



**COST AND BENEFIT ANALYSIS OF THE ELIMINATION OF THE INTERNAL
CONTROL DEPARTMENT OF A COMMERCIAL BANK**

By
PONGPAT NITAYASUTH

**A Final Report of the Six-Credit Course
SCM 2202 Graduate Project**

**Submitted in Partial Fulfillment of the Requirements for the Degree of
MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT**

**Martin de Tours School of Management
Assumption University
Bangkok, Thailand**

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Declaration of Authorship Form

I, Pongpat Nitayasuth declare that this thesis/project and the work presented in it are my own and has been generated by me as the result of my own original research.

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CONTROL DEPARTMENT OF A COMMERCIAL BANK**

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I confirm that this thesis/project has been carried out under my supervision and it represents the original work of the candidate.

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(Asst. Prof. Dr. Nucharee Supatn)

Date _____ September 5, 2014 _____

ACKNOWLEDGEMENT

This graduate project is the last mission for me to complete this long journey of my master degree in Supply Chain Management. I would not be able to complete this project without the kind support of my advisor, my committee, my lovely family and friends.

I am deeply grateful to my advisor, Asst. Prof. Dr. Nucharee Supatn for spending her valuable time to guide and advise me with her great support. Even though I have made many mistakes, she has always been so kind to me and had patience with me.

Moreover, I would like to sincerely thank Dr. Piyawan Puttibarncharoensri and Dr. Isamil Ali Siad who kindly gave me their recommendations during my project defense and gave me a chance to successfully complete this project.

Furthermore, I would like to thank my beloved family and my Supply Chain Management's friends, especially Miss Kanaporn Sirisoontaropas who always gave me great support and encouragement.

Lastly, I would like to thank all respondents who gave me their precious time to participate in the interview and data collection parts.

Pongpat Nitayasuth
Assumption University
July, 2014

ABSTRACT

The objectives of this study were: (1) to identify previous and current communication processes between G Bank employees and GIDA; (2) to identify the advantages and disadvantages in terms of costs and benefits of the current processes after dissolving of the ICD; (3) to propose possible alternative solutions to minimize the potential losses that might occurs.

The Cost and Benefit Analysis is chosen to analyze this problem of this study to identify and help analyze the costs and benefits in terms of both monetary and non-monetary costs and to find out the best solution that can minimize the costs and at the same time maximize the benefits to company.

After analyzing all the data and with the use of cost and benefit analysis, the results can prove that the current process after dissolving of ICD can contribute to more costs which do not align with the cost savings plan. Hence, the recommended best alternative comes up with the option of “returning of the ICD with new a pattern” which returns two existing ICD staffs without an ICD assistant manager and an ICD manager but hiring new skillful IT staff who have experience in the IT filed and techniques the same as existed with two previous ICD staff as the cost can be minimized without complexity while the benefits can be maximized.

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CHAPTER I

GENERALITIES OF THE STUDY

Banking helps business to perform monetary transactions within and between firms and provides services in term of deposits / withdraws, loans, credit cards, money transfers throughout the country or across the country and exchanges currency through various contact channels such as Automated Teller Machines (ATM), Call Center Service, Mobile Banking, Online Banking, Telephone Banking, Video Banking.

The aforementioned services can be found in every bank and they are most commonly banking services used by both individuals and corporate level. This allows more convenience for customers to do banking transactions online and allows banking service providers to respond to the services online as well. To provide various contact channels and services to the customers, it is essential for the bank to use information technology (IT) systems. IT systems play a significant role to utilize full efficiency and can be used as a tool for supporting and serving fast and accurate services.

For the various financial services provided by a bank, only one IT system seems to be not sufficient enough to support all services. G Bank, as an international bank that provides several financial services all over the world, requires more than one IT system to cover all services and some may be required to use more than a hundred IT systems in order to grant the proper services, reduce and avoid mistakes and errors especially due to the high competition among the banking business where trust and loyalty of customers are essential. Hence, each staff is required to access into each system in order to provide services. However, each staff is unable to use the same user ID and password to access into all systems due to the difference in access rights and authorization for security. Otherwise, the information and data can be leaked. So, different user ID's and passwords are a must and cannot be generated by the staff themselves, there must be a middle man who is responsible for generating all user IDs.

1.1 Background of the Research

G Bank is one of the biggest international banks that provides banking services around the world to consumers, corporations, governments and institutions with a broad range of financial products and services in 160 countries, more than 16,000 branches worldwide and forty six branches in Thailand. Serving over 200 million customers by dividing its customers into two main types which are consumers and institutional businesses.

For the Consumer Business, it serves more than 100 million customers within forty countries as the largest retail bank in the world. For the Institutional Business, G Bank offers services for all of investment and corporate banking services and products for corporations, governments, institutions and high-net-worth investors.

In order to support all services with high impression to customers, G Bank currently uses 109 IT application systems to support its banking transaction. Each staff user has to access approximately five to six systems with a maximum of 109 systems. According to Gs' policies, the staff is unable to fix and stick with same jobs and responsibilities for a long period of time due to job rotations and promotions at G Bank. Regarding the job rotation policy and the fact that one user identity (user ID) and password cannot be used to access all systems, once the jobs and responsibilities of a staff changes, the new user IDs and passwords must be re-created, changed, modified, deleted, reset and etc. frequently in accordance with the responsibilities as well.

At G Bank, there is a team called the Global Identification Administration (GIDA) team which consists of twelve sub-teams, located in Singapore and Malaysia. The GIDA is responsible for the creation of all G user IDs and passwords. GIDA controls everything concerning user IDs of all 60,000 employees in Asia. GIDA sets up the request form via a system that requires the users to complete and submit a form to GIDA whenever the new user ID and password is needed or the current ID should be modified or deleted. Then, the GIDA processes and completes the users' requests,

accordingly. However, to complete the GIDA request form is not that simple since many IT vocabulary, technical wordings and many specific and technical details are required to fill it in. As such, it seems to be unable for the normal users to complete the GIDA request form on their own.

Thus, G Bank Thailand appointed a supportive department to work as a middle man to contact and communicate between users and GIDA which is called the Internal Control Department (ICD) with totals four staff members to support all users, consisting of two ID makers who process the requests, and another two ID checkers to recheck the requests from makers.

ICD department's responsibilities are mainly in eight functions which consist of first, creating an ID for a new entry users or a first time usage or a new system application launch. Second, is to modify/update an ID in case of job rotation or change of a user's information. Third is enabling an ID, in case that users inputs the wrong password too many times and exceeds the system limitations. Fourth, resets passwords for users that cannot remember their own password. Fifth, disables an ID in case any issue occurs and the ID has been disabled during the investigation period. Sixth, deletes an ID for resignation of an existing user or non-used ID. Seventh, maintains the security matrix that controls the access rights of users for using each system and last is investigating a case when users cannot access the system, or cannot get a complete authorization function as per a request.

As ICD staff members are knowledgeable and have high experience in IT and IT systems of the bank, all mentioned tasks for user IDs can be done easily and accurately. It makes the communication between ICD and GIDA friendly, easy, and convenient.

1.2 Statement of the Problem

Due to the high competition nowadays, G Bank has a cost savings plan with an aim to do internal operation cost reductions for the sake of being competitive. By looking at

the operations, the top management of G Bank found that ICDs' responsibilities and jobs seems to be duplicated with what GIDA is doing.

Without sufficient information and analysis of the reasons that ICD originally exists for a better flow of communication and more convenient to both GIDA and users, the top management has decided to dissolve ICD, from January 2013 onwards.

Currently, there is no more ICD and the ICD staff members were assigned to do other jobs. More than 3,000 G Bank employees are requested to contact directly to GIDA for any issue. As most of the users lack IT communication skills, the direct communication with GIDA causes several problems. Incomplete, wrong, delayed IDs and other problems are illustrated all the time.

