise, and shared repository, which had the following definitions:

- Mutual engagement indicated how members in CoP interact with each other.
- Joint enterprise indicated the interest and the goal of CoP as a whole.
- Shared repository indicated all information/ knowledge shared in that CoP.

According to Daft and Lengel (1986) regarding media richness theory, face-to-faced communication was the richer way than online communication as it involved more social context cues (Sproull and Kiesler, 1986). This face-to-face method was more personal and allowed faster direct feedback. As the result, it could be considered as the better choice for knowledge work because of the high level of trust and certainty (Daft and Lengel, 1986). Hence face-to-face communication was assumed to serve forming CoP better than online CoP. Nevertheless, later studies found that people did not always select their media in ways that were consistent with social context cues or trust according to the media richness theory (Markus, 1994).

Therefore, people possibly preferred using online CoP than the original one because it was more convenient for interaction across the geographic distance and

faster to the large number of other members simultaneously (Markus, 1994). Also, Bagozzi and Dholakia (2002) suggested that people would tend to focus on messages rather than the cues that could be filtered out, especially, when they were so experienced in using online CoP that they could sense social context cues indirectly (Carlson and Zmud, 1999; Walther, 1995).

Furthermore, it was much easier to join online communities than to join conventional CoPs. While normal CoPs, potential new members were typically sanctioned both explicitly and implicitly by existing members before being able to participate in the community (Lave and Wenger, 1991), online communities, by default, had few explicit membership criteria. As long as one was connected to the computer network and had access to the online place where the community meets, one gets access to the online community.

However, the level of online community members significantly varies. Typically, there was only a small group of active members, because others would participate in it occasionally (Baym, 1999; Finholt and Sproull, 1990). Consequently the levels of engagement by light participants might be perceived higher, but the effect was not much because their contributions were more visible in online communities (Erickson et al., 1999).

Lastly, the most significant advantage of the online CoP was that all participation history would be recorded and stored in the online space in various formats. As the result, it would be easier for all community members to retrieve information anytime they needed to make use of it with more accuracy in the shorter time (e.g. Donath et al., 1999; Erickson et al., 1999).

However, little information was, nowadays, provided about characteristics of successful online communities that companies used as a guideline for building and evaluating their own online communities. To effectively manage an online community, understanding the various dimensions of online community attributes is the critical stage. The attempts for understanding dimensions that defined a successful online community had only been conceptual (Preece, 2001). While discrete online community attributes are suggested by various researchers (Cothrel, 2000; Leimeister et al., 2005), few comprehensive sets of attributes had been examined.

The characteristics of online communities varied based on the quality or depth of social relationship among members formed within the digital environment,

mutual goals of the online community, and shared interests (Bagozzi and Dholakia, 2002; Wellman and Gulia, 1999).

In addition, Preece (2001) proposed the sociability and usability framework to identify characteristics and measurement that could describe the success of online communities.

Sociability consists of purpose, people, and policies.

- Purpose referred to involvement of community members that indirectly reflected how well the community served each member.

- People referred to the number of individuals who were members in the community.

- Policy referred to rules or norms all members in the community behaved accordingly.

Usability consisted of these following dimensions - dialogue and social interaction support, information design, navigation, and access.

- Dialogue and Social Interaction Support referred to the ease and efficiency in which users were able to effectively execute commands and perform tasks within the web environment.

- Information Design referred to the efficiency in which information could be found and understood with no difficulty.

- Navigation referred to the ease that users could search or locate information.

- Access referred to ease of technology capability that users may download, install, and use necessary software or other technical requirements.

According to the result of the research conducted by Kim et al. (2008), with the application with Preece's framework theory, they found that all 3 sociability dimensions were more important than all usability dimensions.

In terms of sociability, results confirmed the importance of the size of membership as well as the involvement level of community members. Quality of interaction and communication as well as community members' level of knowledge or experiences in topic discussion were considered important in regards to the sociability of the online community. The result also showed that rules and regulations that guided positive behavior supported the sociability aspect of the online community.

In terms of usability, the result showed that members' abilities to easily read and send messages plus reasonable navigation time were important. This supported prior studies that emphasized the importance of technology's ease of use and convenience (Davis, 1989; Childers et al., 2001). However, this result did not reflect the attribute dimensions of information design and access towards the usability framework of online communities. Nonetheless, it should still be in user-friendly manner plus downloading and installing necessary information should be essential. As the result, with sophistication and user-friendly software available in today's market, the required technical knowledge or technical complexities might not be a problem for members.

Apart from the structure of the online community of practice, another important factor that could indicate whether the community was successful or not was knowledge sharing from members inside the community itself. Earlier studies had indicated that a number of employees often resisted to share their knowledge (Ciborra and Patriota, 1998), that knowledge did not flow smoothly even when the organization took fully support on knowledge exchange and their CoP (Szulanski, 1996), that the success of knowledge exchange depended mainly upon organization's social and technological attributes (Holsthouse, 1998) and on organizational culture and climate (De Long and Fahey, 2009). Moreover, the reason behind the participation of each member in the community was still not clearly understood (McLure and Faraj, 2000).

According to Ardichvili et al. (2003), they found that the reasons why members shared their knowledge were because they felt that it was the public good that belonged to their organization, not just themselves, which was the same as what McLure and Faraj (2000) stated in their research regarding and online CoP. Moreover, people would willingly share knowledge because they would like to establish themselves as experts in their workplaces, which could indirectly create reputation and positive effect to their career paths. Another factor that encouraged the willingness to share knowledge was when employees felt that it was time for them to give something useful back to the organization, which, of course, could be done through knowledge sharing and new staff mentoring.

In addition to the motivation factors towards knowledge sharing in the online CoP, they explained the reasons behind the barrier of knowledge sharing as well. From the conducted interview, they found that most members were reluctant to share knowledge because they were not sure if what they knew was correct or not. They felt that they

could lose their faces and even let their colleagues down if their knowledge misled them. Only 10% of the interviewees that would not like to share knowledge as they felt it was their own asset, and that knowledge sharing might make them lose their current positions in the company. Another factor that discouraged members from sharing knowledge was the knowledge validation process which was time consuming. This factor made these people tend to share their knowledge through the more personal channels, such as a telephone or an email, rather than posting on CoP.

Apart from the positive and negative factors towards knowledge sharing in online CoP, Ardichvili et al. (2003) studied the factors that encouraged people to use CoP as the source of new knowledge as well. More than 50% said that CoP was useful especially when they needed any information or advice for their work or even their personal matter. Online CoP could also reduce the time for them to find what they needed and give them opportunity to access to it with less time restriction. Furthermore, 38% stated that CoP made them expertise or productive faster with better communication regardless of geographical dispersal.

Talking about the motivational factors to use online CoP, there were barriers from using it as well. There were 2 main barriers that prevented people from using online CoP. The first barrier was the membership in the tight-knit, face-to-face groups that made online CoP redundant. Members of these informal groups tended to rely on each other instead of the community. They would form their own network of contacts and support for assistance when they needed. The second barrier was when the knowledge was too complex to express, duplicate in the online CoP. Moreover, some people also felt the danger of getting too many responses that were not accurate and made it slower for them to figure out what should be done.

According to the case studies from Corso and Giacobbe (2009), there were several related samples of the application of online CoP, especially, in Call Center field. In the case study, they mentioned about the online CoP in the large telecommunication company in Italy, anonymized as CC1. As Management realized that time for Call Center agents was quite restrained, the main intention of this establishment was to foster the interaction between agents, to improve the sense of belonging to the team or the organization, and to collect knowledge and best practices. In order to make sure that CoP works effectively, the company also set staff to work as the editorials to maintain and improve

CoP involvement and sense of identification. The result of this online CoP was considered successful with high participation from its members.

Another example was from online CoP application in a major Italian bank, anonymized as CC2. The establishment of this online CoP was originally from the launch of a training course with the limited budget. Even though the training course had ended, the forum still remained and was thereafter developed to the community of practice as its members kept posting and sharing messages. Members actively and inactively join this community as they considered it as the useful and necessary source for their work. With this online CoP, they could find suggestion, news, and information of bank products, solutions for recurring problems, and etc. Even though community participation was supported by Call Center managers, it was not directly stimulated by the organization with formal recognition and supporting actions. However, it was now one of the best Communities in the bank in terms of involvement and frequency of interaction.

In conclusion, with all information gathered from several literature work regarding knowledge storage and retrieval, and online CoP, it seemed like the problems regarding knowledge fragmentation, information overloaded, and knowledge de-contextualization could be solved through Online community of practice, which allowed member to search or ask for any information they needed with more convenience in a shorter time. However, there were still many factors in Call Center's work environment that could significantly discourage the success of knowledge flow through online CoP. As it was mentioned in Call Center's section, apart from the high turnover rate, the absenteeism rate of Call Center agents was also high. In addition, the work condition of Call Center was likely to be individual work rather than team work. These factors could lead to inconsistency in knowledge activities, which could make knowledge management unsuccessful. Moreover, according to researches with Call Center in the leading telecommunication company in Thailand, apart from knowledge-based system, Call Center agents were relying on their own informal group when they needed information instead of posting questions on the web board and waiting for answers from experts. One of the main reasons might be that Call Center needed to compete with time as they had to complete the call with Fist Call Resolution concept and respond to their customers within the target set by the management. Some agents also decided not to post their questions because they were afraid what they asked is too easy that could embarrass

them. Consequently, Call Center agents were relying on knowledge exchange methods with smaller loops that could response to their need faster, like instant messaging or oral communication. These methods were not optimal for knowledge management mechanism, especially, for capturing and sharing. Furthermore, it also contained higher risk that the online CoP in Call Center might had too many light members, who inactively participated in the community without posting or sharing knowledge due to time constraint from work or fear of embarrassment, which, consequently, could discourage involvement in the community. As the result, what the researcher had mentioned could possibly be the critical obstacles that make knowledge exchange through online CoP inconsistent and unsuccessful.

How to solve these problems and enhance an online CoP in Call Center's environment had not yet been discussed widely. It was true participation and involvement in organizational knowledge management could partly be enforced by setting the responsible team and support from the management, but how to make them successfully suitable with Call Center's characteristics and its cultural context in Thailand were still in a mist. This thesis would aim at analysis of Call Center's work constraints along with finding out what could be the practical motivational drivers that reduce inconsistency and enhance the use of online CoP in Thai Call Center context.

2.4 Conceptual Model and Hypotheses

In order to find out how to successfully establish the online community of practice in Call Center's environment, Knowledge Sharing factors, Technology Acceptance Model, and other related social influences were to be considered based on the framework of Theory of Reasoned Action along with other related literature work.

For the past decade, Theory of Reasoned Action or TRA had become one of the most famous frameworks that many researchers used for indicating the factors influencing individuals' attitudes and intentions towards the particular behaviors. This theory was developed by Martin Fishbein and Ajzen (1975, 1980), who found that a person's behavior was destined by intentions determined by the individual's attitude and social norm. Moreover, TRA had also been used for finding several IT literature work, such as expert systems and web site usage behavior (Liker and Sindi, 2003).
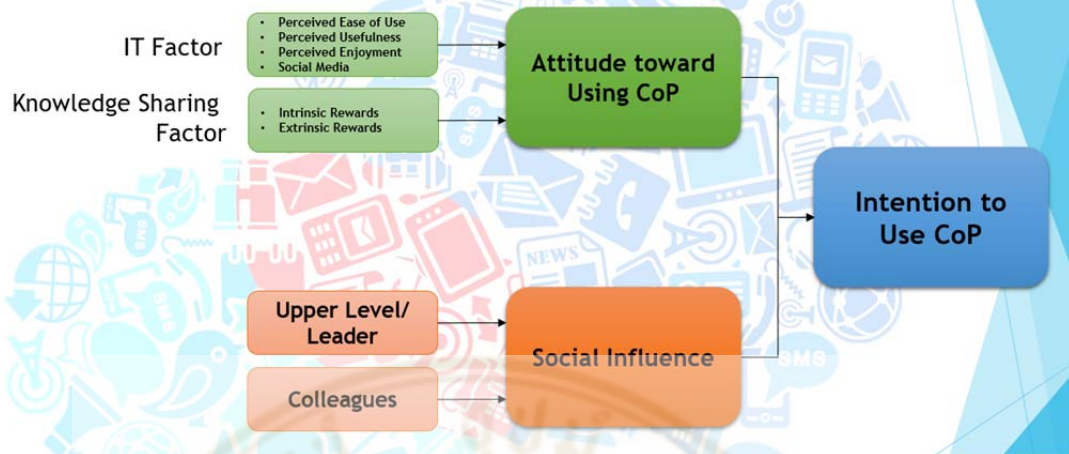
Figure 2.1 Conceptual Framework

TRA's framework originally consisted of attitude and subjective norm towards the particular behavior. These 2 factors had influence upon individuals' intention to behave something. Attitude was about how an individual perceives the specific behavior whether it was good or bad, and had value in his/ her opinion or not. It was driven by the personal belief that the consequence of the particular behavior would provide to an individual. Subjective norm was the social pressure especially from the surrounding people towards engagement of the particular behavior. It was determined by the normative belief, which was the expectation from important people whether an individual should perform the behavior or not.

2.4.1 Intention to Use Online CoP

Intention was the crucial key indicator for the individual's readiness to performance the particular behavior. Generally, people would act or behave something according to their own intention. As the result, this was the reason why it was considered as the key indicator. Intention was mainly bases on an individual's attitude towards the behavior and the social influence from individuals' surrounding people. Attitude towards the behavior could be counted as internal driver each individual had for themselves. Meanwhile, social influence would be the external driver each individual receive from their important people and others. These 2 drivers served as the predictors of human's

intention which would be weighted for importance between the behavior and population of interest.

2.4.2 Attitude towards Using Online CoP

In order to identify the factors that had influence on the attitude towards using online CoP, The researcher had applied knowledge sharing factors as one of motivation drivers for using online CoP. Moreover, since online CoP was directly related to the use of technology, the researcher had also applied IT Acceptance Model or TAM as another motivation driver for the attitude towards using online CoP in this framework.

2.4.2.1 Knowledge Sharing Factors

For knowledge sharing factors in this framework, the researcher had derived parts of the concept from Economic Exchange Theory and Social Exchange Theory since knowledge sharing activities could be considered as ones of the social interaction from one individual to another.

- Economic Exchange Theory: For Economic Exchange Theory, it emphasized on the extrinsic motivation. It was based on the lower level of trust and fewer reciprocal of trust comparing to Social Exchange Theory. Song et al. (2009) also defined it as the short-term motivation for knowledge sharing. According to the theory, people tended to behave by self-interest that must be rational in their perception. That meant knowledge sharing activity would occur only when individuals satisfy with the benefit as the rewards they receive more than the costs they have to trade with (Kelley and Thibaut, 1978; Constant, et al., 1994). As the result, many researcher believed that reward system is the one of the basic element that could also lead to the success of knowledge management in the particular community. The definition of the reward in term of economic exchange theory could refer to a gift, the monetary offer, like incentive or bonus, career advancement/ job promotion, educational opportunity, or even the verbal complimentary. These factors are believed to develop the association with attitude towards knowledge sharing in the more positive direction.

- Social Exchange Theory: On contrary of Economic Exchange Theory that emphasized on the extrinsic motivational factors towards individuals, Social Exchange Theory focused on the intrinsic motivational factors instead (Blau, 1964). Social exchange led to obligation or bond between people in the society. It also created gratitude

and trust. That was the reason why various researchers described it as the feature with high level of trust both among individuals and their organizations/ communities (Shore et al. 2006; Song et al., 2009). The benefit of social exchange usually came with no exact price; it could not be bargained in the quantitative way of exchange, which was the reason why personal emotion and relationship were also counted in this exchange. This theory assumed that people expected social association/ relationship from knowledge sharing (Bock et al, 2002), which was different from the economic exchange transaction as it could increase the value without making the original parties felt they were losing their value (Cabrera, 2002). As the result, the benefit from social exchange could refer to self-improvement, recognition, reputation, trust, and organization/ community engagement.

2.4.2.2 Information Technology Factors

Not just knowledge sharing factors that predictably had association with Call Center agent's attitude towards using the online CoP, but IT factors also had influence upon knowledge sharing, especially, in the online CoP which was operated on the information system.

- Technology Acceptance Model (TAM): Technology Acceptance Model or TAM was developed by Fred and Bagozzi (1989). This theory was widely accepted by many researchers as one of the most influential extension of Theory of Reasoned Action (TRA) that represented the strong behavioral intention regarding technology acceptance determined by 3 attributes, which were perceived ease of use, perceived usefulness, perceived enjoyment.

Fred (1989) defined perceived ease of use as the degree of the personal belief that using IT would not consume their effort. As the result, using IT, which, in this case, was the online CoP, should be as simple as possible. The interface should not be uncomplicated and compatible with both PC and mobile application versions so that users would find it easy to understand and enjoy using it effectively anywhere in anytime.

For perceived usefulness, it was defined as the degree of the personal belief that using IT would enhance their capability and job performance. It was directly related with intention to use IT and was strongly influenced by perceived ease of use (Venkatesh et al, 2002). In addition, a research indicated that other factors,

like intrinsic motivational factors and subjective norm, also have the influence on perceived usefulness (Venkatesh & Davis, 2000; Galletta et al. 1995).

Moreover, Fred Davis also defined the definition of Perceived Enjoyment as the similarity of intrinsic motivation, which drove the performance of an activity that was not linked for any reason other than the process of performing the activity. Additionally, Venkatesh (2000) also found that the effect of enjoyment from Perceived Ease of Use could be stronger as users have more experience and familiarity with the system. This fact could imply that the users tend to perceive that, with ease of use, using the system seems enjoyable

Plus, apart from removing barriers about knowledge access, IT could also support knowledge sharing by auto-mapping function, which allowed users to see all related topics with what they are searching (Hendriks, 1999). Furthermore, since many Call Centers already had the knowledge-based system to keep their intellectual capital, system integration between knowledge-bases system and the online CoP was expected to increase positive perception about ease of use and usefulness in IT aspect respectively.

- Social Media: Social Media could be defined as the online applications/ technologies that came along with the collaboration. It could stimulate the participation and conversation that initiates the socialization process, such as openness among the community members (Bowley, 2009). Social Media was believed to have the strong ability to encourage and support knowledge sharing easily and effectively through different mechanisms and contexts. According to Panahi et al. (2013), Social Media's ease of use that did not require advanced technology proficiency to allow people to share knowledge easily through various forms, such as text, image, and video, and keep them in their own space for further use. Moreover, it also allowed users to co-create contents by editing, commenting and evaluating original contents in the social space. It encouraged people's interaction by allowing them to stay connected with each other easily in real-time. Furthermore, not only to gather people with the same interest, it allowed members to create and develop the relationship using identities through their own profiles as well. As the result, the combination of these features made Social Media as one of the suitable channel for knowledge sharing.

From the components of knowledge sharing factors and IT factors, the research came up with the following hypothesis:

H1: Attitude towards Using Online CoP has a positive association with Intention to Use Online CoP

2.4.3   Social Influence

As the researcher had previously mentioned, subjective norm was the perceived social pressure towards the particular behavior. It was driven by the normative belief derived from the expectation of other significant people around an individual. Apart from the individual's attitude towards the specific behavior, this factor acted as the external driver that also had influence on how people intended to do something based on other people's perspectives. It was believed that people's norm perceptions consisted of 2 influential factors; informational and normative (Deutsch and Gerard, 1995). Informational influence occurred when an individual perceived that information could enhance the existing knowledge. The normative influence occurred when a person adapts himself/ herself to align with expectations of significant others in order to obtain rewards or avoid punishment. According to the research about the reason why people played online games conducted by Hsu and Lu (2004), social norm was considered as the crucial factor that had strong influence that allowed people to comply themselves with others in the group. This was the reason why the effect of social norm should also be explored.

Plus, according to Corso and Giacobbe's "Building Communities of Practice that Work: a Case Study Based Research" (2005), CoP was the social entity within the particular organization/ community perceived as the living machine that produces the intellectual capital. Its mechanism could be studied through the relation between input and output. How this mechanism worked depended on the social structure of each community, which was determined by participants' behaviors and cultural characteristics. To define the evolution and success of an online CoP, researchers proposed the model that was characterized by the level of Organization's support and Members' involvement. The support of organization, as mentioned, could be divided into various levels: indifference, partial support and active support. Each level, along with the participation of community's members, could consequently lead to different levels of success in knowledge activities in CoP.

According to the details above, the research came up with the following hypothesis:

H2: Social Influence has a positive association with Intention to Use Online CoP

CHAPTER III
RESEARCH METHODOLOGY

In order to find out how to successfully implement online CoP and encourage people to actively use it in Call Center's environment and constraints, the researcher aimed to conduct the research by obtaining the primary data from the quantitative method. By this way, the researcher aimed to distribute the questionnaires to Call Center agents in various leading organizations in several fields, such as banking and telecommunication. The questionnaire would be self-administered questionnaire, which would allow people in the target groups to fulfill the questionnaire by themselves. More details would be provided in the following sections.

3.1 Sample Selection

The researcher aimed to distribute the questionnaires to 400 Call Center agents who work for Thailand's leading organizations in various fields, such as banking and telecommunication. Since this thesis was to find out the way to successfully implement online CoP in Thai Call Center, Thai culture was also considered as one of the important key conditions that the researcher needed to realize. As the result, to identify Thai cultural factors associated with this issue, people in the target were expected to be Thai native only. Furthermore, the reason behind the number of 400 people was according to the formula of Yamane (1973) regarding the deviation of sample at 0.05 (in figure 3.1). In addition, this research would be conducted using Non-probability Sampling method, which did not require to specifically distribute questionnaires to only the particular groups of people as the research would focus on the availability of the target according to the convenient time instead.

Table 3.1 Sample Size for 500,000 Populations at Different Deviations

Population	Sample Size for Each Deviation Level				
	±1%	±2%	±3%	±4%	±5%
500,000	9,804	2,488	1,109	624	400

3.2 Measurement of Variables

3.2.1 Independent Variables

The researcher took Attitude towards Using Online CoP, which consisted of Knowledge Sharing factors and IT factors, and social influence factors, which consisted of Upper Level and Colleague, as the main independent variables that had direct association with the use of CoP in Thai Call Center's environment.

Table 3.2 Independent Factors and Their Definitions

Variable	Definition
Attitude towards Using Online CoP	• The perception individuals had towards an online CoP
Social Influence	• The surrounding people of each Call Center agents

3.2.1.1 Attitude towards Using Online CoP in this research was related to the individuals had towards an Online CoP. It was believed to be one of the key drivers of behavioral intention and crucially referred to the way people felt towards a particular behavior. In this research, Attitude towards Using Online CoP had 2 components, which were Knowledge Sharing factors and IT factors. Details of each factor were as following:

• Knowledge sharing factors in this research are both intrinsic rewards and extrinsic rewards that agents received or expected to gain after performing knowledge activities on online CoP. Furthermore, additional factors like responding time and management support were expected to affect knowledge sharing in this case

as well. Knowledge sharing factors used as the independent variables in this research were as following:

Table 3.3 Knowledge Sharing Factors and Their Definitions

Variable	Definition
Intrinsic Motivation • Special Gift • Monetary Offer • Verbal Complimentary • Work Performance • Self-improvement • Career Advancement	• The gifts individuals expected after sharing knowledge. • The money individuals expected after sharing knowledge. • The verbal complimentary individuals expected by sharing knowledge. • The better performance individuals expected by sharing knowledge. • The improvement individuals expected after sharing knowledge. • The career advancement individuals expected after sharing knowledge.
Extrinsic Motivation • Recognition • Reputation • Trust • Social Relationship • Organization Engagement	• The social recognition individuals expected after sharing knowledge. • The social reputation individuals expected after sharing knowledge. • The trust from people individuals expected after sharing knowledge. • The relationship individuals expected after sharing knowledge. • The organization engagement/ belonging individuals expected after sharing knowledge.

• IT factors in this research were related to the perceived ease of use and usefulness that the agents expected to have from using technology, which, in this case, was an online CoP. Plus, the researcher also included social media as one

of IT factors since it was expected to have direct or indirect influence on the use of technology as well. IT factors used as the independent variables in this research were as following:

Table 3.4 IT Factors and Their Definitions

Variable	Definition
Perceived Ease of Use • User Interface • User Friendliness • Ability to Relate/ Map stories • Accessibility	• The degree of simplicity individuals expected in online CoP design. • The degree of easiness individual expected from using online CoP. • The system ability to relate or map the stories in the same areas • The channels provided to individuals to access online CoP
Perceived Usefulness • Productivity	• The degree of self-productivity individuals expected to gain after using online CoP.
Social Media • Integration with CoP	• The degree of integration with social media individuals expected from online CoP.

3.2.1.2 Social influence in this research was related to the behaviors of the surrounding people of each Call Center agents. The researcher focused only on the group at their workplaces since Online CoP in this research was mainly related to their work routine. Consequently, it should consist of agents' upper level/ leaders and their colleagues. Social factors used as the independent variables in this research were as following:

Table 3.5 Social Influence Factors and Their Definitions

Variable	Definition
• Upper Level/ Leaders	• The influence individuals are perceived or expected from their upper levels/ leaders' behaviors/ intention. • The Level of support of Management
• Colleagues	• The influence individuals are perceived or expected from their colleagues' behaviors/ intention.

Other than these factors, the demographic factors were also added into the scope of this research as the basic independent variables that directly had influence on the use of CoP. Apart from the general demographic factors, such as sex, age, educational level, and etc., the additional demographic factors related to IT aspects like the expertise in IT or years of using IT were added to this research as well.

3.2.2 Dependent variables

The researcher took the attitude towards using CoP and intention to use CoP as the variables that were affected by the degrees of independent factors from the previous section – knowledge sharing factors, IT factors and social influence.

Table 3.6 Dependent Factor and Its Definition

Variable	Definition
Intention to Use Online CoP	• The degree that individuals intended to use online CoP

3.2.3 Demographic Information

The population based details, which were widely used in many organizations to measure and learn more about the characteristics of people in the specific community or society for several purposes. It was related to people's well-being and the factors related to the expertise and experience in IT aspects as following:

Table 3.7 Demographic Factors and Their Definitions

Variable	Definition
General Demographic Factors • Sex • Age • Educational Level • Work Experience • Salary	• The human classification divided by anatomy (Male/ Female) • The age of individuals divided and grouped as the range • The degree of education individuals had • The years of experience individuals had from their work • The level of salary individual received from their work
IT-related Demographic Factors • IT Knowledge/ Expertise • Time spent on Internet (Daily) • Years of IT Experience	• The degree of expertise/ knowledge of IT individuals had • The number of hours individuals spent on internet (daily) • The years of experience individual had with IT

3.3 Data Collection

In order to perform data collection, the researcher aimed to apply the quantitative method by distributing the sets of questionnaires to 400 Call Center agents who were Thai native in various leading organizations. The questionnaires would be distributed based on the convenient sampling method that did not require the only the particular groups of Call Center agents. This data collection process was expected to start in December 2015 and finish within January 2016.

Moreover, the researcher applied the concept of Likert Scale in the questionnaire, which focused on the levels of agreement and disagreement of each answerer. As the result, each statement or question would have scales to allow answerers to rate whether they agreed or disagreed with them in which level. There were 5 scales, starting from 1-5. Meanings of each scale are as following:

Scale 1 - Strongly Disagree

Scale 2 - Disagree

Scale 3 - Neither Agree nor Disagree

Scale 4 - Agree

Scale 5 - Strongly Agree

3.4 Data Validation

Before distributing the questionnaire, the researcher would validate the questions by drafting the set of questions and having them reviewed by the thesis consultant and the senior and experienced group of people in call center industry. This procedure was done in order to see if the participant would not be misled and truly understand the question and, thus, give the right information

After obtaining the data from the targeted group, the researcher aimed to validating the collected data through several means to make sure it was usable. First, the researcher planned to apply data screening by validating if any questionnaires had error answers or not. The error answer in this definition meant the ones that the participants gave random answers using some specific patterns, such as giving the same scale for the whole questionnaire or the whole part in the questionnaire. Moreover, the researcher would also validate if the given answers were practical according to the question or not. To delete this sort of data, the researcher would not use this set of questionnaires and, again, distribute the questionnaire to another group of targeted participant to compensate the unusable ones.

Secondly, the researcher would measure the normality of data distribution. The methods the researcher planned to apply was to, first, measure the skewness and kurtosis to check if data are in the acceptable ranges according to the standard ($|SI| < 3$ and $|KI| < 10$). Moreover, the researcher would make sure of normality of data distribution by applying Histogram, Box-Plot, and Normal Probability Plot (NPN).

1. Histogram was the method to check the distribution of quantitative data by displaying the stacked columns representing each Likert scale. If the data was symmetric or well distributed, the highest stacked column would be in the middle more or less. If

the highest stacked column was obviously located in the left or right side or the graph, the data would be considered asymmetric or not well-distributed.

2. Box-Plot was another method to measure the data distribution through visualization. This method would represent the median at the percentile of 25 and 75.The data that was not well-distributed would be called Outlier (represented by "°") and Extreme (represented by "*").

3. Normal Probability Plot (NPP) was also one of the popular methods for measuring data distribution by comparing the probability of the collected data with the expected value, which represented the normal distribution and was drawn as a straight line. The collected data would be plotted as a dot in the graph along with the line of expected value. If the collected data was symmetric, the dots should be plotted around the straight line that represented the symmetric value.

Third, the researcher would measure the reliability of the data using Cronbach's Alpha coefficient. This method was usually used with CFA model and widely used by many researchers because it could measure the internal consistency to examine the obtained answers of the same question to see if they were in the same direction or consistent. If the value of Cronbach's Alpha coefficient was above 0.7, the value could be considered consistent.

Last, the researcher would run the convergent validity by checking if the values of Average Variance Extracted (AVE) are greater than 0.4 and discriminant validity to check if values of Average Variance Extracted (AVE) are greater than the values of Average Shared Variance (ASV).

3.6 Data Analysis

After obtaining the data from all 400 Thai Call Center agents, the researcher would start conducting the data analysis process. According to the proposed conceptual framework which was described in the preceding part in the chapter 2, the researcher would conduct the data analysis through Structural Equation Model (SEM) using the program named AMOS. This method was widely used in order to explain the relationship between multiple independent and dependent variables at the same time. To be more précised about SEM, the researcher would use the technique called Confirmatory Factor

Analysis or CFA to study and validate the relationship between variables in the proposed framework. Apart from conducting the 2nd order Confirmatory Factor Analysis (CFA) in order to prove the model fit of the proposed framework, the researcher also planned to conduct SEM analysis so that the researcher could ensure relationship between defined independent factors and dependent factors exists.

CHAPTER IV
RESEARCH RESULT

As the researcher had already described in the previous chapter, the procedure for finding out the key success factors for implementing an online CoP in Thai Call Center environment was to apply SEM (AMOS) to measure the influences of the mentioned factors based on the association in Theory of Reasoned Action framework (TRA) using First Order & Second Order Confirmatory Factor Analysis (CFA).

4.1 Data Screening

After collecting data through questionnaires from 400 call center agents, who worked in financial and telecommunication industry in Thailand, the researcher, at first, also needed to perform data screening to ensure the quality of the obtained information by checking for missing data and data normality.

For checking data normality, the researcher performs this step by applying measurement through Skewness and Kurtosis through AMOS. In addition, the researcher also performed other normality measurements, which were Histogram, Boxplot, and Normal Probability Plot (Normal Q-Q Plot) through SPSS, to make sure that all collected data was qualified.

Starting from measurement of data normality through Skewness and Kurtosis, according to Curran, West and Finch in 1997, if Skewness ($|SI|$) was greater than 3 and Kurtosis ($|KI|$) was greater than 10, the data was not considered symmetric and could not be used for further analysis. The researcher conducted the measurement with the obtained data and found the following results:

Table 4.1 Assessment of Normality of Their Values

Assessment of Normality (Group number 1)						
Variable	**min**	**max**	**skew**	**c.r.**	**kurtosis**	**c.r.**
Intention to Use Online CoP	2	5	-0.129	-1.056	-0.388	-1.585
Colleague	2	5	-0.410	-3.345	0.211	0.859
Perceived Usefulness	2	5	-0.058	-0.473	-0.167	-0.682
Upper Level	2	5	-0.222	-1.807	-0.138	-0.565
Social Media	2	5	-0.354	-2.891	-0.054	-0.222
Perceived Ease of Use	3	5	-0.122	-0.996	-0.638	-2.606
Intrinsic Motivation	2	5	-0.145	-1.185	-0.175	-0.715
Extrinsic Motivation	2	5	-0.004	-0.034	-0.586	-2.393
Multivariate					324.266	38.868

According to the scores of |SI| and |KI| in the table above, the range of |SI| score varied in the range of 0.058 as the minimum score to 0.410 as the maximum score, which was not greater than 3. Plus, the range of |KI| score varied in the range of 0.054 as the minimum score to 0.638 as the maximum score, which were not greater than 10. As the result, the measurement of data normality through Skewness and Kurtosis were considered acceptable.

Moreover, as it was previously mentioned, the researcher also performed the normality test of the collected data through several graphs. The first graph was Histogram, which was considered accepted and widely used by many researchers. The vertical line represented the number of respondents who gave the particular scores in each rate. The horizontal line represented the rating scales, which, in this case, were 1-5 according to Likert Scale (strongly disagree to strongly agree). The results of Histogram were as following:
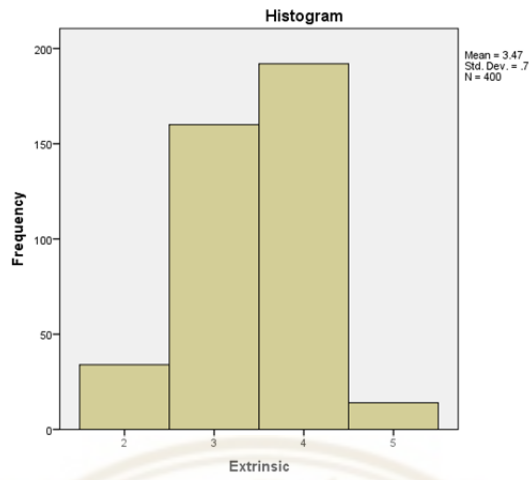
Figure 4.1   Histogram Graph of Extrinsic
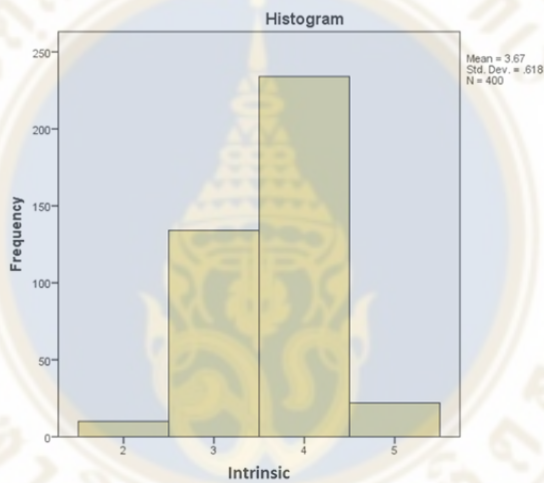
Figure 4.2   Histogram Graph of Intrinsic
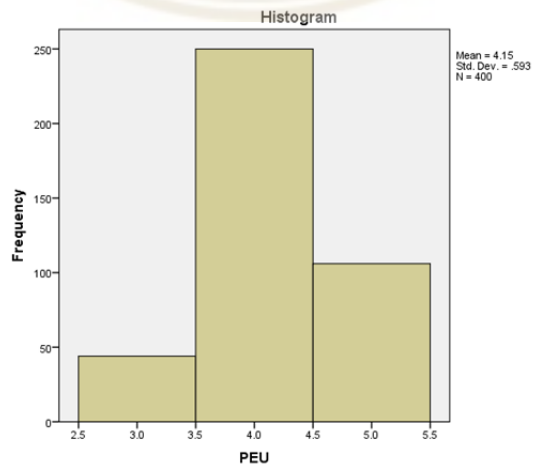
Figure 4.3   Histogram Graph of Perceive Ease of Use
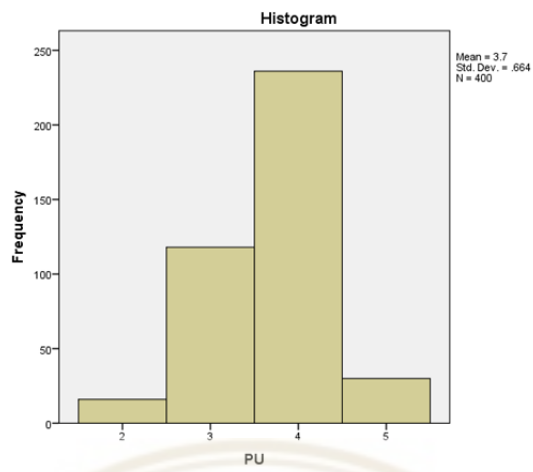
Figure 4.4 Histogram Graph of Perceived Usefulness
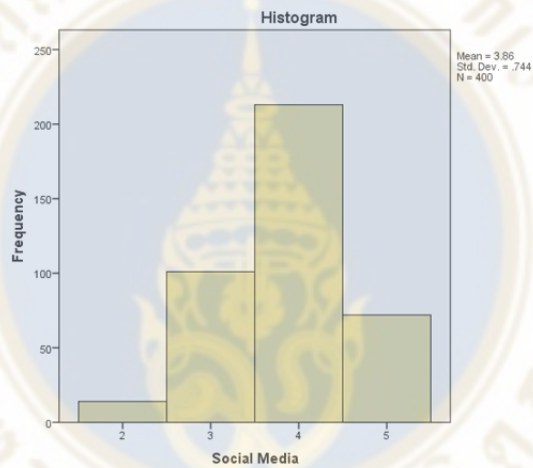
Figure 4.5 Histogram Graph of Intention to Use Online CoP
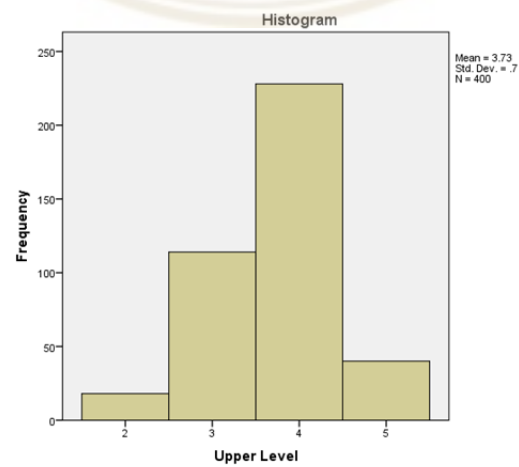
Figure 4.6 Histogram Graph of Upper Level
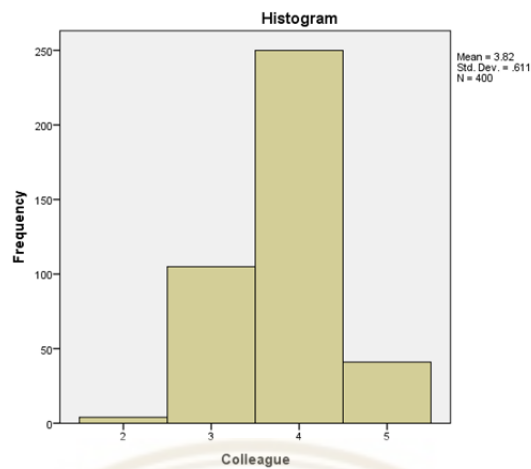
Figure 4.7   Histogram Graph of Colleague