Though users can get what they request, this requires more time as the former ICD previously finished the process in approximately twenty minutes. After cancellation of ICD, users have had to try and contact GIDA themselves, leading to mistake and rejections which results in more time consuming situations occurring. Time consuming activities for contacting directly with GIDA can vary. Some user may wait half day or one day but none of them spends less than twenty minutes. On the other hand, users that do not understand and have hardly any contact and communicate with GIDA, those users come to the former ICD employees to ask for suggestion and help as was done previously when ICD existed.

Users still keep contact and report the problem to ICD privately to let ICD help clarify the issue and to help communicate with GIDA to help solve problems directly to a point. As a result, this contributes to a work load to ICD that was already assigned to other workers and other responsibilities but they still have to take care of users that cannot process the request forms.

GIDA also lacks experience and knowledge of how to work and communicate with users' requests since in the past GIDA processed what ICD already summarized to GIDA so there was no need for GIDA to check or examine all details so GIDA did not

need to spend much time examining or checking all requests themselves because the responsibilities are at ICD.

Moreover, the incomplete users' requests that were derived from various factors also lead to the increasing rejection rate from GIDA. Moreover, at the end of each month, G Bank gets the invoice charged by GIDA about the total expense for processing users' IDs. With the incomplete users' requests and misinterpretation between users and GIDA, redoing the users' requests are required, causing more incomplete requests and a higher resubmission rate of requests. This higher resubmission of requests contributes to a higher request amount which at the end results in a higher expense since the charges depend on the total amount of requests.

With an aim to compare and evaluate the costs and benefits in both monetary and non-monetary issues, this project focuses on finding out and analyzing costs and benefits with and without ICD existing.

As such the question, ***"What are the costs and benefits after the dissolving of ICD and how to imply costs and benefits to minimize the possible costs?"*** should be clarified to the top management to be aware of potential costs that may occur. Since the dissolving of ICD, every working day there are complaints and help is needed by users for varies reasons and starts occurring directly to ICD. Leading to the doubt of the process time without ICD as a middle man and whether the lead time can really be improved or not.

Thus, the associated costs and benefits should be reviewed to the top management to inform them about the current problems and hidden losses that occur with all the data as evidence. The alternative solutions that can benefit both the organization and the users should be initiated to come up with the solution that helps improve the internal operations and still keeps the position of G Bank as one of the leading international banks, providing the best quality service and sustaining customer loyalty. In conclusion, the process flow disruption occurs at G Bank, including complaints and

lead time, plays a vital role for G Bank as a service provider. So the solution on this matter should be seriously taken into consideration.

1.3 Research Objectives

There are three main objectives of this study as follows;

1. To identify previous and current communication processes between G Bank employees and GIDA.
2. To identify the advantages and disadvantages in terms of costs and benefits of current process after dissolving of the ICD.
3. To propose possible alternative solutions to minimize the potential costs that occur.

1.4 Scope of the Research

The scope of the study is to evaluate and analyze individual costs and benefits and weigh both losses and benefits of monetary and non-monetary issues in terms of lead time, complaints and all associated potential costs and benefits after ICD has been dissolved at G Bank. The results and this information will be shared with the top management whether the cost savings plan and reduction in lead time can really be improved after the implementation of this new process or not. The data is collected from G Banks' users and all concerned department together with historical data that is recorded from the requests that have been done. In depth interviews with the GIDA team members, users and ICD managers will also be used in this study to analyze non-monetary issues that may occur in terms of complaints and lead time for completing users' requests after the dissolving of ICD.

From this research study, the top management can analyze the costs and benefits in all aspects including potential hidden issues that may occur from this decision making. At the same time, users can have more knowledge to request for IDs together with know-how to solve an issue if any inquiries occur.

1.5 Significance of the Research

This study emphasizes the costs and benefits of top management decisions on the dissolving of ICD that impacts G Bank. The analysis can lead to a clearer picture and information about hidden problems and losses that occur together with possible solutions to minimize the losses.

This simple occurrence with ICD at G Bank can be a good foundation for better improvement that keeps G Bank business running smoothly and helps guide the necessity of information sharing and relationships between top management and staff that lacks communication which can lead to unknown problems and losses that may severely impact towards G Bank in the future and may affect to G Bank's image and reputation, meaning that the reduction rate in customers can also occur. Moreover, in order to improve the service quality to be competitive and create an efficient work flow, analyzing all possible solutions is considered to be essential for G Bank. The top managers can have a clearer picture of how to achieve the goal and can compare whether the concept idea of dissolving ICD can really help improve the lead time together with the other drawbacks that may occur or not.

1.6 Limitations of the Research

This study mainly focuses on costs and benefits of the dissolving ICD implementation from the data collection and mainly relies on historical data and interviews which focus on the complaints and lead time and the case that may occur and lead to negative costs for G Bank if the users cannot get into system.

Moreover, the interview part focuses on the main system that has a high rank in usage percentage according Pareto analysis since the system administrator is abroad and unable to interview all system administrators in all systems and as a policy of G Bank that data and information concerning money is confidential so the costs that occur in the process cannot be shown or represented in figures. So the focus implied mainly on

non-monetary issues in terms of lead time and complaints that occur due to the ICD cancellation.

1.7 Definition of Terms

ICD Internal Control Department, ICD was the department which was responsible for User IDs of each employee who would like to access into the system.

GIDA GIDA stands for Global ID Administrator who is a system administrator that processes the users' requests at G bank.

Security Matrix All users are limited to the authorization to access each system according to a Security Matrix which is programmed to differentiate and identify the authorization of each users in detail and for security of G Bank created by ICD. Granting in details and indicating how many and which activities from one application that this ID can proceed with.

Function group Similar with the Security Matrix but this includes no details of authorization and only shows a whole picture of what this ID can access in an application or not.

System application All systems that are used by G Bank.

Maker The one who is responsible for doing all concerned tasks of users IDs' requests in ICD at G Bank.

Checker

The one who is responsible to check the completion of users' requests done by the maker at G Bank before submitting to GIDA.

CMP

Stands for Citi Market Place, this system tools is used for filling the user requirements for submitting to ICD and this system tools is also used by ICD for submitting requests to GIDA.



CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents a literature review which is related to this study. Firstly, it begins with a control system follows by cost and benefit analysis that is used in this study as a main strategy to help measure and evaluate the outcomes of the ICD cancellation by comparing the costs and benefits that align with the objective of identifying and evaluating the advantages and disadvantages of current process after the dissolving of ICD including the definition of how to conduct cost and benefit analysis. That is followed by two sub-concepts that help find the factors associated with costs and benefits by using Pareto Theory and the Importance of Lead-time accordingly.

2.1 Control System

According to Tebbut (1994), control system or known as control engineer plays a vital role over past decade and acts as a controller that helps to manage, regulate and control the systems and devices in organization to monitor or control any equipment used within organization which vary from structure and types of tasks in overall process, allowing necessary activities to be done and performed correctly and accurately with less errors and mistakes that useful for most of operation.

Moreover, improvement of control system in any function helps to enhance and stimulate the profitability of company and enable historical data and records that lead to more convenience with time savings and accuracy so the performance and be improved with trust worthy.

There are mainly two types of control systems which are; first, open loop system which is a manual control system that provide simplicity and stability to construct layout but perform with less accuracy and reliability due to there is no feedback

mechanism while second is called a closed loop system which is an automatic control system that provides accuracy to system but with more complexity.

2.2 Cost and Benefit Analysis (CBA)

Generally the topic of Cost and Benefit Analysis (CBA) or so called Benefit and Cost Analysis (BCA) is a tool to determine how a planned action turns out with a key concept of measuring how well or how poorly it has performed. CBA also is used to measure almost anything, especially for financial questions which rely on all positive factors that bring out the benefits and all negative factors subtracted in order to determine a net result or outcome, known as running the numbers (Gabriela, 2005).

2.2.1 The Origin of CBA

CBA has been used since the 19th century (Dupuit, 2006). CBA is commonly used for making any decision and has become a popular tool since then (Hahn & Tetlock, 2008). Moreover, CBA related to Pareto Concept which attempts to explain and estimate the losses and gains, costs and benefits accordingly that contribute to an organization by conducting one project or development that helps lead to efficiency plans before implementation (Cogan, 2014).