According to the results of Histogram graphs of all variables, it could be concluded that all graphs showed symmetric data. Most of them had the average scores in the range of 3 and 4 with data distribution in the normal pattern.

The second graph the researcher used for normality test was Boxplot, which was the method that ploted the data based on the median at the percentile of 25 and 75 and any plausible outliers or extremes that had high maximums or low minimums. If the outlier or extreme existed in the graph of any specific variable, it was considered asymmetric. The results of normality test through Boxplot were as following:
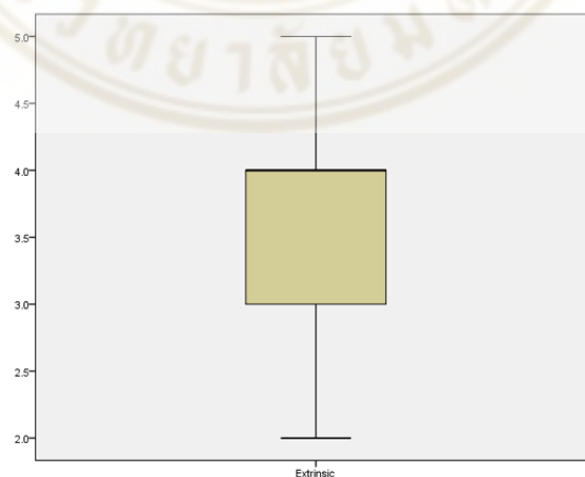
Figure 4.8 Boxplot Graph of Extrinsic
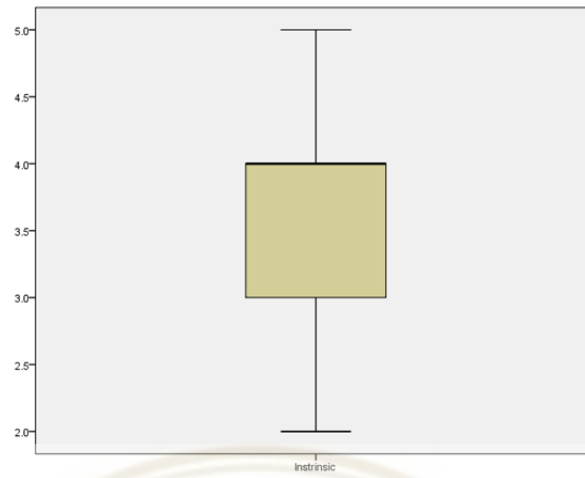
Figure 4.9 Boxplot Graph of Intrinsic
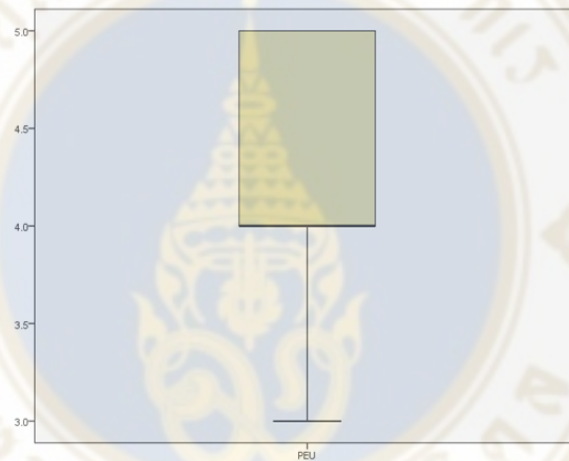
Figure 4.10 Boxplot Graph of Perceived Ease of Use
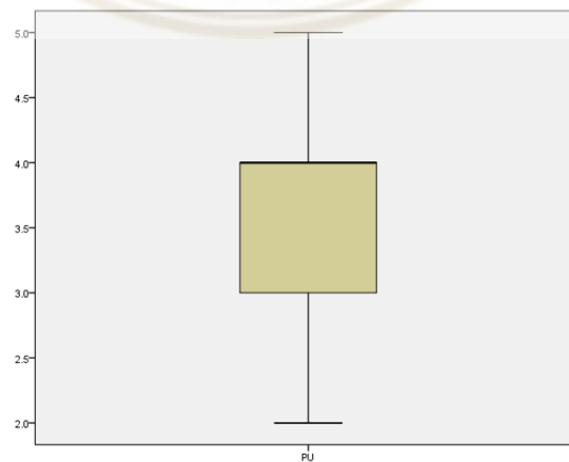
Figure 4.11 Boxplot Graph of Perceived Usefulness
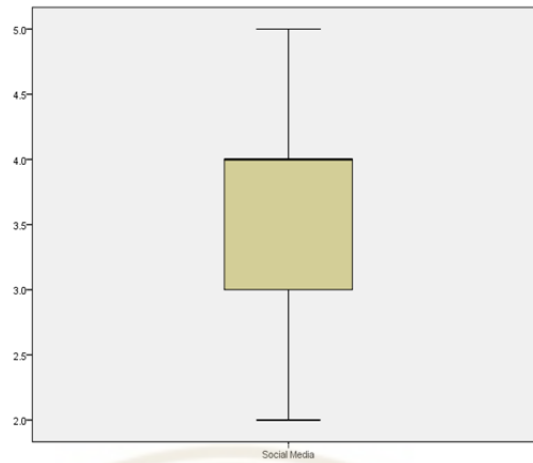
Figure 4.12 Boxplot Graph of Social Media
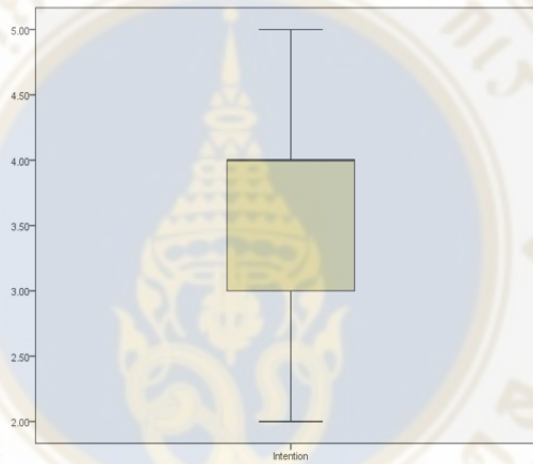
Figure 4.13 Boxplot Graph of Intention to Use Online CoP
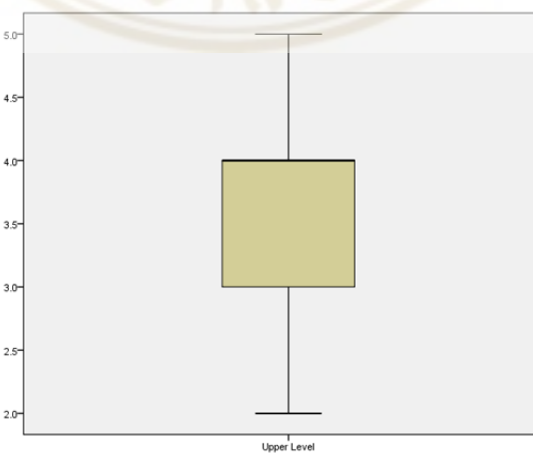
Figure 4.14 Boxplot Graph of Upper Level
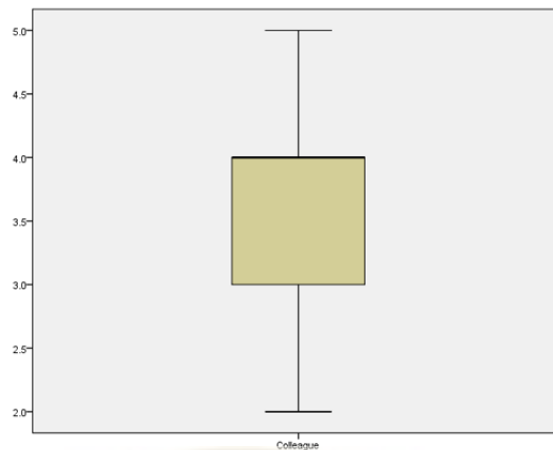
Figure 4.15 Boxplot Graph of Colleague

With all Boxplot graphs above, it could be concluded that all variable were symmetric since there was no outlier or extreme. Even though the Boxplot graph of Perceived Ease of Use was quite high but still considered normal because it did not exceed Q1 + 1.5IQR (Wanichbuncha K., 2014). As the result, it could be concluded that, through Boxplot test for data normality, the collected data of all variables was symmetric as there was no outlier or extreme.

The last graph the researcher used for ensuring data normality was Normal Probability Plot (Normal Q-Q Plot). This method was to compare the collected data with the expected value. The expected value, in this case, was considered symmetric and was drawn as a straight line. To test the data normality, the collected data would be plotted as a dot in the graph along with the line of expected value. If the collected data was symmetric, the dots should be plotted around the line of the expected value. The results of Normal Probability Plot (Normal Q-Q Plot) were as following:
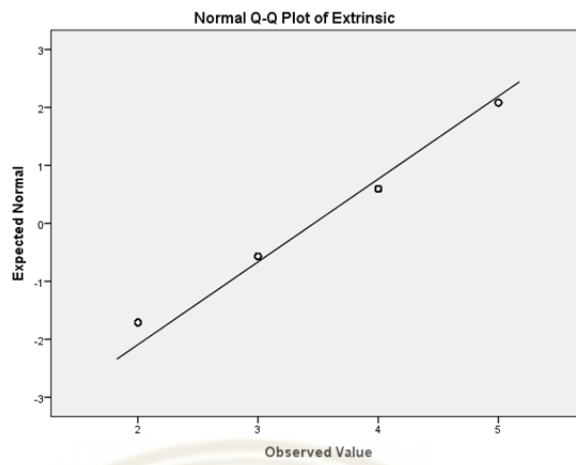
Figure 4.16 Normal Q-Q Plot of Extrinsic
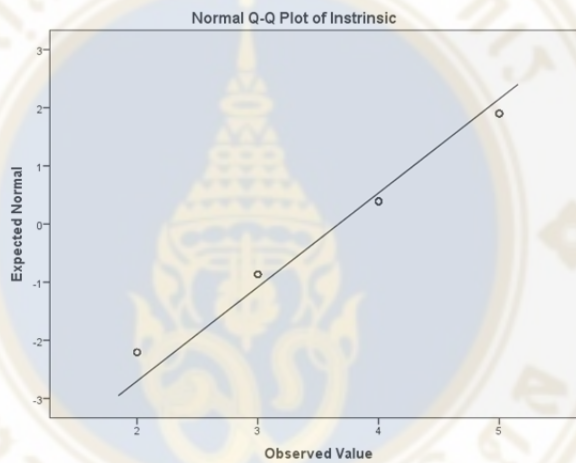
Figure 4.17 Normal Q-Q Plot of Intrinsic
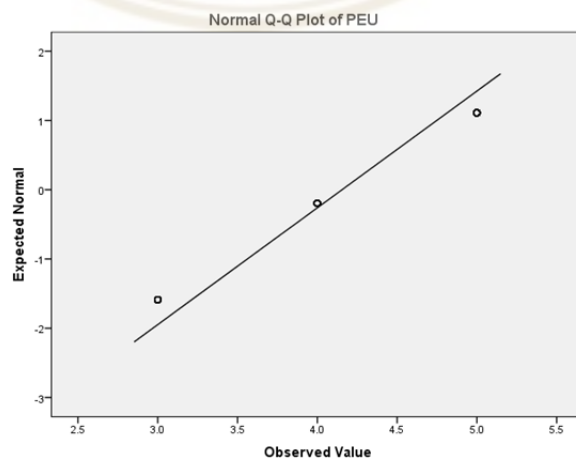
Figure 4.18 Normal Q-Q Plot of Perceived Ease of Use
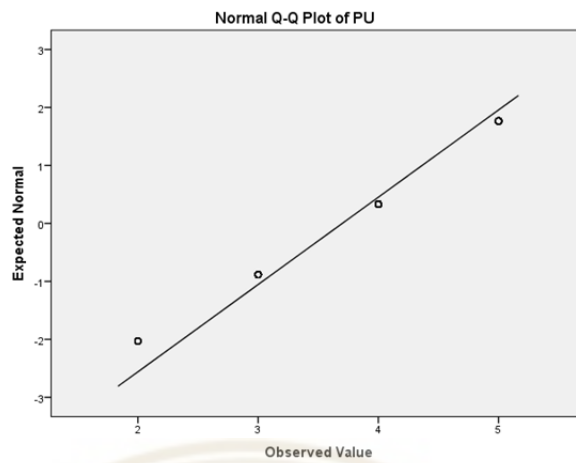
Figure 4.19 Normal Q-Q Plot of Perceived Usefulness
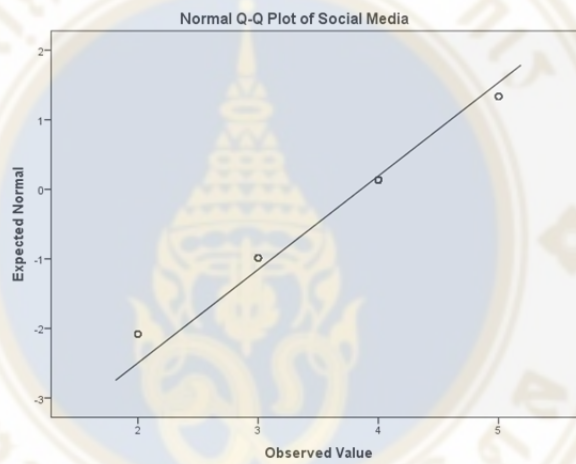
Figure 4.20   Normal Q-Q Plot of Intention to Use Online CoP
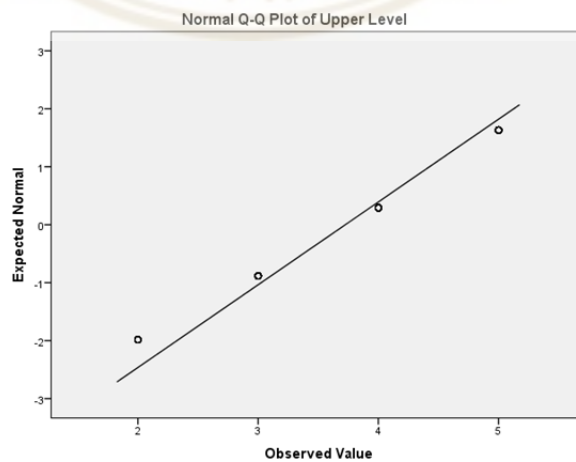
Figure 4.21   Normal Q-Q Plot of Upper Level
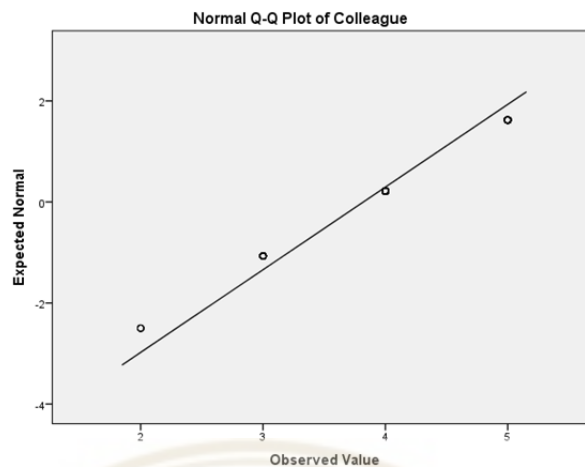
Figure 4.22 Normal Q-Q Plot of Colleague

According to all Normal Probability Plots of all variables above, it could be concluded that all collected data of each variable was symmetric since all dots were plotted around the straight line that represented the expected value of the particular variable.

To Sum up, as the researcher performed the normality test through various means, which were Skewness and Kurtosis, Histogram, Boxplot, and Normal Probability Plot (Normal Q-Q Plot) through both AMOS & SPSS, the researcher found that all collected data of each variable was symmetric with normal data distribution. There was only Perceived Ease of Use that reflected the high maximum in Boxplot graph but could still be considered normal since no outlier or extreme existed. Hence, the research could continue using this set of data in the next step for hypothesis testing.

4.2 Reliability and Validity Tests

Before testing the hypothesis through SEM technique, it was also necessary for the researcher to perform the reliability and validity tests to make sure that the set of collected data was reliable and valid for the objectives of this research so that the results from hypothesis testing in the next step would be practical with no distortion.

4.2.1 Reliability Test

In order to measure the reliability of the collected data, the researcher decided to apply Cronbach's Alpha coefficient, which was usually used with CFA model and widely used by many researchers because it could measure the internal consistency to examine the set of answers of the same question if they were consistent. The criteria of acceptable reliability coefficient of Cronbach's Alpha were as following:

- Reliability Coefficient > 0.9 = Extremely Consistent Answer
- Reliability Coefficient > 0.8 = Highly Consistent Answer
- Reliability Coefficient > 0.7 = Consistent Answer

As the researcher performs Cronbach's Alpha to measure the reliability coefficient of all variables, the researcher got the following results:

Table 4.2 Cronbach's Alpha Values

Variable	Cronbach's Alpha Value
Extrinsic	.898
Intrinsic	.889
PEU	.890
PU	.888
Social Media	.888
Upper Level	.890
Colleague	.892
Intention	.872

According to the column "Cronbach's Alpha Value" in the table above, which indicates the reliability coefficients of 8 variables in case one was deleted, the scores of each item was in the range of 0.8. As the result, it could be concluded that this set of collected data was highly consistent and reliable.

4.2.2 Validity Test

In order to make sure that all answers would be given with the right understanding of the specific questions, the research composed the draft version and had it reviewed by the research advisor. The intention of the review was not just to make sure that all questions would be understood correctly, but also to make sure that they were in the right direction according to the objectives of this research.

After the research advisor reviewed the questionnaire, the researcher also sent them to 5 people who had work experience and seniority in Call Center industry for the review in order to make sure that all questions were in the context that Call Center agents could understand and give the answers based on virtual comprehension.

Plus, to make sure that all obtained data were usable, the researcher also conducted the construct ,convergent and discriminant validity test to make sure all of them were well validated and qualified to use for running Confirmatory Factor Analysis (CFA) & Structural Equation Modeling Analysis (SEM) to find the final result according to the research question and its hypotheses.

Firstly, the researcher created the CFA model and conducted the construct validity test in order to assess that the factors were actually reflected by their loaded scale items. The criterion for factor loading is that the particular item must have the factor loading equal to or greater than 0.6 (MacCallum et al. 1999, 2001). Therefore, before moving to the next step for conducting the convergent validity, the researcher decided to remove the following items, which had the factor loadings less than 0.6.

Table 4.3 Factor Loading Values

Standardized Regression Weights			Estimate
EX5	<---	Extrinsic	0.752
EX4	<---	Extrinsic	0.562
EX3	<---	Extrinsic	0.664
EX2	<---	Extrinsic	0.579
EX1	<---	Extrinsic	0.73
IN11	<---	Intrinsic	0.593
IN10	<---	Intrinsic	0.75
IN9	<---	Intrinsic	0.732
IN8	<---	Intrinsic	0.821
IN7	<---	Intrinsic	0.741
IN6	<---	Intrinsic	0.713
IN5	<---	Intrinsic	0.718
IN4	<---	Intrinsic	0.637

Table 4.3   Factor Loading Values (cont.)

Standardized Regression Weights			Estimate
IN3	<---	Intrinsic	0.633
IN2	<---	Intrinsic	0.693
IN1	<---	Intrinsic	0.466
PEU6	<---	PEU	0.834
PEU5	<---	PEU	0.788
PEU4	<---	PEU	0.744
PEU3	<---	PEU	0.792
PEU2	<---	PEU	0.8
PEU1	<---	PEU	0.778
SM5	<---	Social Media	0.803
SM4	<---	Social Media	0.865
SM3	<---	Social Media	0.706
SM2	<---	Social Media	0.818
SM1	<---	Social Media	0.898
UP1	<---	Upper Level	0.735
UP2	<---	Upper Level	0.772
MS1	<---	Upper Level	0.819
PU1	<---	PU	0.773
PU2	<---	PU	0.733
PU3	<---	PU	0.796
PU4	<---	PU	0.718
PU5	<---	PU	0.698
CL1	<---	Colleague	0.883
CL2	<---	Colleague	0.913
ATT1	<---	Attitude	0.508
ATT2	<---	Attitude	0.464
ATT3	<---	Attitude	0.41
ATT4	<---	Attitude	0.726
ATT5	<---	Attitude	0.768
ATT6	<---	Attitude	0.648
ATT7	<---	Attitude	0.67
ATT8	<---	Attitude	0.638
ATT9	<---	Attitude	0.725
ATT10	<---	Attitude	0.702
ATT11	<---	Attitude	0.632
ATT12	<---	Attitude	0.63
INT1	<---	Intention	0.798
INT2	<---	Intention	0.803
INT3	<---	Intention	0.8

Secondly, after having only the items containing factor loadings equal to or above 0.6, the researcher moved to the next step to conduct the convergent validity of each factor in order to validate the degree to which the different scale items within the particular factor have high correlation (Hair et al., 2001). This validity test would

be measured through the value of Average Variance Extracted (AVE), which should be equal to or greater than 0.5. However, it could still be acceptable if the AVE is in the range of 0.4 to 0.5 in case the values of CR is greater than 0.6 (Fornell & Larcker, 1981). The researcher conducted the convergent validity test and found that all factors had the values of AVE greater than 0.4. This implied that all of them were qualified. The result of convergent validity test was below:

Table 4.4 Average Variance Extracted (AVE)

Item		Variable	Estimate	Squared Loading	AVE
EX5	<---	Extrinsic	0.749	0.561	**0.426**
EX3	<---	Extrinsic	0.564	0.318	
EX1	<---	Extrinsic	0.632	0.399	
IN11	<---	Intrinsic	0.699	0.489	**0.511**
IN10	<---	Intrinsic	0.752	0.566	
IN9	<---	Intrinsic	0.757	0.573	
IN8	<---	Intrinsic	0.809	0.654	
IN7	<---	Intrinsic	0.748	0.560	
IN6	<---	Intrinsic	0.717	0.514	
IN5	<---	Intrinsic	0.703	0.494	
IN4	<---	Intrinsic	0.625	0.391	
IN3	<---	Intrinsic	0.639	0.408	
IN2	<---	Intrinsic	0.68	0.462	
PEU6	<---	PEU	0.825	0.681	**0.616**
PEU5	<---	PEU	0.794	0.630	
PEU4	<---	PEU	0.765	0.585	
PEU3	<---	PEU	0.812	0.659	
PEU2	<---	PEU	0.764	0.584	
PEU1	<---	PEU	0.745	0.555	
SM5	<---	Social Media	0.767	0.588	**0.671**
SM4	<---	Social Media	0.879	0.773	
SM3	<---	Social Media	0.717	0.514	
SM2	<---	Social Media	0.833	0.694	
SM1	<---	Social Media	0.886	0.785	
UP1	<---	Upper Level	0.745	0.555	**0.619**
UP2	<---	Upper Level	0.805	0.648	
MS1	<---	Upper Level	0.808	0.653	
PU1	<---	PU	0.767	0.588	**0.557**
PU2	<---	PU	0.744	0.554	
PU3	<---	PU	0.796	0.634	
PU4	<---	PU	0.718	0.516	
PU5	<---	PU	0.702	0.493	

Table 4.4 Average Variance Extracted (AVE) (cont.)

Item		Variable	Estimate	Squared Loading	AVE
CL1	<---	Colleague	0.881	0.776	**0.808**
CL2	<---	Colleague	0.916	0.839	
INT1	<---	Intention	0.784	0.615	**0.639**
INT2	<---	Intention	0.821	0.674	
INT3	<---	Intention	0.792	0.627	

Lastly, the researcher conducted the discriminant validity in order to examine and confirm that all factors were not highly correlated with each other and qualified to use for further analysis. There are various methods for measuring discriminant validity, one of the practical method is to conduct the test by comparing the average variance extracted (AVE) with the average shared variance (ASV). The discriminant validity would be considered adequate only when the values of AVE are greater than ASV. The researcher performed the test and compared the both values of each factor and found that all factors are qualified as all AVEs are greater than all ASV. The results were described in the table below:

Table 4.5 Comparison of ASV & AVE

Variable	ASV	AVE
Extrinsic	0.360	0.426
Intrinsic	0.420	0.511
PEU	0.336	0.616
PU	0.476	0.557
Social Media	0.336	0.671
Upper Level	0.447	0.619
Colleague	0.296	0.808
Intention	0.420	0.639

Furthermore, since the researcher aimed to conduct the second order CFA and SEM in order to find the result according to the hypotheses, the researcher also drew the 2nd order CFA according to the proposed conceptual framework and performed the construct, convergent, discriminant validity test with the latent factors, which are

Attitude toward Using Online CoP and Social Influence. All results passed the acceptance criteria with details as following:

Table 4.6 Construct Validity of 2nd order CFA

Item		Variable	Estimate
Colleague	<---	Social Influence	0.78
Upper Level	<---	Social Influence	0.984
Extrinsic	<---	Attitude	0.769
Intrinsic	<---	Attitude	0.8
PU	<---	Attitude	0.897
PEU	<---	Attitude	0.712
Social Media	<---	Attitude	0.733

Table 4.7 Convergent Validity of 2nd order CFA

Item		Variable	Estimate	Squared Loading	AVE
Colleague	<---	Social Influence	0.78	0.608	**0.788**
Upper Level	<---	Social Influence	0.984	0.968	
Extrinsic	<---	Attitude	0.769	0.591	**0.616**
Intrinsic	<---	Attitude	0.8	0.640	
PU	<---	Attitude	0.897	0.805	
PEU	<---	Attitude	0.712	0.507	
Social Media	<---	Attitude	0.733	0.537	

Table 4.8 Discriminant Validity of 2nd order CFA

Variable	ASV	AVE
intention	0.591	0.616
social influence	0.555	0.788

4.3 Demographic Profile of the Respondents

From 400 questionnaires, 71% or 286 respondents were female. 29% or 114 respondents were male. The reason for this proportion was the fact that women were likely to work in the customer service field, and Call Center was not different. However, there were also men who work in Call Center industry, but mostly, would be in the teams that deal with IT issues/ devices.
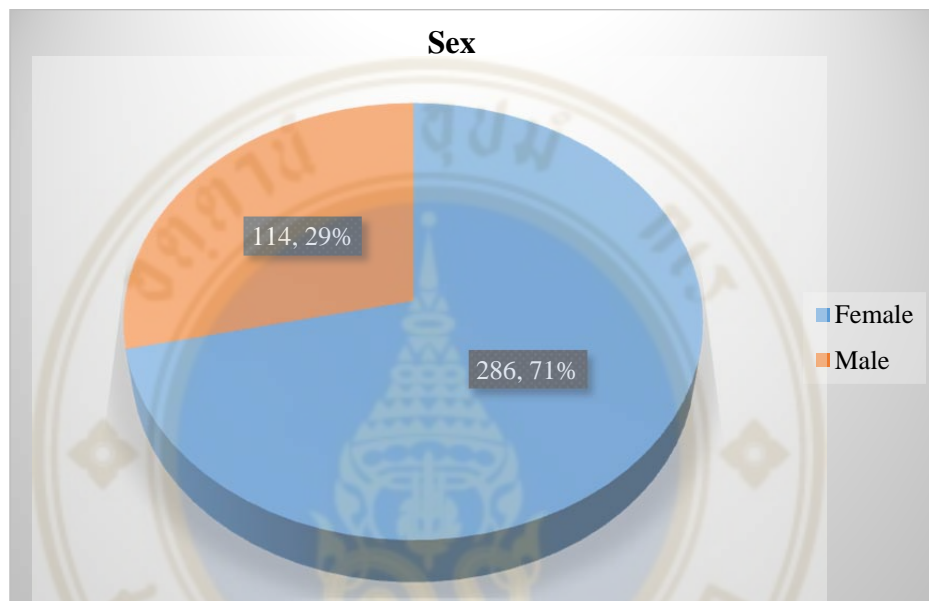
Figure 4.23 Proportion of Male & Female

The age of the majority of respondents was 32-38 with the number of 192 respondents or 48%. Another 36% was for those who had age in the range of 25-31 with the number of 146 respondents. However, only 8% or 32 respondents were 39-44, and only 3% or 10 respondents were 45 and above. The plausible reason might be that the researcher aimed to distribute questionnaires to those Call Center agents who were still routinely giving services to customers in order to get the most accurate result. In the industry, most of those who were 39 year old and above tended to be promoted to the higher ranks that did not need to deal with customers directly.
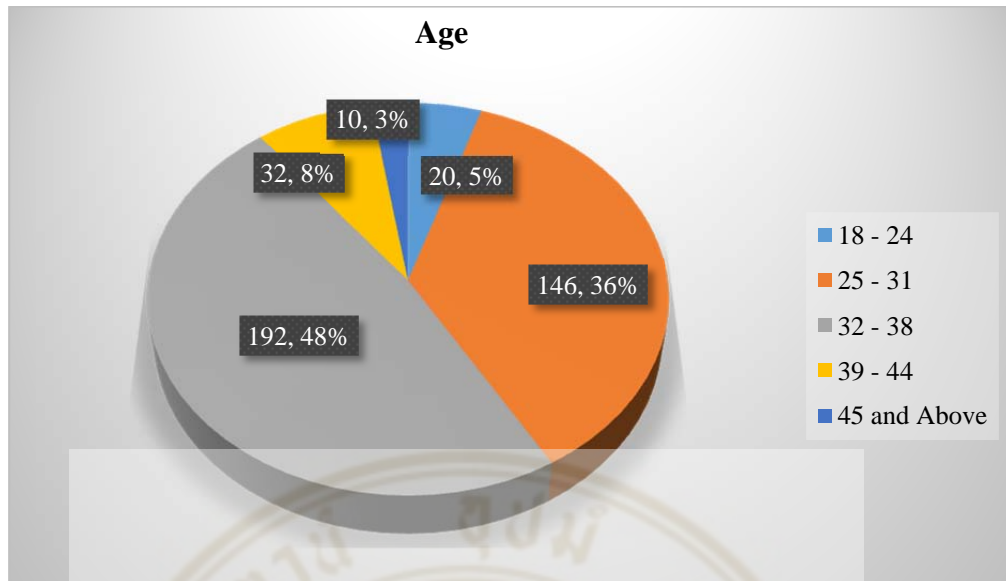
Figure 4.24 Proportion of Ages

        For education, according to given answers from 400 respondents who work as Call Center agents, the result was quite obvious that the majority, 370 respondents or 92%, were those who finished their schools with the Bachelor's Degrees. Only 7% or 26 people who continued their studies and graduate with the Master's Degrees. The ratio was even less for Diploma or equal, which was only 1% or 4 respondents. The plausible reason behind this fact could be traced back to the social norm of Thai people, which believed that, to make a living, people should at least finish the Bachelor's Degree. This also reflected in the job qualification in almost every company in Thailand. Plus, to work as a Call Center agent, it did not really require high educational background to perform the job function. That was why the result showed that most of respondents had Bachelor's Degree.
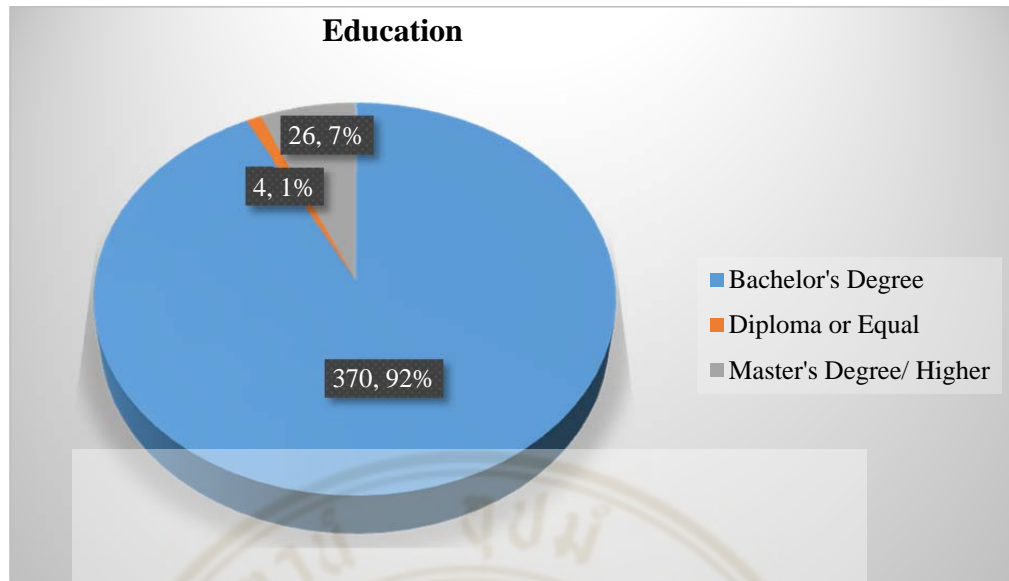
Figure 4.25 **Proportion of Education Level**