2.2.2 The Definition of CBA

CBA is a simple tool that is widely used for evaluating the outcomes by adding up all costs and benefits including in the project with an objective of determining and weighting the outcomes to evaluate the projects continuation or deciding to stop the project according to the value outcome. With the focus on course of action, the cost-benefit analysis compares the results of outcomes allowing the organization to be able to weight the value of loss and gain (Campbell & Brown, 2003). CBA can be used in varied situations. For instance, remodeling or relocating facilities, implementing new procedures, deciding to hire new resources, evaluating a new project or change

initiative, determining the capital purchase, implementing of new technology (Cogan, 2014).

CBA can be defined as the tools for measuring the influence and effectiveness of circumstances that a firms decides or plans to do in order to weight and decide how worthy and effective they may be (Dossetor, 2011).

2.2.3 Steps for implementing CBA

CBA comprises of a multi-step process, including all information gathering in terms of surveys, studies, historical data reports or existing situations. In each step, the conclusion is involved as a decision making process as a warrant of whether to make the next step or not.

Conducting CPA comprises of four main steps. Firstly, costs and benefits of brainstorming to generate all associated costs and benefits involved in the project is done, which can be derived from an interview or historical data to find the unexpected costs and to find out hidden benefits that may be included in the project. Secondly, assigning whole costs for both monetary and non-monetary value that requires considering as many related costs as possible (i.e. training costs, decrease rate in productivity) and covers all cost overhead costs in terms of human effort and physical facilities needed for resources until the completion of the project. Thirdly, assigning whole benefits for both monetary and non-monetary values requires to find out all benefits or revenues involved for both tangible and intangible benefits that are anticipated in the project. Lastly is cost and benefit comparison which aims to make a comparison of cost and benefit value to give guidance for deciding the course of action. As the analysis covers the total cost and total benefits, the comparison can help find out and outweigh the decision (Barnett, 1993).

2.2.4 Costs Identification

As the cost is considered to be one of the main evaluations for CBA, to identify the costs is considered to be essential in doing CBA. Costs can be categorized into two main types which are tangible and intangible costs or simply monetary and non-monetary costs.

Monetary costs are cost that can be identified and clearly seen in the numbers or figures (i.e. expenses and fees) while non-monetary costs are hard to predict and determined because these include time, imperfect processes, lost production on other tasks, influences towards reputation, potential risks etc. that are associated with the project (Cohen, 2000).

2.2.5 Benefits Identification

Another key factor for CBA is to identify and quantify all anticipated benefits of the proposed action or project.

Benefits are also categorized into two main types, same as costs, which are monetary and non-monetary benefits that include direct profits from products or services, decreased production costs or product capabilities etc. Non-monetary benefits may be derived from production times reduction, reliability and durability increasing, higher in customer satisfaction rates, greater loyalty from customers, reputation improvement, etc (Dhiri & Brand, 1999).

2.2.6 Costs and Benefits Evaluation

Costs and benefits evaluation is the last step for doing CBA which is the comparison of total associated costs and benefits derived from doing or not doing the project.

After comparing the total value of both costs and benefits, in the case of greater total costs than the total benefits, the conclusion can be made that the project is not worth

enough to do or to exist. On the other hand, in the case of greater value in total benefits than the total costs, the investment or improvement for the project should be worth investing. Furthermore, in the case of a project being similar and equal in total costs and benefits, meaning that the cost and benefit identification should be reviewed and can imply that there has to be some factors that were incorrectly quantified (Wise et al, 2005).

2.2.7 Benefits of the CBA

By using CBA, allowing the evaluation of the all incurred opportunities and losses it becomes much easier to justify the decisions as a guideline to decide what should be done or what should not be done in order to eliminate the unnecessary costs and enhance the opportunities or benefits that contribute to the firm (White & Crawford, 1998).

Moreover, the CBA allows brainstorming to find out all hidden costs and benefits associated with the project and can be a guideline for a cost savings plan (Nurmi et al, 2013).

2.3 Pareto Principle

Pareto principle also called the “80-20 Rule” that is introduced with the concept of 80 percent of the total, which is around 20 percent of items. On the other hand, another 20 percent of the total that is about 80 percent of items (Muller, 2003). The concept of Pareto being used in this study is to prioritize the most recent use of each system and help guide the focus of interviewees and decide what to make a first priority.

2.3.1 Origin of Pareto Principle

The Pareto Principle originally began in 1906 by Vilfredo, an Italian economist, he created a mathematical formula with the aim to describe the distribution of wealth and inequality in his own country. As a result of his observations, the results showed that

eighty percent of the wealth was owned by twenty percent of the people. Later in the late 1940s, an inaccurate attribution of the 80/20 Rule to Pareto was developed by Dr. Joseph M. Juran and was named as Pareto's Principle or Pareto's Law. After that, the use of Pareto is widely used and adapted according to each own area of expertise and one of these is the concept of a “vital few and trivial many”, developed by Dr. Juran's whose observation states that twenty percent of something impacts eighty percent of the total or results and is best known as Pareto Principle or the 80/20 Rule (Reh, 2005).

2.3.2 Steps in Pareto Analysis Implementation

Firstly, the use of excel software is used for calculations and puts the historical data of request per system separated by function per month in a total of 12 months and sums up the total usage rate per system per month. Then, the total requests can be calculated from the sum of total usage per month. Next, ranking the highest numbers of usage rates to the lowest and making them as a percentage. Then, doing an accumulation of percentages and focusing on the systems that have an accumulation between 0 – 80%.

2.3.3 Benefits of Pareto Principle

The Pareto Principle helps reduce time to focus on all things, thus the Pareto Principle is a guide to focus on factors that contribute to a high impact or simply say significant factors and the results which can come up more efficiently and save time to focus on other important things on other issues.

2.4 Lead-Time (LT)

Lead time (LT) defined as the total time needed to process the order until the job is done.

Heydari, (2009) writes on the study of lead time variation and the impact on supply chain performance. The impact of lead item is considered to be major obstacle

especially for the supply chain management (SCM) team as it creates the supply chain disruptions along the chain with the supply chain (SC) partners. LT is known as a cause of supply uncertainty in the SC and the SC uncertainties are major problems that impact the performance of SC. As a result, the effects of lead time are widely discussed by many researchers.

Moreover, Woepfel, (2001) states that LT's are important to gain a competitive advantage because many organizations, including not-for-profit and service providers that are directly involved with customers in the process, thus LT is of critical importance. Service providers for profit or not-for-profit can directly benefit from lead time reduction due to the removal of excess work-in-process, smaller transfer batches, and/or smaller process batches. As a result, LT plays an important role towards customer's perception of business performance. Newbold, (1998) reviews that the primary driver that causes total lead time and effects total work in process are excessive queues time/work-in-process, batching of product and batching in time.

LT is reviewed in this study as LT is considered to be a key element that contributes to other factors such as stuck in process flow or creates supply chain disruption and the effects of LT can lead to severe outcomes. It is necessary to measure and evaluate the LT to control and make sure all flow runs smoothly. Likewise, the LT is used to measure the costs or disadvantages to G Bank as one of the objectives of this study.