For work experience, it turned out that the majority of respondents, which was 32% or 126 people, had work experience more than 10 years. The lesser group were those who had work experience around 8-10 years in Call Center industry. The percentage of those who had work experience for 0-2 years and 3-5 years were 18% with the respondent numbers of 72 and 74 respectively. The percentage of those who had work experience for 6-8 yeas was the least one, which was only 11% or 44 people. The explanation would be that the questionnaires were mainly distributed to the teams containing those who worked in Call Center industry long enough so that they could give most reliable answers based on true characteristics of Call Center career and what was inside it.
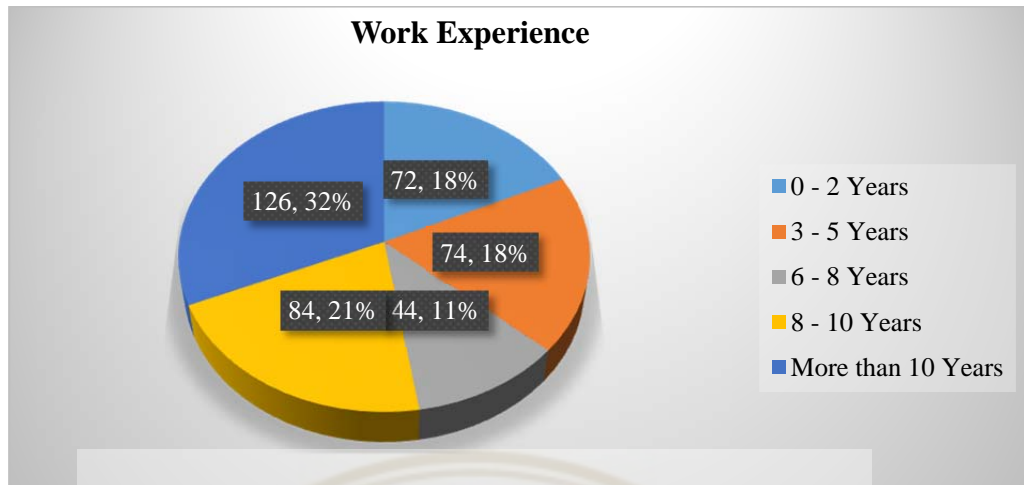
Work Experience

Figure 4.26   Proportion of Work Experience

For salary, the significant ratios would be upon those who earned salary 15,001-20,000 THB with the respondent number of 136 or 34%, and those who earned salary 20,001-25,000 THB with the respondent number of 102 or 25%. Other ratios were around the same size – 40,001 THB and above at 13% (50 respondents), 25,001-30,000 at 12% (48 respondents), 30,001-35,000 THB at10% (40 respondents). The groups of those who earned less than 15,000 THB and 35,001-40,000 THB per month shared the same percentage of 3% or 12 respondents. The result of this demographic factor was quite precise comparing with reality of Call Center career since their incomes were not high.
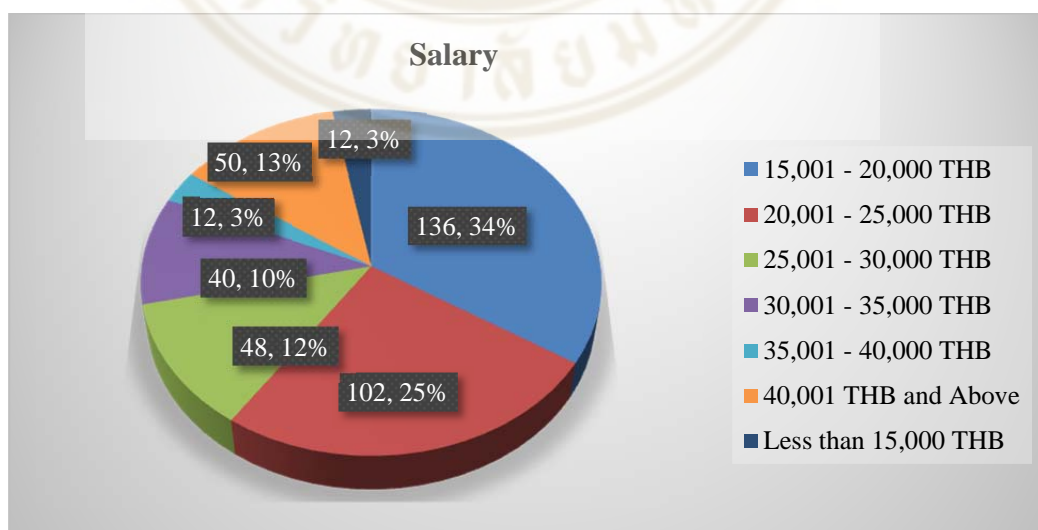
Salary

Figure 4.27   Proportion of Salary

For the number of hour spent on internet, it turned out that the majority of respondents tend to spend their time on the internet more than 8 hours per day (162 people, 41%). The lesser ratio was 6-8 hours per day with the number of 130 respondents or 33%. There were 98 respondents or 24% who spent 3-5 hours on the internet and only 10 respondents or 2% that rarely used internet in their daily lives (0-2 hours). The result of this demographic factor was also considered precise since people nowadays tended to be connected online through their smart devices like mobile phones or gadgets.
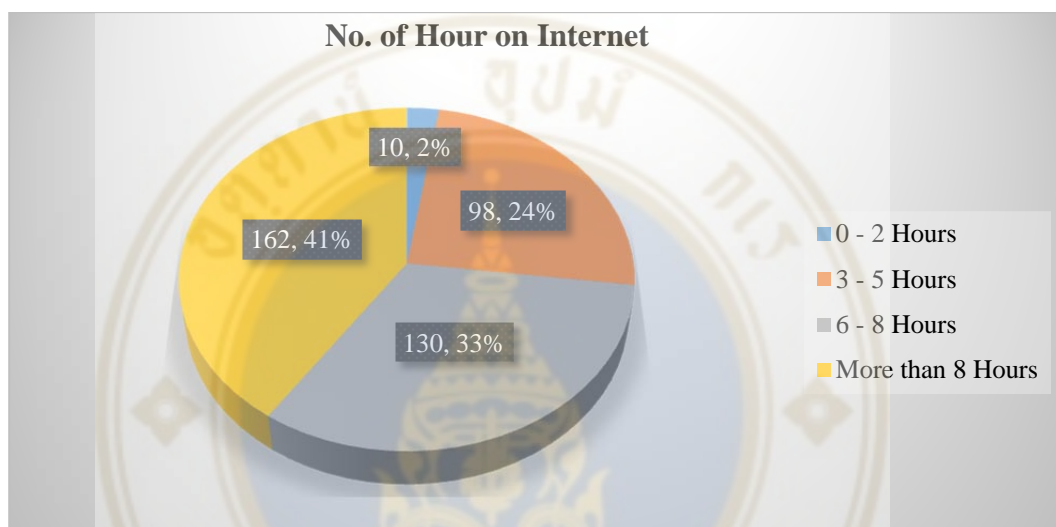
Figure 4.28 Proportion of Time Spent on Internet

For the last demographic factor, which was the number of social application, the result indicated that most of the respondents used more than 4 social applications in their daily lives (264 respondents, 66%). In addition, there were 82 respondents or 21% that used 3 social applications. Only 46 respondents (11%) had 2 social applications. It was even less for those who used only 1 social application (8 respondents, 2%). The research believed that this result was significantly related with the result of the previous demographic factor, the number of hour spent on internet. The more people spent time on internet, the more they tended to explore internet through the variety of social applications.
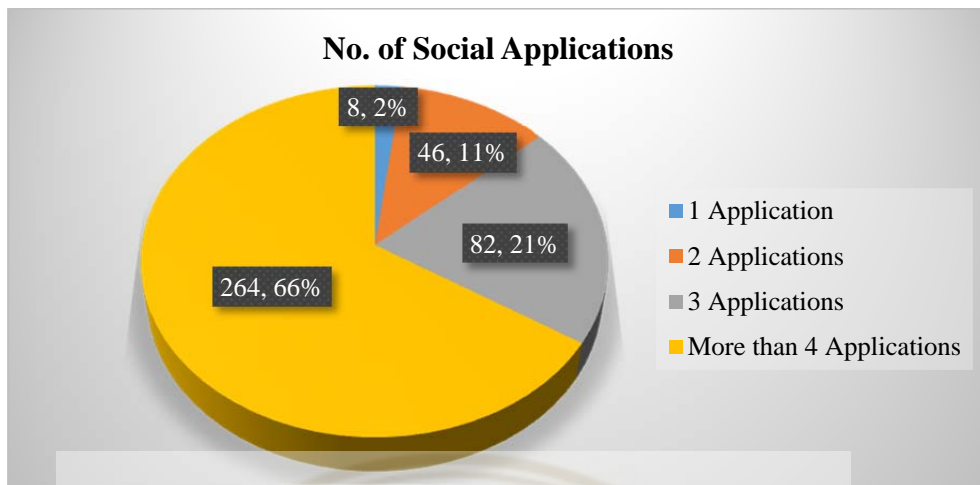
Figure 4.29 Proportion of Used Social Application

4.4 Descriptive Analysis

Table 4.9 Descriptive Analysis

	Mean	Std. Deviation	N
Extrinsic	3.47	.700	400
Intrinsic	3.67	.618	400
PEU	4.16	.593	400
PU	3.70	.664	400
Social Media	3.86	.744	400
Upper Level	3.73	.700	400
Colleague	3.80	.643	400
Intention	3.75	.668	400

Descriptive statistics were used to determine the mean and standard deviation scores for the research constructs. The details were displayed in the table above.

4.5 Measurement of Model Testing

As SEM consisted of 2 steps, which were validating the measurement model and fitting the structural model, the researcher described analysis results in the following section.

Before starting the measurement model testing, the researcher had already assessed all constructs and indicated as the acceptable values in term of validity and reliability in the section above. Consequently, before interpreting hypothesis results, the fit of the model was required to measure through various means as following:

Table 4.10   Fit Indices and Their Acceptable Ratios

Item	Fit Index	Abbreviation	Acceptable Ratio	Remark
1	Relative Chi - Square	CMIN/DF	Less than 5	- Awang, Z. (2012). Structural Equation Modeling Using Amos Graphic: UiTM Press.
2	Goodness-of-fit Index	GFI	More than 0.8	- J. F. Hair, R. E. Anderson, R. L. Tatham and W. C. Black, "Multivariate Data Analysis," Prentice Hall, Englewood Cliffs, 2009.
3	Adjusted Goodness-of-fit Index	AGFI	More than 0.8	- M. W. Browne and R. Cudeck,
4	Normed Fit Index	NFI	More than 0.8	"Alternative Ways of Assessing Model Fit, in Testing Structural Equation Models," Sage Publication, 1993. - G. A. Marcoulides & R. E. Schumacker (Eds.). (1996). Advanced structural equation modeling: Issues and techniques. Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
5	Relative Fit Index	RFI	More than 0.8	- Awang, Z. (2012). Structural Equation Modeling Using Amos Graphic: UiTM Press."

After initially running the model fit underlying a full structural equation model, the researcher came up with the following results:
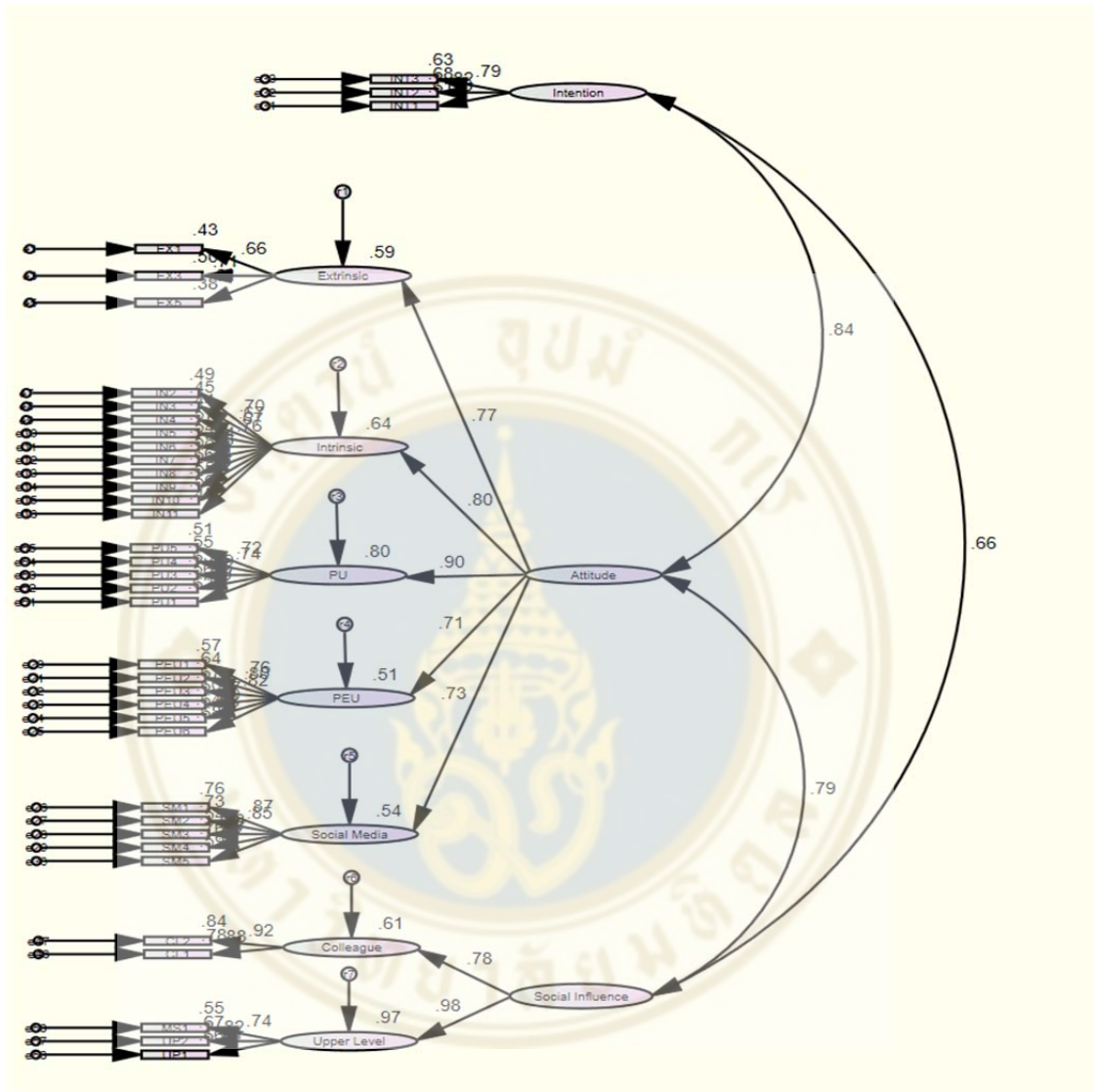
Figure 4.30 Confirmatory Factor Analysis (No Modification Indices)

Table 4.11 Fit Index Outcomes from Confirmatory Factor Analysis (No Modification Indices)

Item	Fit Index	Abbreviation	Acceptable Ratio	Outcome CFA3
1	Relative Chi - Square	CMIN/DF	Less than 5	4.121
2	Incremental Fit Index	IFI	More than 0.8	0.82
3	Tucker- Lewis Index	TLI	More than 0.8	0.805
4	Comparative Fit Index	CFI	More than 0.8	0.819
5	Root Mean Square Error of Approximation	RMSEA	Less than 0.08	0.088

As described in the table above, the model fit, which was measured through several methods, was considered unacceptable as some statistical value passes the acceptance ratio.

In order to adjust the fitness of the model, the researcher decided to apply Modification Indices (MI), which was to pair some residual errors so that Chi-square would be decreased and fitness of the model would, on the other hand, be increased accordingly.

As the result, the researcher decided to pair the following errors to decrease Chi-square and increase the model fit:

Table 4.12 Modification Indices and Par Change Values of Confirmatory Factor Analysis

			M.I.	Par Change
e54	<-->	e55	39.24	0.054
e52	<-->	e55	16.28	-0.041
e52	<-->	e54	10.43	-0.034
e51	<-->	e52	24.27	0.057
e57	<-->	e58	16.21	-0.047
e56	<-->	e57	10.82	0.038

Table 4.12 Modification Indices and Par Change Values of Confirmatory Factor Analysis (cont.)

			M.I.	Par Change
e28	<-->	e26	14.06	-0.038
e28	<-->	e27	27.82	0.054
e21	<-->	e20	124.23	0.104
e23	<-->	e20	26.84	-0.050
e24	<-->	e21	11.47	-0.031
e24	<-->	e22	12.50	-0.030
e24	<-->	e23	50.02	0.067
e25	<-->	e20	10.18	-0.027
e25	<-->	e22	22.87	0.037
e8	<-->	e7	86.88	0.139
e9	<-->	e7	26.77	0.074
e10	<-->	e7	12.41	0.042
e10	<-->	e9	39.36	0.078
e11	<-->	e9	14.30	-0.052
e11	<-->	e10	14.41	0.043
e12	<-->	e11	59.24	0.096
e13	<-->	e7	18.40	-0.049
e15	<-->	e7	25.90	-0.065
e15	<-->	e13	29.82	0.057
e15	<-->	e14	16.14	0.046
e16	<-->	e10	10.19	-0.037
e16	<-->	e11	18.62	-0.055

After linking 28 pairs of errors for model fit improvement, the researcher run the model fit again and get the Figure 4.31 Confirmatory Factor Analysis (No Modification Indices)
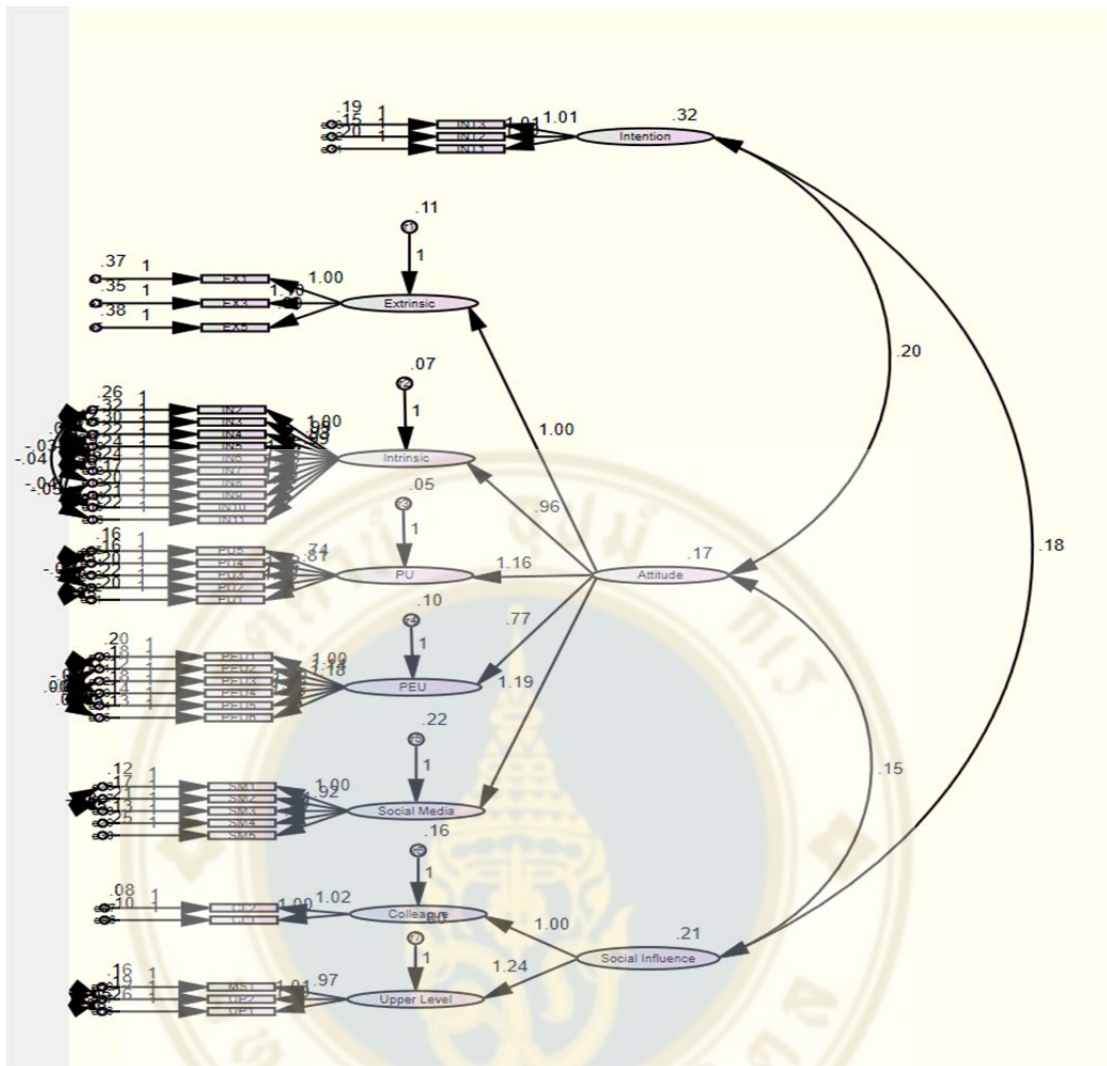
Figure 4.31 Confirmatory Factor Analysis (Modification Indices Conducted)

Table 4.13 Fit Index Outcomes from Confirmatory Factor Analysis (Modification Indices Conducted)

Item	Fit Index	Abbreviation	Acceptable Ratio	Outcome CFA3.1
1	Relative Chi - Square	CMIN/DF	Less than 5	3.113
2	Incremental Fit Index	IFI	More than 0.8	0.884
3	Tucker- Lewis Index	TLI	More than 0.8	0.868
4	Comparative Fit Index	CFI	More than 0.8	0.883
5	Root Mean Square Error of Approximation	RMSEA	Less than 0.08	0.073

After pairing residual errors to improve the model fit by decreasing the value of Chi-square, the statistical values regarding model fit had been significantly changed in the positive aspect as they were displayed in the table above. However, there were 2 statistical values, Relative Chi – Square (CMIN/DF) and Root Mean Square Error of Approximation (RMSEA), that seemed unacceptable as their values exceeded the model fit ratio.

For CMIN/DF, the value the researcher got from model fit measurement was 2.96, but the acceptance ratio for good fitness was not over 2.0. However, according to Awang (2012), the model could be considered fit in case the values of CMIN/DF were not greater than 5.0. As the result, the values of 3.113 could still be considered acceptable as well.

For RMSEA, the value the researcher got from measurement was 0.07, which was greater than the acceptance ratio at 0.05. Nonetheless, Schumaker & Lomax (2004) proposed the acceptance ratio of RMSEA as following:

Table 4.14 Acceptable Criteria of RMSEA and Its Meanings

Item	RMSEA	Assumption
1	RMSEA $\leq$ 0.05	Significantly Fit
2	0.05 < RMSEA $\leq$ 0.08	Moderately Fit
3	RMSEA > 0.08	Significantly Unfit

In this case, the researcher run the model fit measurement and got the value of RMSEA at 0.08, which, according to the details described in the table above, could be considered acceptable as the model was moderately fit.

After getting the acceptable model fit result from the 2nd order CFA mentioned above, the researcher started to conduct SEM analysis in order to prove if the assumption regarding the research's hypotheses is true. However, before doing so, similar to the 2nd order CFA, the research was required to measure the model fit index of SEM as well.

As the result, the researcher performed the analysis and obtained the values regarding model fit index as following:

Table 4.15 Fit Index Outcomes from Structural Equation Modeling (No Modification Indices)

Item	Fit Index	Abbreviation	Acceptable Ratio	Outcome SEM3
1	Relative Chi - Square	CMIN/DF	Less than 5	**4.618**
2	Incremental Fit Index	IFI	More than 0.8	**0.791**
3	Tucker- Lewis Index	TLI	More than 0.8	**0.774**
4	Comparative Fit Index	CFI	More than 0.8	**0.79**
5	Root Mean Square Error of Approximation	RMSEA	Less than 0.08	**0.095**

Since several key values of model fit index did not pass the defined criteria, the researcher decided to perform the modification indices by pairing some residual errors in order to meet the model fit criteria.

As the result, the researcher decided to pair the following errors to decrease Chi-square and increase the model fit:

Table 4.16 Modification Indices and Par Change Values of Structural Equation Modeling

			M.I.	Par Change
e54	<-->	e55	38.12	0.053
e52	<-->	e55	14.02	-0.039
e52	<-->	e54	10.49	-0.034
e51	<-->	e52	27.63	0.062
e28	<-->	e26	14.17	-0.038
e28	<-->	e27	27.60	0.054
e21	<-->	e20	125.99	0.105
e23	<-->	e20	25.38	-0.048
e24	<-->	e21	10.76	-0.030
e24	<-->	e22	13.12	-0.031
e24	<-->	e23	50.22	0.067

Table 4.16 Modification Indices and Par Change Values of Structural Equation Modeling (cont.)

			M.I.	**Par Change**
e25	<-->	e20	10.01	-0.027
e25	<-->	e22	21.30	0.035
e8	<-->	e7	86.17	0.138
e9	<-->	e7	26.56	0.074
e10	<-->	e7	12.07	0.042
e10	<-->	e9	39.06	0.078
e11	<-->	e9	13.80	-0.051
e11	<-->	e10	14.72	0.044
e12	<-->	e11	60.47	0.098
e13	<-->	e7	18.97	-0.050
e15	<-->	e7	26.66	-0.066
e15	<-->	e13	29.37	0.057
e15	<-->	e14	16.18	0.046
e16	<-->	e10	10.21	-0.037
e16	<-->	e11	17.59	-0.054

After linking 26 pairs of errors for model fit improvement, the researcher run the model fit again and get the following results:
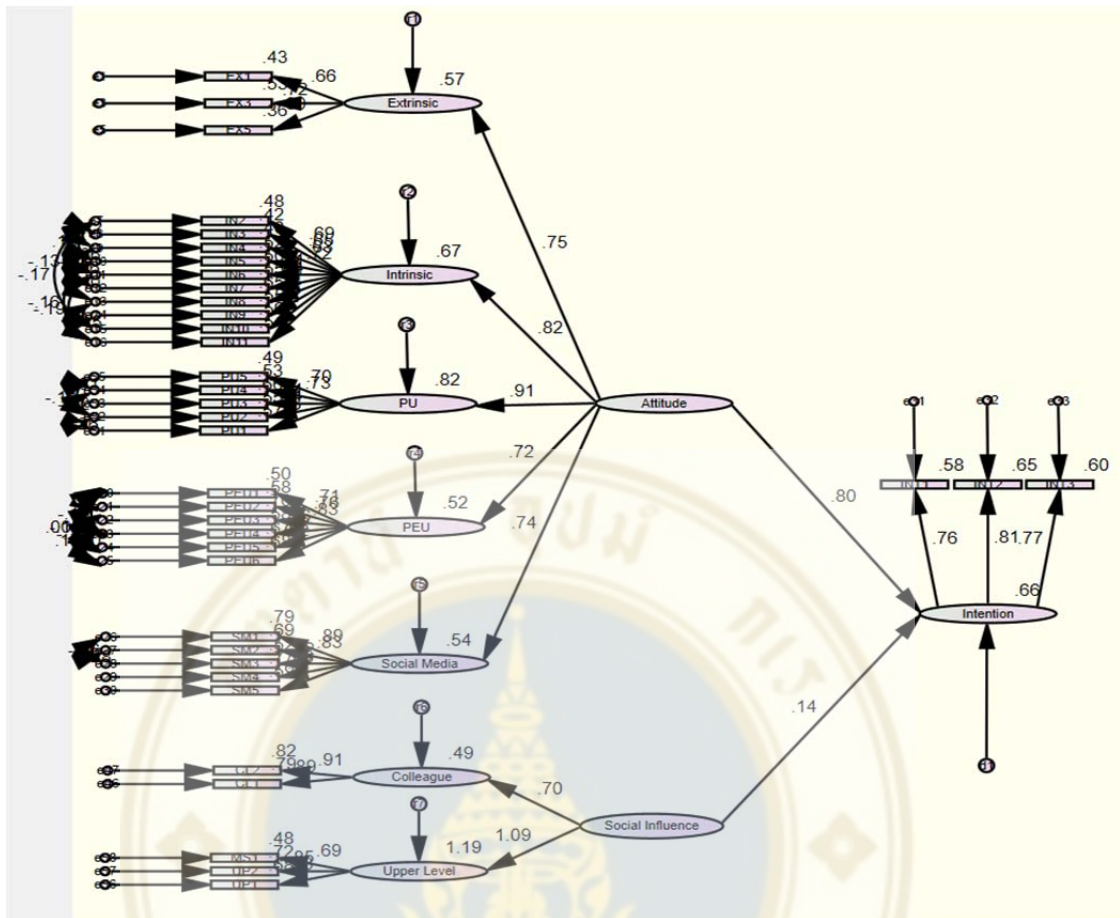
Figure 4.32 Structural Equation Modeling (Modification Indices Conducted)

Table 4.17 Fit Index Outcomes from Structural Equation Modeling (Modification Indices Conducted)

Item	Fit Index	Abbreviation	Acceptable Ratio	Outcome SEM3.1
1	Relative Chi - Square	CMIN/DF	Less than 5	3.554
2	Incremental Fit Index	IFI	More than 0.8	0.859
3	Tucker- Lewis Index	TLI	More than 0.8	0.841
4	Comparative Fit Index	CFI	More than 0.8	0.858
5	Root Mean Square Error of Approximation	RMSEA	Less than 0.08	0.08

Therefore, all key model fit index values were acceptable according to the standard criteria. That means the researcher was able to move to the next step for proving the hypothesis' results in the next section.

4.6 Hypotheses Testing

After performing Modification Indices in order to obtain the accpetable model fit, the resarcher proceeds further to the next step for result analysis and acquire the folllowing details:
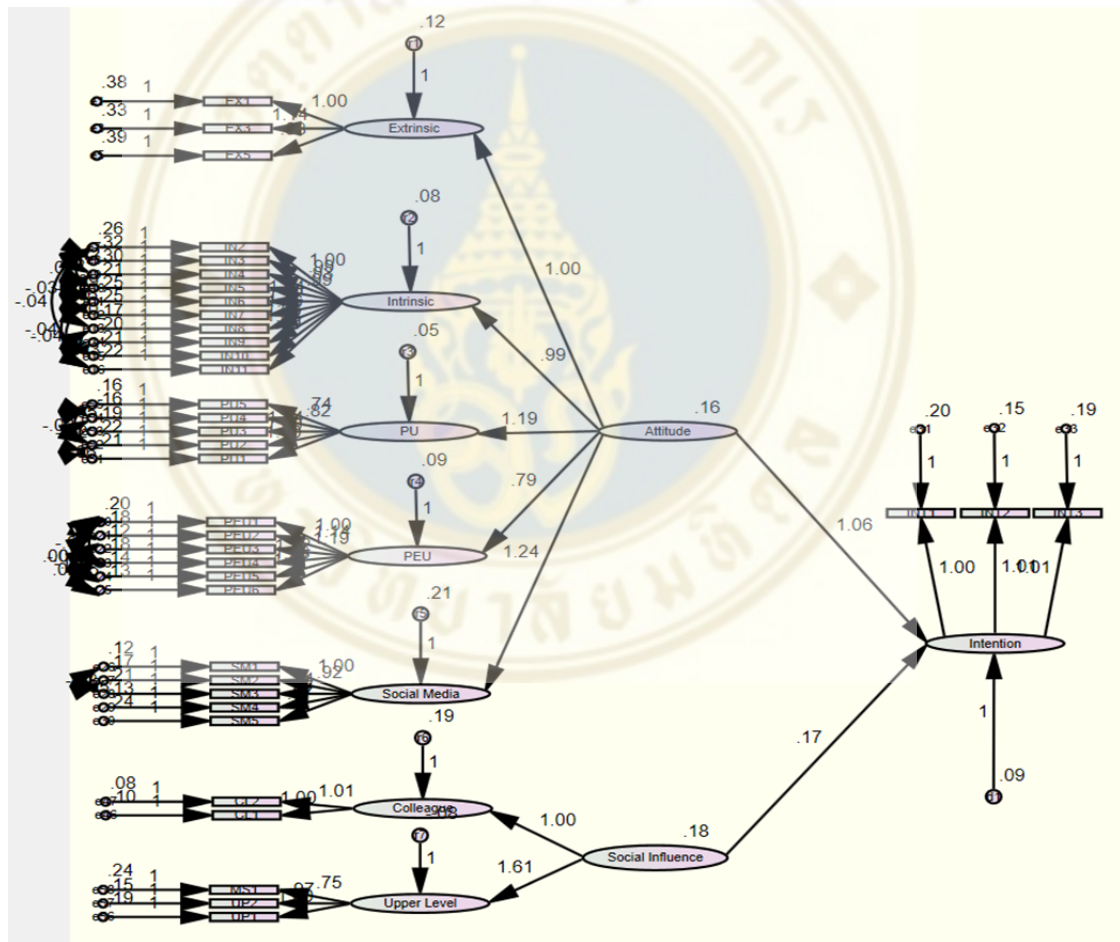
Figure 4.33 Structural Equation Modeling (Regression Weight)

Table 4.18 Regression Weight Table

Regression Weights			Estimate	S.E.	C.R.	P	Label
Colleague	<---	Social Influence	1				
Upper Level	<---	Social Influence	1.614	0.534	3.021	0.003	
Extrinsic	<---	Attitude	1				
Intrinsic	<---	Attitude	0.988	0.112	8.825	***	
PU	<---	Attitude	1.188	0.125	9.504	***	
PEU	<---	Attitude	0.793	0.094	8.424	***	
Social Media	<---	Attitude	1.244	0.133	9.359	***	
Intention	<---	Attitude	1.056	0.116	9.068	***	
Intention	<---	Social Influence	0.171	0.051	3.377	***	

        The regression weights, which was to test he weight of each factor whether it was equal to 0 or not, indicated that all |C.R.| values were greater than 1.96. Moreover, all p-value numbers were also less than 0.05 and very close to 0. As the result, it could be concluded that, from Regression Weight analysis, the weights of all factors were not equal to 0.

        For Standard regression Weights, the researcher performed the analysis and obtained the following information as displayed in the picture and table below.
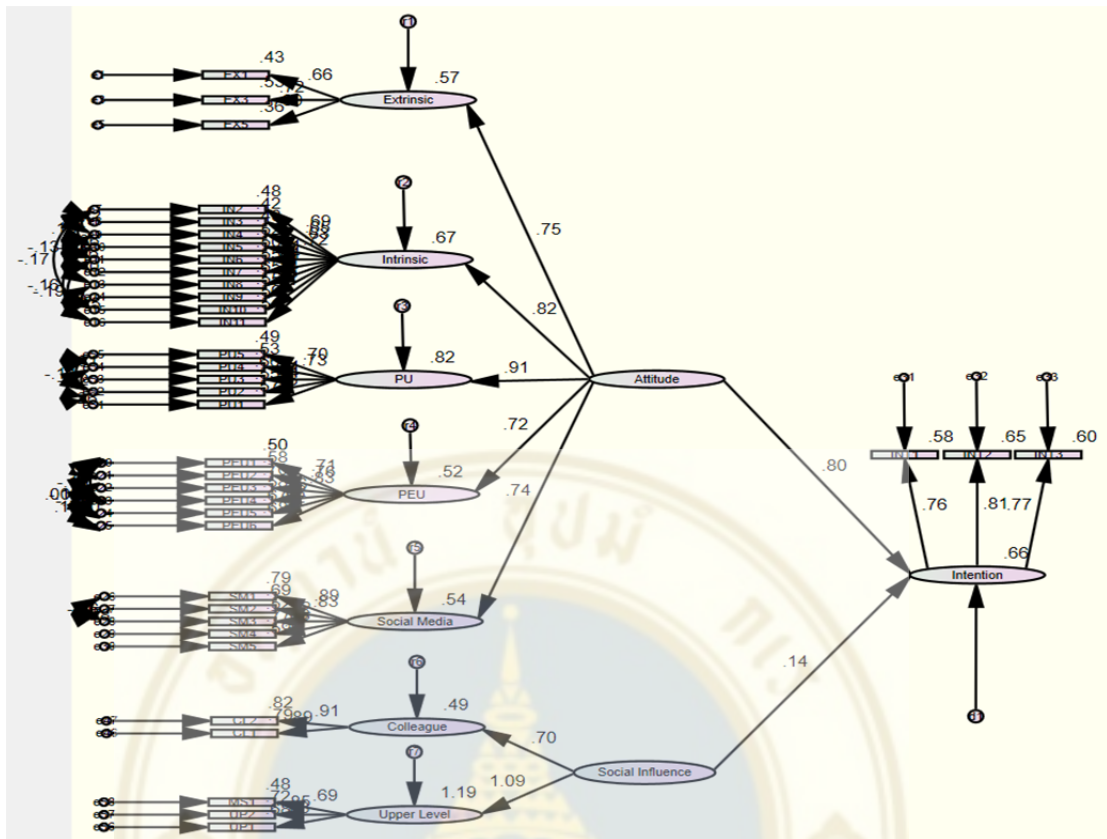
Figure 4.34 **Structural Equation Modeling (Standardized Regression Weight)**

Table 4.19 Standardized Regression Weight Table

Standardized Regression Weights			Estimate
Colleague	<---	Social Influence	0.702
Upper Level	<---	Social Influence	1.092
Extrinsic	<---	Attitude	0.753
Intrinsic	<---	Attitude	0.82
PU	<---	Attitude	0.906
PEU	<---	Attitude	0.719
Social Media	<---	Attitude	0.736
Intention	<---	Attitude	0.803
Intention	<---	Social Influence	0.138

Starting from the first order level, the weight of factor loading for independent factors of "Attitude toward Using Online CoP", which were arranged from largest to smallest, were:

- Perceived Usefulness (PU): 0.906

- Intrinsic Motivation: 0.820

- Extrinsic Motivation: 0.753

- Social Media: 0.736

- Perceived Ease of Use (PEU): 0.719

The weight of independent factors of "Social Influence" which were arranged from largest to smallest, were:

- Upper Level: 1.092

- Colleague: 0.702

For the second order level, the weights of independent factors of "Intention to Use Online CoP", from largest to smallest, were:

- Attitude toward Using Online CoP: 0.803

- Social Influence: 0.138

The results obtained from SEM analysis led to the conclusion that both Attitude toward Using Online CoP and Social Influence has positive association with Intention to Use Online CoP, which could be explained by the following preference:

$$\text{Intention to Use Online CoP} = 0.803\text{Attitude toward Using Online CoP} + 0.138\text{Social Influence}$$

The conclusion regarding research's hypotheses could be summarized as following:

Table 4.20 Hypothesis Result

Item	Hypothesis	Result
H1	**Attitude towards Using Online CoP** had positive association with Call Center agent's intention towards using the online CoP.	ACCEPTED
H2	**Social influence** had positive association with Call Center agent's intention towards using the online CoP.	ACCEPTED

CHAPTER V
DISCUSSION AND CONCLUSION

As the researcher mentions in the first chapter, the researcher problem of this study was to explore how to successfully implement an Online CoP in Thailand's Call Center in order to improve their productivity using integrated knowledge management methodology. As the result, this researcher aimed at finding the influential factors that could effectively encourage Call Center agents to regularly use an Online CoP to improve individuals' productivity and, in expansion, the organization capability to compete with others in the business world.