2.5 Summary

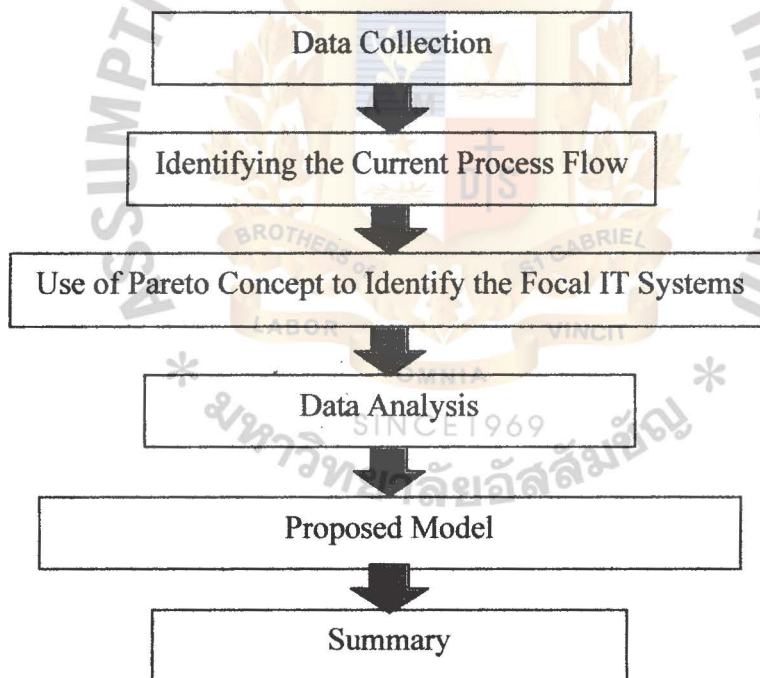
The literature review stated in this chapter mainly emphasizes on the use of CBA to evaluate the costs and benefits as a main objective of this study. With the use of the Pareto concept review, helping as a guide to find a key focus group of interviewees in chapter 3 is followed by the use of the importance of lead-time reviews as an element to focus on the lead-time of each flow of current process after the cancellation of ICD which is gathered from interviewing. By using the aforementioned concepts, the next chapter shows the discussion of how to gather the data and how the related literature review will help support this project and how they are related.

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the methodology of this research study which consists of the collection of data and data analysis along with the summary of expected outcomes that help guide to conduct the CBA that will be proposed to top management as an aim of information sharing and creating the awareness of potential losses that come from the dissolving of the ICD.

Figure 3.1 Research Process

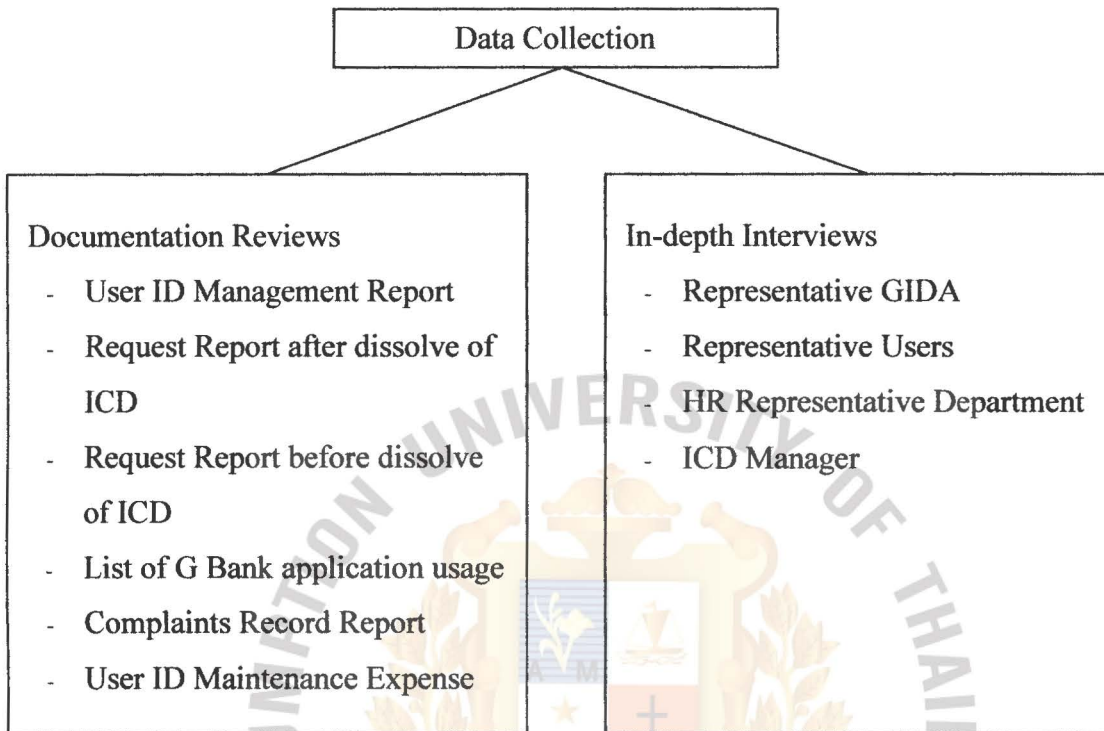


Source: Author

3.1 Data Collection

For this study, there are two methods that are selected for data collection which are documentation reviews and in-depth interviews as shown in Figure 3.2.

Figure 3.2: Data Collection Method



Source: Author

3.1.1 Documentation Reviews

The period for all data collection is varied by the type of data with the total range from January 2012 until December 2013. Reviews of the entire relevant documents from the G Bank database are as follows:

- 1. User ID Management Report:** This report shows the summary of total User IDs and user ID owner's names of each system. The data collection is as of 31 December 2012.
- 2. Request Report before Dissolve of ICD:** This report shows the amount of action (ex. Create / Modify / Enable / Reset / Disable / Delete) that users request to ICD for processes together with the amount of requests that have been rejected by

GIDA. The period of data collection is from January 2012 to December 2012 (until the ICD was cancelled).

- 3. Request Report after Dissolve of ICD:** This report shows the total amount of users' requests that are direct request to GIDA for processing the amount of requests that GIDA had rejected monthly. The period of data collection is from January 2013 to December 2013, as ICD has started cancelling from January 2013 onward.
- 4. List of G Bank Application Report:** This report shows the list of all IT applications that G Bank is currently using as of 30 June 2013.
- 5. Complaints Record Report:** This report shows the complaints from users after the cancellation of ICD. The data comes from both direct and indirect information to ICD. The period of data collection is from January 2013 to December 2013 (half year was recorded since ICD started cancelling from January 2013 onward) which is collected by ICD.
- 6. User ID Maintenance Expense Report:** This report shows the amount of expenses that have been charged by GIDA to G Bank (Thailand Branch) for users' IDs service fees. The data collection period is from January 2012 to December 2013.

3.1.2 In-Depth Interviews

Further data is concerned with the details of lead time and current working processes from GIDA members and users to figure out the problems in order to generate the associated costs that occur from the cancellation of ICD.

The researcher conducted the interview via e-mail and the telephone calls to GIDA in Malaysia and Singapore and the questions are as follows:

Question 1: What is the approximate average time of a request process that GIDA currently uses after dissolving ICD?

Question 2: How is the current process flow? Could it go smoother without ICD?

Question 3: Do any problems arise from direct communication with users?

As the large amount of application uses and varies of GIDA, the interview was conducted with the use of Pareto Theory to help scope down the focus group of interviewees only on the most recent users of the system.

Moreover, for conducting the interview via telephone calls with users, it includes the questions as follows:

Question 1: What is the average time of the preparation process before submitting the request to GIDA to process the next step?

Question 2: How is the process flow? Smoother or more complex without ICD?

Question 3: Are there any problems or complication after the dissolving of ICD?

The focus group for users' interviewees comes from the focal IT application systems by Pareto Theory and finds out the name of users from the User ID Management Report that shows the ID owner's name of each system.

3.2 Use of Pareto Theory to Identify the Focal IT Systems

For finding the focus group, the Pareto concept is selected for this study. To focus on most recent use of the IT Application it is shown in Table 3.1:

Table 3.1: Annual Usage of IT System Applications in 2012

No	Applications	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL USAGE RATE	ANNUAL USAGE (%)	ACCU ANNUAL USAGE (%)
1	ECLIPSE	384	298	328	288	322	331	329	350	130	198	164	266	3388	24.08%	24.08%
2	ILOAN	155	170	246	127	132	185	189	194	131	220	298	328	2375	16.88%	40.97%
3	ECS+	102	56	145	84	211	116	104	119	78	165	97	136	1413	10.04%	51.01%
4	Citisafe-Bureau Score	112	124	62	51	91	95	59	169	117	112	113	124	1229	8.74%	59.75%
5	Ondemand	58	92	76	82	78	64	70	97	40	102	209	145	1113	7.91%	67.66%
6	EBS	94	162	104	87	146	89	124	33	57	134	25	31	1086	7.72%	75.38%
7	Flexcube	79	81	67	36	32	29	42	68	61	94	56	40	685	4.87%	80.25%
8	Citisafe-ROD	37	30	28	33	23	34	40	54	46	50	42	36	453	3.22%	83.47%
9	Citisafe-AML	44	10	9	5	12	9	10	23	14	32	20	25	213	1.51%	85.51%
10	LDAP	13	15	22	6	7	19	22	19	36	14	6	19	198	1.41%	86.91%
...																
66	TRIMS1	2	1	0	0	0	0	0	0	0	0	0	0	3	0.02%	99.57%
67	TRIMS2	2	1	0	0	0	0	0	0	0	0	0	0	3	0.02%	99.59%
68	CORES	2	0	0	0	0	0	0	0	0	0	0	0	2	0.01%	96.60%
69	OFAR	2	0	0	0	0	0	0	0	0	0	0	0	2	0.01%	98.93%
70	OneLoyalty	0	1	1	0	0	0	0	0	0	0	0	0	2	0.01%	99.05%
71	RMS	1	1	0	0	0	0	0	0	0	0	0	0	2	0.01%	99.18%
72	WSS	0	2	0	0	0	0	0	0	0	0	0	0	2	0.01%	99.85%
73	GCMS	1	0	0	0	0	0	0	0	0	0	0	0	1	0.01%	97.28%
74	LCB-FX LINK	1	0	0	0	0	0	0	0	0	0	0	0	1	0.01%	98.44%
75	RPS-SI	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01%	99.21%
Total		1284	1191	1302	931	1201	1093	1138	1269	870	1321	1161	1307	14068	100%	100.00%

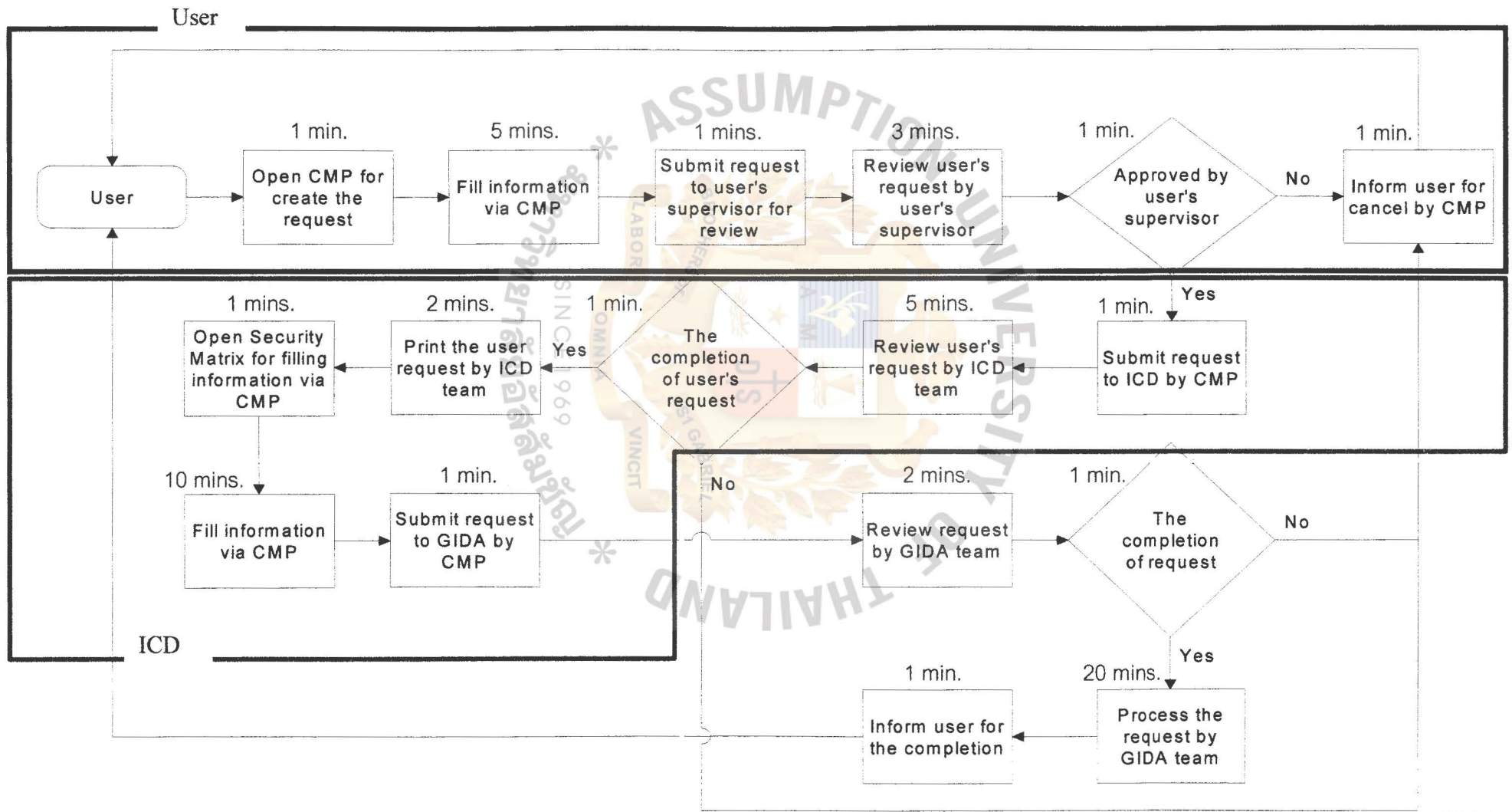
Source: G Bank

According to the User ID request report, it shows the amount of requests that users submit to ICD, separated by system. The actions are combined with create, enable, disable, modify, reset, and delete. During 2012, the system application which users submitted to ICD for process totaled 75 applications with a total request process of 14,068 requests.

3.3 Identifying the Previous and Current Process Flow

Describe the process details individually together with the all actions and responsible persons in each process. The process work flow as shown in Figure 3.3.