According to the proposed framework in the preceding chapter, Knowledge Sharing factors, including those from the theory of Economic Exchange and Social Exchange, along with factors from Technology Acceptance Model, and other related social influences were to be considered based on the framework of Theory of Reasoned Action as pictured below.

Figure 5.1 Conclusion of Factors Affecting the Use of Online CoP in Thai Call Center

5.1 Conclusion

5.1.1 The Positive Association of Attitude towards Using Online CoP on Intention towards Using Online CoP

According to the analysis from 2nd Order Confirmatory Factor Analysis (CFA) & Structural Equation Modeling (SEM) conducted in the preceding chapter, it could be concluded that Attitude towards Using Online CoP, which consisted of Extrinsic Motivation, Intrinsic Motivation, Social Media, Perceived Ease of Use, and Perceived Usefulness, had positive association with Intention towards Using Online CoP. That meant, with these 5 factors, Attitude towards Using Online CoP would be able to have positive influence upon Intention to Use Online CoP. The stronger Attitude towards Using Online CoP was, the stronger intention Thai call center agents had for using an online CoP to exchange their knowledge at work.

Moreover, with the positive factor loadings of Extrinsic Motivation, Intrinsic Motivation, Social Media, Perceived Ease of Use, and Perceived Usefulness the researcher obtained from running CFA and SEM analysis, it could be indirectly implied that they were associated positively with Attitude towards Using Online CoP. As the result, the researcher also elaborated these parts in the following sections.

5.1.2 Extrinsic Motivation on Attitude towards Using Online CoP

After testing the influence of Extrinsic Motivation upon Attitude towards Using Online CoP, the researcher found that this factor had a positive factor loading with Attitude towards Using Online CoP. It could be implied that, according to the theory of Economic Exchange, extrinsic motivations, such as money or other rewards could still encourage Thai call center agents to use an online CoP to share or exchange knowledge with other agents in order to improve their work productivity. However, according to the statement of Song et al. (2009), these extrinsic motivations might be effective to encourage the knowledge exchange activity in an online CoP only in short term duration. Moreover, it could also indirectly affect the quality of knowledge shared in an Online CoP since call center agents might not involve because they would like to, but because they would like to get rewards from doing so instead.

Regarding the knowledge sharing factors, which affected the attitude towards using and online CoP in call center organizations, the researcher also found it similar to the literatures that other Thai researchers previously conducted in other business industry in Thailand. According to the research conducted by Voracharoensri (2010) regarding influential factors of knowledge management practices in Airports of Thailand Public Company Limited Personel, knowledge sharing behavior could be successfully initiated by the organization with learning culture, where every employee were willing to exchange knowledge to each other actively. To create the learning culture, the organization could consider using the reward system, which offered monetary and non-monetary rewards for employees who exchanged knowledge the most. The reward system should be set up differently based on the characteristics of the specific organization and specific industry. It could successfully initiate knowledge sharing behavior, which significantly linked to the establishment of organization's learning culture. Voracharoensri (2010) also mentioned that the support and vision of management in the organization were crucial for the success of knowledge activities and the establishment of learning culture inside the particular organization too.

However, Bock and Kim (2001), who conducted the study regarding the influential factors regarding knowledge sharing behavior in Korea, stated that the extrinsic motivation or reward system needed to be re-examined as it could not change the attitude regarding human's knowledge sharing behavior, only just temporarily change the way people behad for a while. On the other hand, intrinsic motivations like trust, relationship, or even social acceptance could significantly alter the attitude to knowledge sharing in the positive way. This finding about extrinsic motivation was different from what the researcher and Voracharoensri (2010) found in Thai people. In addition, one of the reasons that made extrinsic motivation or reward system work, especially, on Thai call center agents might be because of the base salary of this career, which was not that high. This fact could be reflected from the demographic information about salary the researcher also conducted as more than half of the respondents had a small amount of salary.

Another reasons why the results regarding why extrinsic motivation turned out to be different between Thai researches and foreign researches might be related to the fact that knowledge practice and how to practically manage it was context specific, which meant knowledge management, including how people stored and shared particular

knowledge, was significantly affected by the difference in culture and other specific conditions (North and Kumta, 2014). As the result, it could be concluded that, due to context specific in both cultural and profession of Thai call center, extrinsic motivation was still considered an important key for making a successful online CoP with interactive knowledge activities.

5.1.3   Intrinsic Motivation on Attitude towards Using Online CoP

For the association of Intrinsic Motivation with Attitude towards Using Online CoP, the researcher conducted the analysis and found that it had the factor loading between them was positive, which means, similar to Extrinsic Motivation, the relationship between Intrinsic Motivation and Attitude towards Using Online CoP was also valid. Intrinsic motivations in this regard could refer to self-improvement, recognition, reputation, or even relationship and trust from one individual to others. In addition, according to Social Exchange theory, it was assumed that people expect social association/ relationship from knowledge sharing (Bock et al, 2002). Therefore, this statement could also be applied with the test result the researcher got from the analysis, which implies that Thai call center agents expect self-improvement, recognition, relationship or trust from exchanging knowledge on an online CoP with other people as gratitude in return. These intrinsic motivations were different from extrinsic ones since they could inspire people to keep engaging with the certain activity in the longer term. This fact could also imply to the good quality of knowledge as the intention was not just to gain rewards, but community obligation instead.

5.1.4   Perceived Ease of Use on Attitude towards Using Online CoP

According to the test result the researcher found from the analysis, it indicated that TAM's Perceived Ease of Use also had the positive factor loading with Attitude towards Using Online CoP. Preceived Ease of Use in this term was implied to the level of well user interface design, user friendliness and ease to use. The implication about this relationship is that Thai call center agents were more likely to have the good perception or attitude towards an online CoP, which could directly increase their intention to use it for sharing or exchanging knowledge with others. This statement aligned with the suggestion of Fred Davis in 1989 that, with the adoption of TRA which was developed

by Fishbein and Ajzen in 1975, factors in TAM were applied in order to examine the attitude and intention to use the particular activity as they had direct influence on these 2 behavioral factors. As the result of this research, it could be concluded that Perceived Ease of Use in an online CoP also had positive effect on Thai call center agents' attitude towards the use of an online CoP itself.

5.1.5 Perceived Usefulness on Attitude towards Using Online CoP

Regarding TAM's Perceived Usefulness, the researcher conducted the analysis and discovers that, similar to Perceived Ease of Use, it had the positive factor loading with Attitude towards Using Online CoP. Furthermore, Davis (1989) defines Perceived Usefulness as the degree which an individual believes that using the specific IT tool would enhance capability, productivity and job performance. This factor was claimed to be influenced by Perceived Ease of Use (Venkatesh et al, 2002) and had the direct influence on the behavioral factors - attitude and intention to do the particular activity. Therefore, this fact could lead to the implication that if Thai call center would use an online CoP to engage in knowledge activities if they perceive that using a user friendly Online CoP could significantly improve their capability and job performance.

For both Perceived Ease of Use and Perceived Usefulness, Voracharoensri (2010) indicated that technology, as well, took part as the key factor that drove knowledge management practices in Airports of Thailand Public Company Limited. On top of the research from Voracharoensri (2010), there was another researcher regarding a development of information management system for call center organizations conducted by the Thai researcher, Limpotong (2006), which was directly related to functionality and usability of the practical information system for call center organizations. In this research, it stated that call center agents give the high scores when it came to user interface, ability to create, modify, remove, or search for particular information, and accuracy or the result after executing the actions on it. User interface in this term could also be implied to the perceived ease of use tat the researcher conducted analysis in this study. It implied to how easy one call center could use or understand the mechanism of the system without complexity. The study conducted by Limpotong (2006) defined that the practical system for call center should be easy to use, had the well-designed screen with the proper shade of color in each section, proper font size, right positioning labels and good layout. Furthermore,

the ability to manage information for Limpotong (2006) could be implied to the perceived usefulness. That meant call center agents would find it useful when the system allowed them to initiate actions and respond with the right and accurate result.

Similarly, Hsu and Lin (2008) conducted the study regarding the acceptance factors for using blog for knowledge sharing in Taiwan and found that perceived ease of use had the positive influence on the level of blog usage, which was similar to the result the researcher gains from this study. Hsu and Lin (2008) also stated that perceived usefulness was likely to be IT influential key on the work-related system, which, as well, matched with the result in this study.

5.1.6 Social Media on Attitude towards Using Online CoP

For Social Media, the researcher alos found this factor to have positive factor loading with Attitude towards Using Online CoP. As the result, it could be implied that Social Media also affected positively with the level of Attitude towards Using Online CoP because it could significantly encourage participation and conversation among users (R.C. Bowley, 2009).

5.1.7 The Positive Association of Social Influence on Intention towards Using Online CoP

For association Social Influence had for Intention towards Using Online CoP, the researcher found that, with positive influence from Upper Level and Colleague, Social Influence was associated with Intention towards Using Online CoP in the positive way. This result aligned with the hypothesis in the previous chapter, and could crucially be implied that, the more people around Thai call center agents expected them to use an online CoP, the stronger intention they had for engaging in an online CoP to engage in knowledge activities.

As same as Attitude towards Using Online CoP, the researcher found that Upper Level and Colleague had positive factor loading with Social Influence. This fact would imply that, with these 2 factors, the level of Social Influence could also influence the level of Intention to Use Online CoP. As the result, the researcher elaborated the relationship of Upper Level and Colleague with Social Influence from the fact regarding factor loading in the following section.

5.1.8   Upper Level on Social Influence

Upper Level was one of the independent factors that was proven to have positive factor loading with Social Influence. It was the kind of normative norm, which was related to the perceived social pressure that occurred when people would adapt themselves to align with expectations of important people around them in order to obtain rewards or avoid punishment (Deutsch and Gerard, 1995). Since the researcher found that Upper Level had the positive factor loading with Social Influence, it could be indirectly implied that people would be willing to behave according to the expectation of their upper levels. In this case, it means that if upper levels use an online CoP and expected their subordinates to do the same, their subordinates would involve themselves and start using an online CoP to exchange knowledge as their upper levels do.

Furthermore, apart from participating in an online CoP, the management was expected to support the activities related to it in order to make an online CoP interactive and successful in the organization, which aligned with the statement given by Corso and Giacobbe (2005) that the level of success in building an interactive online CoP depends on the social structure, which was determined by the participants' behaviors and cultural characteristics. Consequently, to build up these characteristics, organization/ management support - divided to various levels: indifference, partial support and active support - was to be involved. To sum up, it could be said that the level of organization/ management support was truly associated with the level of Thai call center agents' attitude to actively use an online CoP in the positive direction.

5.1.9   Colleague on Social Influence

Similar to Upper Level factor, Colleague was also one of the normative norms related to the perceived social pressure of an individual. The researcher went through the analysis and found that it had the positive factor loading with Social Influence, which could indirectly refer to the positive relationship between them. This result aligned with what research conducted by Hsu and Lu (2004), which stated that social norm had strong influence that allowed people to comply themselves with others in the group. As the result, it could be implied that, if the colleagues of individuals engage in an online CoP, they were likely to use it in order to comply themselves with their friends as well. It

could also be said that, the more their friends use Online CoP, the more likely they were like to do so.

For social influence factors, which, in this study, included upper level and colleagues, the researcher also found the result similar to what Voracharoensri (2010) found in Thai people. That was people around individuals played an important role for an individual to share their knowledge. This would also mean they were likely to have intention to use an Online CoP for sharing knowledge when people around them were using it. This fact aligned with what Al-Alawi et al. (2007) found from the study regarding relation between organizational culture and knowledge sharing conducted in Bahrain, which stated that the culture in the specific organization was one of the key indicators for individual's intention to share knowledge within the organization. Furthermore, another supporting fact was based on Hofstede's Insight regarding the national characteristics, which indicated that Thai society had only 20% of individualism level. That meant Thai people were living in the nature of collectivism. This information could significantly link to the hypothesis result about social influence and support the fact Thai people, call center agents in this case, would likely be behave in the same direction as people in their groups behad. As the result, if people in their groups or their organizations participate in an online CoP, they would also do the same thing in order to make themselves comply with the others.

5.2 Theoretical Implication

The research result from the 2nd order Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) is the extension of the scope of Theory of Reasoned Action (TRA). As mentioned previously, TRA was widely used for indicating the influential factors upon individuals' attitudes and intentions towards the particular behavior, which, in this case, was the intention to use an online CoP. In this research, it was proven that to increase the intention to use an online CoP of call center agents in Thailand, the organization needed to raise the attitude towards using an online CoP and create the supportive environment through management and colleagues. The components of attitude towards using online CoP in this research were extrinsic motivation, intrinsic motivation, social media, IT perceived usefulness, and IT perceived ease of use. With

these components, the attitude towards using an online CoP would have the positive influence upon call center agent's intention to use an online CoP. Similarly, the components of social influence in this research were upper level and colleagues. Components of both factors were also proven to fit with Social Influence and made it have positive influence upon call center agent's intention to use an online CoP as well.

5.3 Practical Implication

As the researcher mentions in the beginning from this study, this research aims to discover the successful method for implementing the online community of practice or CoP in Thai call center organizations in order to increase more productivity and efficiency in call center agents by utilizing or exchanging knowledge. In order to do so, the researcher aims to find the influential factors that could encourage Thai call center agents to use an Online CoP. As the result, the researcher had decided to use the framework of Theory of Reasoned Action or TRA (Fishbein & Ajzen, 1967) plus an application of Technology Acceptance Model or TAM (Davis, 1989) to find all plausible key indicators.

According to the framework of Theory Reasoned Action (TRA) the intention, in this case, for using an online CoP was mainly driven by 2 significant psychological factors, which were attitude towards using an online CoP and social influence. Attitude towards using an online CoP for Thai call center agents was, at the same time, driven by the group of knowledge sharing factors and IT factors. Meanwhile, social influence was driven by people in the upper level and colleagues.

Starting from knowledge sharing factors that importantly drive the level of attitude towards using an online CoP, in order to stimulate Thai call center agents, the organization should encourage them by using both extrinsic and intrinsic motivations. The extrinsic motivation in this case could imply to a gift, the monetary offer, like incentive or bonus, career advancement, educational opportunity, or the verbal complimentary. The particular organization could use this kind of motivation to stimulate call center agents to engage in an online CoP for knowledge activity. For example, management could give special incentive when useful knowledge sharing was captured in the community. Moreover, they could also offer the group of call center agents who actively engage in

the online community of practice an opportunity for special training or career advancement, which could make the stimulation through extrinsic motivation more effective in the longer term.

Apart from using extrinsic motivation, the management of the specific call center organization could also consider applying intrinsic motivation for encouraging their call center agents in the more sustainable way. The intrinsic motivation in this term could imply to self-improvement, self-respect, responsibility, trust, and reputation in the organization. On top of extrinsic motivation, management could set up the policy that could build up the reputation of individuals. The way to do that could be done by setting up the position of knowledge champion in the specific fields and make the internal communication across the call center to inform everyone. Moreover, the management could also express gratitude and trust in the knowledge champion by giving them special assignments or the opportunity to attend the important conferences or meetings in order to allow them to express their opinion related to their specialized fields. This method could bring more self-respect which could encourage not only knowledge champions, but also other call center agents to engage in an online CoP.

In addition to extrinsic and intrinsic motivational rewards, another important factor that plays the strategic role in driving the success in an application of an online CoP in the call center was the management themselves. To build up the successful online CoP in the call center, management needed to take serious actions and actively support all relevant activities related to the online community and its knowledge activities. The solid roadmap including setting up the specialized unit to take care of knowledge management and an online CoP in the call center needed to be provided. Plus, to raise awareness of how knowledge sharing in an online CoP important to them in the sustainable way, management should create a supportive environment by building up the organization culture through active and continuous activities such as a series of internal communication and internal campaigns, which grant call center agents reasonable rewards in the extrinsic and intrinsic ways. As the result of active support from management, the successful online CoP in Call Center would not be far from reality.

Apart from knowledge sharing factors, IT factors were also the key for making an online CoP popular in call centers. The factors regarding technology information in this case refer to Perceived Ease of Use and Perceived Usefulness. That means, to make

the success online CoP, the organization needed to make it easy for call center agents to use it without difficulty, complexity or multiple click to be done. Call center agents should be able to easily ask or discuss for something they do not know and be notified when their questions were answered. On the other hand, call center agents should be able to search topics or knowledge that had already been asked with ease as well. In order to do so, Voracharoensri N. (2010) also mentions that there should also be the structured process of knowledge management in order to store all exchanged knowledge in the well-organized manner for later use. With this qualification, call center agent would perceive that an online CoP was useful for them as they could be able to ask, search, and share something on this community easily.