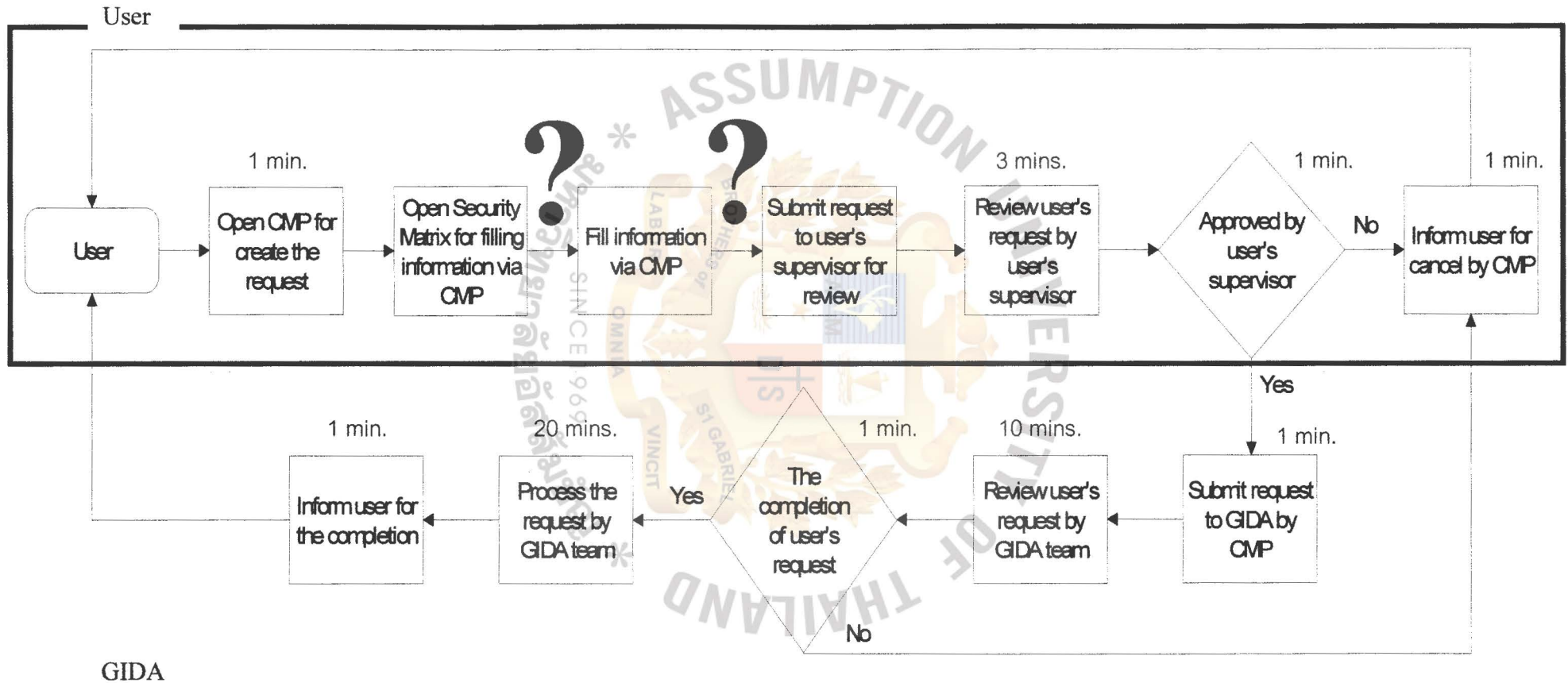
Figure 3.3: Previous User ID Management System with ICD



Source: Author

GIDA

Figure 3.4: The Current Process of User ID Management System without ICD



Source: Author

The steps of the existed process before dissolving of ICD for User ID management system as described as below:

Step 1: Users start with opening the CMP (The Bank Market Place). CMP is the system tool for users to submit the request to ICD for any purpose for User ID Management.

Step 2: User has to fill in the requirements via CMP.

Step 3: Once the requests are completely filled in by users, the users submit the completed requests via CMP to the user's supervisor for approval.

Step 4: User's supervisor reviews and checks the users' requirements that each user filled in.

Step 5: The approval requests is submitted to ICD via CMP. In contrast, the incomplete request is returned to users and they are informed via CMP so the users need to resubmit the request again with corrections.

Step 6: ICD prints out the completed request for the process though the next step.

Step 7: The next step, ICD requires opening the security matrix that states the necessary information which needs to be filled in in the request form. Then they submit the completed requests via CMP to GIDA.

Step 8: GIDA reviews and checks for the correctness and completion of the request via CMP.

Step 9: The completed request is printed out and preceded by GIDA according to the users' requests while the incomplete or incorrect one is rejected and returned to the users for corrections and resubmission via CMP.

Step 10: The completed request is printed out and processed by GIDA according to the users' requests while the incomplete or incorrect one is rejected and returned to the users for corrections and resubmission via CMP.

Step 11: Once the users' requests have been completely processed by GIDA, GIDA closes the users' requests via CMP. The users are informed of the completion of requests via CMP.

Normally, the most complex and time consuming activities are in the open security matrix and filling out the request form process which ICD can process within eleven minutes due to the knowledge and experience of ICD staff. On the other hand, in current process without ICD, the lead time of those two processes are based on the personal skills of the users. The lower the skill of the users, it leads to the higher time to finish the process. Moreover, the variety of skills of users also effects the mistakes and rejected rate from GIDA. The higher the rejected rate, the more time is consumed for users to redo the process so the lead time can be more than double.

In Figure 3.3 and 3.4 it shows the previous process with ICD and the current process without ICD. With the cancellation of ICD in Figure 3.4, users have to process the requests themselves as ICD did before. As a result, there is a question whether the lead time for the current process by users themselves as shown in figure 3.4 can really be improved or not.

3.4 Data Analysis

In this process, all data on documentary reviews and interviews contained in the data collection section is discussed and evaluated to generate an outcome. From this study, the outcome from the data collected is represented in terms of costs and benefits or potential advantages and disadvantages that are derived from the ICD cancellation so these data analysis can be a guide and can be used as relevant evidence to support all potential of occurrences that this study focuses on.

3.4.1 Analysis of Pareto Theory

From Pareto Theory, the researcher got the information on the most used IT system at G Bank by ranking the usage rates and selecting the accumulative rate over eighty percent in order to conduct an interview with GIDA. Moreover, the most used systems will be grouped together according to the GIDA's support to concentrate and limit the number of interviews with GIDA since the GIDA team supports more than one system.

3.4.2 Analysis of Request Report before Dissolve of ICD

From the User ID Request Report by ICD which shows the action times that ICD proceed and amounts of requests that GIDA rejected during 2012 before the process of removing ICD was implemented. The GIDA rejected rate represented as one of the costs of the G Bank which helps to compare the costs and benefits after getting the results.

3.4.3 Analysis of Request Report after Dissolve of ICD

The User ID Request Report by GIDA shows the action times GIDA proceeded and the amount of requests that GIDA rejected during January–December 2013. The GIDA rejected rate will be shown to compare the results with previous processes that existed with ICD. The results of the User ID Request Report by GIDA were used to compare with the analysis of the User ID Request Report.

3.4.4 Analysis of the Users' Complaints

As the ICD team always gets direct complaints from users by telephone, email, and face to face, the data has been collected by ICD and some complaints from HR department, which were obtained from interviews when the users resigned. The data was collected since the process had been changed, January 2013 to December 2013. The complaints were used as one of the determinants to indicate the costs of G Bank.

3.4.5 Analysis of User ID Maintenance Expense

The expenses of GIDA Maintenance User ID Report from January to December 2013 which is the invoice of expenses for processing the user requests that are charged by GIDA to G Bank were used to calculate the total costs that G Bank has to pay and used as a monetary value.

3.4.6 Analysis of ICD Operation Expense

ICD Operation Cost, shows the expenses for hiring the ICD team which consists of two staff, one assistant manager and one manager in order to calculate the total cost that G Bank spent with the ICD team to determine and compare the benefits that G Bank received from the ICD cancellation, meaning that the G Bank can gain cost savings from ICD or not.

3.5 Proposed Model

As in the related literature review, Campbell and Brown (2003) describes that cost and benefit analysis is a tool that is widely used for evaluating the outcomes by adding up all costs and benefits including in the project with an objective of determining and weighting the outcome to evaluate the project continuation or deciding to stop the project according to the value outcome, allowing the organization to be able to weight the value of loss and gain.

So in this study, the researcher conducted cost and benefit analysis which aims to compare the costs and benefits of ICD cancellation at G Bank by using the all the supported data and analysis of the data concerned from the incurrence of problems to determine the potential costs and benefits, both non-monetary and monetary.

Table 3.2: Project Overview

Plans	Actions	Results/Expected Outcomes	Tools
Chapter 1: Find out the core problem of G Bank related with current tasks.	Gather and review problem occurrence with outline objectives, scope to conduct the study.	Realize the problem occurs together with the impact towards those problems.	Historical report/data collection, interview and brainstorm.
Chapter 2: Review of related literature.	Review and collect related literature.	Support importance of study together with suggests the strategies and tools that align with this study.	Cost and benefit analysis, Pareto Theory, Lead-time
Methodology	Collect all data supports to point out and guide to costs and benefits.	All benefits and drawbacks of ICD cancellation in term of both monetary and non-monetary together with gaining the information as states in objectives.	Historical report/data collection, interview and brainstorm.

Plans	Actions	Results/Expected Outcomes	Tools
Analysis	Conduct CBA and compare pros and cons to identify the costs and benefits that affect to G Bank as the main objectives of this study.	Gain details and analysis of costs and benefits to propose to top management.	Cost and benefit analysis
Conclusion and recommendation	Find out and come up with all alternative solutions.	Gain the most effective alternative solutions that accordance with the elimination of potential losses which is the objectives of this study.	

Source: Author

3.6 Summary

In conclusion, this chapter ends with the list of all concerned and supporting data being used in this research study of the ICD cancellation that G Bank's top management is unaware of that will be used to determine and calculate the potential costs and benefits in the next chapter. It will lead to the comparison of costs and benefits in chapter 4 and a conducting of cost and benefit analysis to prove and to give information to the top management with evidence as support.

CHAPTER IV

PRESENTATION AND CRITICAL DISCUSSION OF RESULTS

This chapter presents how all the data is analyzed to identify the costs and benefits of the current processes after dissolving ICD and comparing the results with previous processes when ICD still existed, which is aligned with the objective to sum up all monetary and non-monetary factors from supported data from 2012 and 2013. This chapter includes Pareto analysis, in-depth interview analysis from both users and GIDA, document reviews in terms of rejection rates of requests, user ID maintenance expenses, ICD expenses and comes up with the results and conclusion and proposes an alternative option to solve the problem of the current process.

4.1 Pareto Analysis

According to Muller (2003), Pareto theory helps reduce time to focus on all things and helps to scoop down the factors that contribute to a high impact or significant factors which help save time to focus on other less important things.

As a result, the Pareto theory was used in this study to help find the IT applications that are the most frequently used out of all 75 applications. From the Pareto application, the researcher can focus on key IT applications that are commonly used and most widely used which align with the purpose of using Pareto theory which is to find out 20% items that contribute to 80% of the value. So, from a total of 75 applications used at G Bank, the researcher is able to come up with the most commonly used IT applications; a total of seven applications which have an accumulative usage rate of over 80% as shown in Table 4.1.

Table 4.1: The Seven Focus IT Applications by Pareto Theory

No.	IT Application	Annul Usage Rate	Annual Usage (%)	Accrued Annual Usage (%)
1	ECLIPSE	3388	24.08%	24.08%
2	ILOAN	2375	16.88%	40.97%
3	ECS+	1413	10.04%	51.01%
4	Citisafe-Bureau Score	1229	8.74%	59.75%
5	Ondemand	1113	7.91%	67.66%
6	EBS	1086	7.72%	75.38%
7	Flexcube	685	4.87%	80.25%
8	Citisafe-ROD	453	3.22%	83.47%
9	Citisafe-AML	213	1.51%	85.51%
10	LDAP	198	1.41%	86.91%
:				
:				
75	RPS-SI	1	0.01%	100.00%

Source: G Bank Database

Table 4.1 shows what the most commonly used IT applications at G Bank were during 2012, which was composed of seven applications. The names and descriptions are as follows:

1. ECLIPSE Application concerns all banking transaction as a whole for customers.
2. ILOAN Application is used for supporting customers for loan transactions.
3. ECS+ Application concerns credit card transactions.
4. Citisafe-Bureau Score Application is a linkage for all applications which are developed by G Bank.
5. Ondemand Application is showing the reports of all banking transactions.
6. EBS Application is for approving banking transaction in the part of operation management.

7. Flexcube Application is concerned with all banking transactions as a whole for the Institutional Business.

Since all seven focal IT applications are commonly used for doing banking transactions to all customers, there is a high probability that the problems that G Bank is currently facing come from these focused IT applications. If there are any problems or interruptions that lead to longer lead times and complexity, the users are unable to continue the job that is based on the use of those IT applications, resulting in poor performance which directly effects the company image and loss of customers due to dissatisfaction in services. Thus, the researcher makes use of the aforementioned Pareto analysis results to guide finding the specific interviewees for conducting an interview of both GIDA and users by basing it on the seven focal IT applications that have a usage accumulation rate of over 80% and have a high probability that the GIDA who controls it and users that use these seven focal IT applications are currently facing problems from dissolution of ICD. As a result, the interview part is conducted based on these seven focal IT applications to obtain the essential information in terms of complexity and comments in the current process after the dissolution of ICD.

4.2 In-depth Interview Results

In-depth interviews were conducted based on the aforementioned Pareto analysis results to obtain the data from two sides, users and GIDA of G Bank. The interviews were done with seven representatives of GIDA from the seven focal IT applications; one representative from each of seven focal IT applications. The interviews were also conducted with seven representative of the G Bank users; one representative from each of the seven focal IT applications, just like what was done with the GIDA.

The in-depth interviews aim to acquire opinions, comments, current problems faced from current processes after dissolving ICD in order to come up with the confirmation of whether the current process can be done successfully or if there are any issues or

problems which occur from this change that had never been reported and informed to G Bank.

4.2.1 Interview Results from GIDA

By conducting an interview with seven representative of GIDA that are responsible for the seven focal IT applications, the researcher was able to obtain data in terms of three main criteria areas; average process time used by GIDA, the comments on current process flows and comments on direct communication and direct work with users.

In-depth interviews were done via the phone. Each respondent of the representative GIDA was firstly contacted by email for informing them of the interview appointment date and time in which the interview period was around 15-20 minutes per person; since all GIDA is currently working abroad the time limit for the interview has to be precise and short. As a result, the interview feedback was discussed as follows:

Question 1: What is the approximate average time of a request process that GIDA currently uses after the dissolving of ICD?

Most representatives of GIDA, three persons, said they spend around 45 minutes per request while two persons spend approximately 40 minutes and another two persons spend about 50 minutes to complete one request. Moreover, all representatives of GIDA stated that this is more time consuming than the previous process when ICD existed.

Question 2: How is the current process flow? Does it go smoother without ICD?

All representatives had the same opinion that the current process provides more complexity and is more time consuming for the request completion since after dissolving of ICD. GIDA has to check and review the requests from users themselves because there were no ICD members to help summarize and confirm users'

requirements. After dissolving ICD, GIDA has to spend most of its time to understand users' requirements.

Question 3: Are there any problem that arise from direct communication with users?

Some representatives of GIDA faced with urgent requests but had been made mistakes and were incomplete, so those urgent requests had to be rejected. Once GIDA mailed to inform about the incorrectness and rejection, there was no response and there is always a late response from users that are already over the deadline. Some representative commented on the difficulty in contacting users because without ICD who worked as middleman, GIDA has to directly contact with users from each department themselves which requires more time and complexity in communication. Lastly, some GIDA faced the problem in miscommunication with users due to the lack of English and IT technical skill of the users. So it is hard and consumes have more time to clearly understand each other.

Table 4.2: Conclusion Result of Interviewing with GIDA

Factors Involving in Interview	The Current Process without ICD	The Previous Process with ICD
Average Process Time Consuming	45 minutes per request	24 minutes per request
How is the Current Process Flow?	There is more complexity and it is more time consuming for checking and reviewing users' requests themselves.	There is ICD to sum up users' requirements so the process flows smoothly without complexity for GIDA.
Comments and Problems Arise from Dissolve of ICD	1. Late response with incomplete and incorrect request forms. 2. Difficult to contact users directly since each user is under a different department. 3. Most users lack English skills and technical skills so there is always miscommunication.	Once ICD who worked as a middleman existed, the communication flows smoothly without miscommunication and errors and is less time consuming.

In conclusion from the interviews with 7 representatives of GIDA the researcher found that most of GIDA did not find any ease or convenience from the current process after dissolving ICD in terms of lead time that increased from the previous process which leads to an increase in the total process time, complexity, miscommunication and difficulties in contacting.

4.2.2. Interview Results from Users

Individual interviews with users aimed to gather the data about whether the current process after dissolving ICD is effective or not and to find out the hidden problems from this change.

All 7 representative users were contacted via phone to make appointments. Each interview consumed approximately 15-20 minutes to get all the necessary information, comments and problem from the current process.