Furthermore, the organization should also integrate a social media platform to the online CoP since it could also encourage call center agents to participate in the particular conversation. However, one organization should be carefully considering if the employee's social account should be their personal account or the enterprise account since some employees might not want to include their personal space to their work.

Apart from knowledge sharing factors and IT factors, social influence was also another significant driver that could encourage call center agents to use an online CoP to exchange knowledge for their work. That means, if people around an individual call center agent – upper levels and colleagues – use an online CoP regularly, that individual call center agent would also be influenced by this action or expectation. As the result, an individual call center agent would finally follow their surrounding people to use an online CoP as well. However, to get this influence, back to the beginning, the participant's activeness could be driven by using motivational factors and the active-and-continuous support from management in the organization.

Lastly, this practical implication could link to the research question in the chapter about how to successfully implement an interactive online community of practice in Thai call center, where time and high turnover rate are the constraints.

5.4 Limitation and Future Research

The results obtained from this research regarding how to successfully drive an online CoP were limited to Thai call center organizations. How to successfully implement an online CoP for improving knowledge storage and retrieval in other cultures and professions needed to be expanded and explored in the future researches.

Moreover, as reflected from the research result that IT factors, which consisted of Perceived Ease of Use, Perceived Usefulness, and Social Media, had been proven to be parts of the attitude towards an online CoP that could positive increase call center agents' intention to use an oneline CoP. However, the specific details regarding how to design the user-friendly interface, content structure or even the system specification and its architecture needed to be further examined in the future.
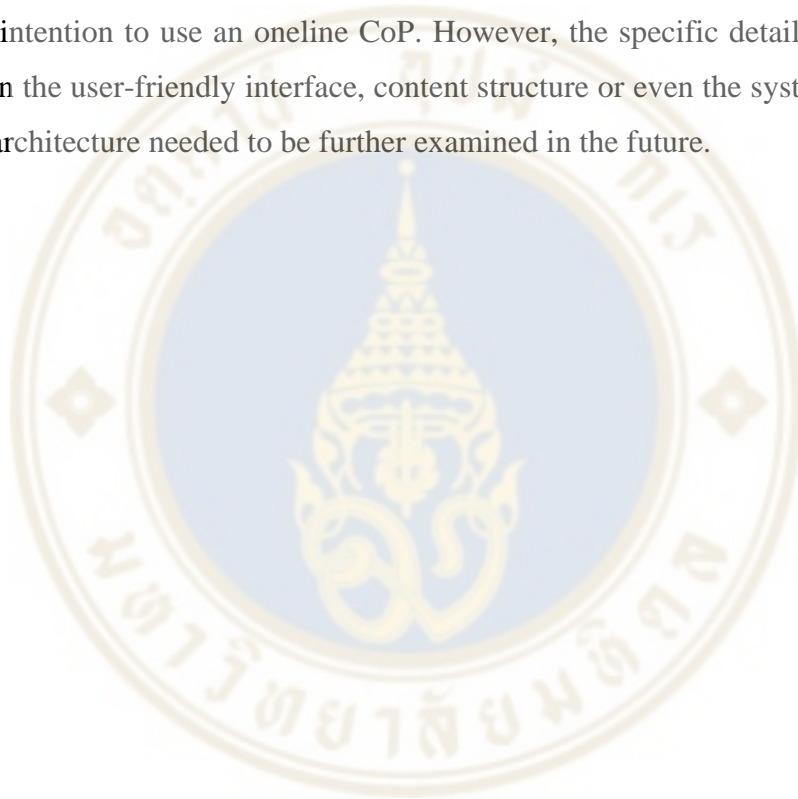
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APPENDICES

Appendix A: Questionnaire

วัตถุประสงค์

        แบบสอบถามฉบับนี้จัดทำขึ้นโดยนักศึกษาปริญญาโทของวิทยาลัยการจัดการ มหาวิทยาลัยมหิดล (CMMU) เพื่อสำรวจปัจจัยที่ส่งผลต่อการเข้าร่วมชุมชนนักปฏิบัติออนไลน์ (Online CoP) หรืออีกนัยหนึ่งคือ การใช้งาน Webboard เพื่อแลกเปลี่ยนประสบการณ์และความรู้ ต่างๆ ของเจ้าหน้าที่ Call Center

        โดยจุดประสงค์ของวิทยานิพนธ์ฉบับนี้ คือการเพิ่มประสิทธิภาพในการทำงานของ เจ้าหน้าที่ Call Center ผ่านกระบวนการแบ่งปันความรู้และประสบการณ์ ตลอดจนการจัดสรรและ นำมาประยุกต์ใช้ได้อย่างมีประสิทธิภาพผ่านชุมชนนักปฏิบัติออนไลน์ (Online CoP)

คำชี้แจง: กรุณากากบาทเพียง 1 ช่อง ทางด้านขวามือ เพื่อระบุว่าท่านนั่นเห็นด้วยหรือไม่เห็นด้วยกับ แบบสอบถามแต่ละข้อมากน้อยเพียงใด

	รายการ	ไม่เห็น ด้วย อย่างยิ่ง	ไม่เห็น ด้วย	เฉยๆ	เห็น ด้วย	เห็น ด้วย อย่างยิ่ง
1	การได้รับสิ่งของตอบแทน ทำให้ฉันอยากตั้งคอมเม้นท์ / กระทู้ เพื่อแลกเปลี่ยนความรู้บน Webboard มากขึ้น					
2	การได้รับเงินตอบแทน ทำให้ฉันอยากตั้ง/ คอมเม้นท์กระทู้ เพื่อแลกเปลี่ยนความรู้บน Webboard มากขึ้น					
3	การได้รับคำชมจากคนรอบข้าง ทำให้ฉันอยากตั้ง/ คอม เม้นท์กระทู้ เพื่อแลกเปลี่ยนความรู้บน Webboard มากขึ้น					
4	การตั้ง KPI ในการใช้งาน Webboard ทำให้ฉันอยากตั้ง / คอมเม้นท์กระทู้เพื่อแลกเปลี่ยนความรู้มากขึ้น					
5	การตั้ง KPI ในการใช้งาน Webboard ทำให้ฉันมีโอกาส ก้าวหน้าในหน้าที่การงานมากขึ้น					
6	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันมีโอกาสได้ พัฒนาความรู้ของตัวเองมากขึ้น					
7	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำฉันมีโอกาส ก้าวหน้าในหน้าที่การงานมากขึ้น					

รายการ	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	เฉยๆ	เห็นด้วย	เห็นด้วยอย่างยิ่ง
8	การใช้งาน Webboard เพื่อแลกเปลี่ยนความรู้ ทำฉันโดดเด่นและมีโอกาสก้าวหน้าในหน้าที่การงานมากขึ้น					
9	การแลกเปลี่ยนความรู้ผ่าน Webboard ช่วยให้ฉันผูกมิตรกับคนในทีมองค์กรได้ง่ายขึ้น /					
10	การแลกเปลี่ยนความรู้ผ่าน Webboard ช่วยให้ความสัมพันธ์ระหว่างฉันกับคนในทีมองค์กรแน่นแฟ้นมากขึ้น /					
11	การแลกเปลี่ยนความรู้ผ่าน Webboard ช่วยให้การประสานงานระหว่างหน่วยงานราบรื่นมากขึ้น					
12	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันเป็นที่รู้จักในทีม/ องค์กรที่ทำงาน มากขึ้น					
13	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้เพื่อนร่วมงานเห็นทักษะและความสามารถของฉันมากขึ้น					
14	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้หัวหน้างาน /ผู้บริหารเห็นทักษะและความสามารถของฉันมากขึ้น					
15	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันได้รับการยอมรับจากคนในทีมองค์กรมากขึ้น /					
16	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันได้รับการยอมรับจากผู้ใช้งาน Webboard มากขึ้น					
17	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันได้รับความไว้วางใจจากคนในทีมองค์กรมากขึ้น/					
18	ฉันคิดว่าความรู้ที่ได้รับจาก Webboard ถูกต้อง					
19	ฉันคิดว่าผู้ใช้งาน Webboard มีความน่าเชื่อถือ					
20	การแลกเปลี่ยนความรู้ผ่าน Webboard ช่วยให้ฉันรู้สึกเป็นส่วนหนึ่งของทีม /องค์กรมากขึ้น					
21	การได้รับคำตอบจากกระทู้อย่างรวดเร็ว ทำให้ฉันอยากใช้งาน แลกเปลี่ยนความรู้ผ่าน /Webboard มากขึ้น					
22	การแลกเปลี่ยนความรู้ผ่าน Webboard และเก็บบันทึกข้อมูลต่างๆไว้บนเครือข่ายออนไลน์ ช่วยให้ฉันประหยัดเวลาในการค้นหาข้อมูลมากขึ้น					
23	การแลกเปลี่ยนความรู้ผ่าน Webboard ไม่ทำให้ฉันรู้สึกว่าเสียเวลาในการทำงาน					

	รายการ	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	เฉยๆ	เห็นด้วย	เห็นด้วยอย่างยิ่ง
24	การสนับสนุนจากผู้บริหารหรือหัวหน้างาน ทำให้ฉันอยากใช้งาน/ แลกเปลี่ยนความรู้ผ่าน Webboard มากขึ้น					
25	ฉันจะใช้งาน Webboard หากผู้บริหารหรือหัวหน้างานของฉันใช้งาน					
26	ฉันจะใช้งาน Webboard หากผู้บริหารหรือหัวหน้างานของฉันใช้งาน และคาดหวังให้ฉันใช้งานเช่นกัน					
27	ฉันจะใช้งาน Webboard หากเพื่อนร่วมงานของฉันใช้งาน					
28	ฉันจะใช้งาน Webboard หากเพื่อนร่วมงานของฉันใช้งาน และคาดหวังให้ฉันใช้งานเช่นกัน					
29	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันทำงานได้ดีขึ้น					
30	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันประสบความสำเร็จในหน้าที่การงานเร็วขึ้น					
31	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันสามารถจัดสรรเวลาสำหรับการค้นคว้าเรียนรู้สิ่งใหม่ๆ ได้ดีขึ้น /					
32	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันสามารถค้นคว้าเรียนรู้สิ่งใหม่ๆ / ได้ดีขึ้น					
33	การแลกเปลี่ยนความรู้ผ่าน Webboard ทำให้ฉันสามารถจดจำและประยุกต์ความรู้ใหม่ๆ ได้ดีขึ้น					
34	ฉันรู้สึกสนุกกับการแลกเปลี่ยนความรู้ผ่าน Webboard					
35	ฉันจะรู้สึกสนุกกับการแลกเปลี่ยนความรู้มากขึ้น หาก Webboard เชื่อมต่อกับ Social Media (Facebook, Twitter, LINE) ของฉัน					
36	ฉันจะรู้สึกอยากใช้งานมากขึ้น หากมีการเพิ่มลูกเล่นต่างๆ เข้ามาใน Webboard เช่น การสร้างโปรไฟล์ส่วนตัว หรือเกมสะสมแต้ม					
37	ฉันจะรู้สึกอยากใช้งานมากขึ้น หาก Webboard เชื่อมต่อกับ Social Media (Facebook, Twitter, LINE) ของฉัน					
38	ฉันจะสามารถตั้ง /คอมเม้นท์กระทู้ได้ง่ายขึ้น หาก Webboard เชื่อมต่อกับ Social Media (Facebook, Twitter, LINE) ของฉัน					
39	ฉันจะสามารถแสดงความคิดเห็นหรือมีส่วนร่วม กับกระทู้ที่เกี่ยวกับเหตุการณ์ปัจจุบันได้ง่ายขึ้น หาก Webboard เชื่อมต่อกับ Social Media (Facebook, Twitter, LINE) ของฉัน					

	รายการ	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	เฉยๆ	เห็นด้วย	เห็นด้วยอย่างยิ่ง
40	ฉันจะมีปฏิสัมพันธ์กับเพื่อนร่วมงานได้ง่ายขึ้น หาก Webboard เชื่อมต่อกับ Social Media (Facebook, Twitter, LINE) ของฉัน					
41	ฉันจะสามารถเรียนรู้สิ่งใหม่ๆได้ดีขึ้น หาก Webboard เชื่อมต่อกับ Social Media (Facebook, Twitter, LINE) ของฉันได้					
42	ฉันจะรู้สึกอยากใช้งานมากขึ้น หาก Webboard ถูกออกแบบอย่างสวยงาม สบายตา					
43	ฉันจะรู้สึกอยากใช้งานมากขึ้น หาก Webboard ถูกออกแบบให้ใช้งานง่าย ไม่ซับซ้อน					
44	ฉันจะรู้สึกอยากใช้งานมากขึ้น หาก Webboard ถูกออกแบบให้ใช้งานผ่าน Application บนโทรศัพท์มือถือได้					
45	ฉันจะรู้สึกอยากใช้งานมากขึ้น หาก Webboard ถูกออกแบบให้สามารถใช้งานกับโปรแกรมที่ใช้ในการทำงานได้					
46	ฉันจะรู้สึกอยากใช้งานมากขึ้น หาก Webboard สามารถเชื่อมโยงหัวข้อที่เกี่ยวข้องกับสิ่งที่ฉันค้นหาคอมเม้นท์ได้/แชร์/					
47	ฉันจะรู้สึกอยากใช้งานมากขึ้น หากฉันสามารถเข้าใช้งานผ่านโทรศัพท์มือถือตนเองได้					
48	โดยรวมแล้ว ฉันชื่นชอบการใช้งาน Webboard เพื่อค้นหา/แลกเปลี่ยนความรู้					
49	โดยรวมแล้ว ฉันรู้สึกดีกับการใช้งาน Webboard เพื่อค้นหา/แลกเปลี่ยนความรู้					
50	โดยรวมแล้ว ฉันมีทัศนคติที่ดีต่อการใช้งาน Webboard เพื่อค้นหาแลกเปลี่ยนความรู้ในที่ทำงาน /					
51	ฉันคิดว่าการตั้งหรือตอบกระทู้เป็นการช่วยเหลือผู้อื่นที่พบปัญหาลักษณะเดียวกัน					
52	ฉันชื่นชอบการช่วยเหลือผู้อื่นใน Webboard					
53	ฉันยินดีพูดคุยเกี่ยวกับความคิดหรือเรื่องราวใหม่ๆ กับเพื่อนร่วมงานผ่าน Webboard					
54	ฉันคิดว่าการเก็บความรู้ที่ได้จากตั้ง/ คอมเม้นท์กระทู้ใน Webboard ทำให้ฉันกลับมาค้นหาในภายหลังได้เสมอ					

รายการ	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	เฉยๆ	เห็นด้วย	เห็นด้วยอย่างยิ่ง
55	ฉันคิดว่าหากมีหน่วยงานที่คอยจัดการความรู้ที่ได้จากการตั้ง/ คอมเม้นท์กระทู้ใน Webboard อย่างมีระบบระเบียบ จะช่วยให้ฉันสามารถกลับมาค้นหาข้อมูลต่างๆ ในภายหลังได้ง่ายขึ้น					
56	ฉันคิดว่าหากมีหน่วยงานที่คอยตรวจสอบความถูกต้องของความรู้ที่ได้จากการตั้ง/ คอมเม้นท์กระทู้ผ่าน Webboard จะทำให้ฉันเชื่อถือและอยากใช้งาน Webboard มากขึ้น					
57	โดยรวมแล้ว ฉันคิดว่าการเก็บความรู้ที่ได้จากการตั้งคอม / เม้นท์กระทู้ในWebboard อย่างมีระบบระเบียบบนเครือข่าย online นั้นดีกว่าการเก็บความรู้ในเอกสาร					
58	ฉันจะใช้งาน Webboard นี้เพราะฉันได้รับประโยชน์ในการทำงาน					
59	ฉันจะใช้งาน Webboard นี้เพื่อตั้ง/ คอมเม้นท์กระทู้ต่อไปเรื่อยๆ ในอนาคต					
60	ฉันจะการแลกเปลี่ยนความรู้ผ่าน Webboard เพราะฉันเชื่อว่าการแลกเปลี่ยนและพัฒนาความรู้ในที่ทำงานนั้นคุ้มค่า					

ข้อมูลส่วนตัว

1. เพศ

    ☐ ชาย   ☐ หญิง

2. อายุ

    ☐ 18 – 24   ☐ 25 – 31   ☐ 32 – 38
    ☐ 39 – 45   ☐ 45 ขึ้นไป

3. การศึกษา

    ☐ ปวส./อนุปริญญา หรือเทียบเท่า   ☐ ปริญญาตรี
    ☐ ปริญญาโท หรือสูงกว่า

5. ประสบการณ์ทำงาน

    ☐ 0 - 2 ปี   ☐ 3 - 5 ปี   ☐ 6 - 8 ปี
    ☐ 8 - 10 ปี   ☐ 10 ปีขึ้นไป

6. เงินเดือน

☐ ไม่เกิน 15,000 บาท   ☐ 15,001 - 20,000 บาท

☐ 20,001 - 25,000 บาท   ☐ 25,001 - 30,000 บาท

☐ 30,001 - 35,000 บาท   ☐ 35,001 - 40,000 บาท

☐ ตั้งแต่ 40,001 บาท ขึ้นไป

7. การใช้งานอินเตอร์เน็ตต่อวัน

☐ 0 - 2 ชั่วโมง   ☐ 3 - 5 ชั่วโมง

☐ 6 - 8 ชั่วโมง   ☐ มากกว่า 8 ชั่วโมง

8. จำนวน Social Media ที่ใช้งานอยู่ในปัจจุบัน

☐ 1 แอพพลิเคชั่น   ☐ 2 แอพพลิเคชั่น

☐ 3 แอพพลิเคชั่น   ☐ มากกว่า 4 แอพพลิเคชั่น

นอกจากการแลกเปลี่ยนความรู้/ ประสบการณ์ต่างๆ ผ่าน Webboard แล้วนั้น ท่านคิดว่ายังมีช่องทาง
อื่นที่สามารถนำมาใช้ได้อีกหรือไม่

☐ มี (โปรดระบุ ……………………………………………………………………………..)

☐ ไม่มี