The questions for the interview and its answers are concluded as follows:

Question 1: What is the average time of the preparation process before submitting the request to GIDA to process the next step?

The average time of preparation before submitting requests to GIDA used by users is approximately 45 minutes, where one representative user spends about 35 minutes per request while two representatives spend about 50-55 minutes per request while the remaining 4 users spend about 40-45 minutes to complete the requests for GIDA. Hence, approximately the average time for the preparation process is about 45 minutes per request.

Question 2: How is the process flow? Is it smoother or more complex without ICD?

Most representative users complained on how time consuming and complex the current process is and that they have to be directly responsible and involved with the

requests that they have no skill and experience especially on the preparation process and that they have to fill in the correct request forms which are full of technical words that they are unable to understand easily. Most of their time, about an hour, is wasted and spent for this process and finally at the end, most users get the rejected requests from GIDA due to it being incomplete and errors of their sending requests which make them so unhappy and annoyed. Moreover, they have to spend time on this request, resulting in less time in doing their current tasks and can do nothing about this.

Question 3: Are there any problems or complications after dissolving ICD?

About three representative users stated in the interview that in the case of an urgent case that requires urgent requests and feedback from GIDA to continue the process further, they are always late and cannot get done on time due to rejection which the requirements to redo the requests so the urgent requests are always receive late and mostly over the deadline which users get complaints and cannot continue to the next process on time as well.

More than half of the users are facing miscommunication with GIDA due to a lack of English skills, technical wordings, etc and are unable to receive the information or feedback correctly and on time.

Lastly is about the time consuming activities that all representative users are experiencing because they have to spend most of the time to fill in the request themselves and contact existing ICD for help and support to complete the requests in the current process instead of concentrating on their work where they are directly involved with external customers. So, most of their time to support customers had been spent with this current process without any return.

Table 4.3: Conclusion Result of Interviewing with Users

Factors Involve in Interview	The Current Process without ICD	The Previous Process with ICD
Average Time Consuming for Preparation Process	45 minutes per request	11 minutes per request
How is the Current Process Flow?	There is complexity which requires more time consuming activities due to a lack of experience and knowledge on these tasks.	No complexity once ICD existed since they had expertise and know how to work with the requests and GIDA.
Comments on Problems from dissolving of ICD	1. Urgent cases cannot be completed on time. 2. Miscommunication with GIDA. 3. Time wasted in concentrating on their own tasks and loss of opportunity to serve customers.	Comfortable

After conducting an interview with 7 representative users, the researcher clearly understands that there are complexities in the current process from a lack of knowledge and skills of users, resulting in higher preparation process lead times where most users spend around an hour for the first process which also effects the total process time that also increases accordingly and are also faced with miscommunication with GIDA. As a result of dissatisfaction and complexity, there is a complaint from users that occurs as well.

4.2.3 Analysis of the Users' Complaints

Complaints from users also occurred as ICD always gets direct complaints from users via telephone, email, and face to face after the dissolving of ICD. The data had been collected by ICD and some complaints were from the HR department, which it got from user resignation interviews. The data was collected from before the process had

been changed, January 2013 to June 2013, which can be grouped into 4 main categories as shown Table 4.4.

Table 4.4: Complaints from Users

No	Description of complaints and details	Number of complaints (times)	Percentage
1.	Facing with complexity for filling in the request forms.	176	48.89 %
2.	Facing experience of request rejection by GIDA.	92	25.56 %
3.	Difficult to contact GIDA and always get late response from GIDA.	74	20.56 %
4.	Miscommunication with GIDA due to lack of language skills and technical words.	18	5 %

Source: G Bank Database

From the complaints of users, the highest percentage of complaints came from the complexity of filling in the request forms which is about 48.89%, which is followed by facing experience of request rejection by GIDA 25.56%, difficult to contact GIDA 20.56% and miscommunication with GIDA due to lack of knowledge in language and technical skills 5% accordingly.

The complaints from users can lead to further problems that directly impact the lead time of users ID process completion and may also lead to an indirect impact in terms of the working environment and efficiency which more or less effect G Bank.

4.3 Analysis of User ID Report

The User ID report shows the total requests per month together with the reject rate that the requests had been rejected by GIDA in case of incompleteness or incorrect in filling out the form of the requests.

The data had been collected two times. The first time is when ICD existed and the second time is current process after dissolving ICD to compare the number of request rejections. Since from the year 2013 that ICD was dissolved, all users have to contact directly with GIDA and complete the requests by themselves. Thus, the number of rejected requests had been collected and compared with the year 2012, when ICD still existed. The rejection rate represents the number of requests that have been rejected by GIDA due to various reasons, mainly incomplete requests and incorrect requests. Once there is a rejection, the problem occurs because all requests that have been rejected have to be redone from the first step and doing a new request is more time consuming. After dissolving ICD in 2013, users who lack the knowledge and experience have to do all the requests themselves which results in a dramatic increase in the reject rate compared with the previous process when ICD existed as shows in Table 4.5 And Table 4.6.

Table 4.5: Amount Requests Rejection before Dissolve of ICD

Month (2012)	Number of Request	GIDA Reject	
		Request	Percentage (%)
January	1284	27	2.10%
February	1191	14	1.18%
March	1302	25	1.92%
April	931	10	1.07%
May	1201	13	1.08%
June	1093	11	1.01%
July	1138	14	1.23%
August	1269	23	1.81%
September	870	16	1.84%
October	1321	15	1.14%
November	1161	27	2.33%
December	1307	25	1.91%
Average	1172	18	1.55%

Source: G Bank Database

Table 4.6: Amount of Requests Rejection after Dissolve of ICD

Month (2013)	Number of Request	GIDA Reject	
		Request	Percentage (%)
January	2584	1,015	39.28%
February	2096	847	40.41%
March	1885	754	40.00%
April	1676	512	30.55%
May	1981	798	40.28%
June	2237	919	41.08%
July	2845	1208	42.46%
August	2322	921	39.66%
September	1670	674	40.35%
October	2404	1006	41.84%
November	1858	749	40.32%
December	2562	1095	42.74%
Average	2177	875	39.92%

Source: G Bank Database

Table 4.5 and 4.6 show that before ICD was dissolved, the average rejection was only at 1.55% but after ICD was dissolved the reject rate gradually increase to 39.92% which is very high and can be implied that due to users lacks of knowledge and experience in this field, it results in a gradually increase in rejections.

From the higher number of request rejections by GIDA, there are various issues and problems that contribute to make this increase as well such as the longer lead time in the completion of requests because as mentioned earlier once the requests have been rejected, that requests have to be redone from the first step, just like making a new request and because those rejected requests are required by users to continue the process before doing any further transactions. For this circumstance, G Bank can get complaints and lose opportunities from customers which can destroy G Bank's reputation.

4.4 Analysis of User ID Maintenance Expense

Though GIDA is considered as supportive unit of ICD at G Bank, there are management expense charges by GIDA to the local bank or G Bank for doing any requests, called user ID maintenance expense.

Hence, the user ID maintenance expense both before and after the dissolving of ICD is shown below:

Table 4.7: Expenses of User ID Maintenance before and after Dissolve of ICD

Month	Amount (THB)	
	2012	2013
January	226,201.86	772,920.91
February	221,452.83	627,657.68
March	217,582.11	555,087.26
April	164,153.92	493,712.73
May	216,793.32	600,138.01
June	204,201.47	677,692.44
July	212,288.22	885,136.40
August	222,115.88	739,429.35
September	164,464.80	520,327.93
October	198,569.81	741,774.00
November	216,751.18	591,820.21
December	216,574.21	834,595.57
Average	206,762.47	670,024.37

Source: G Bank Database

After comparing the expense of user ID maintenance before and after dissolving ICD, it was found that the average user ID maintenance expense as of 2012 before the dissolving of ICD was THB 206,762.47 monthly. On the other hand, in 2013 after the dissolving of ICD, the user ID maintenance expense increased to THB 670,024.37 monthly with the difference of approximately THB 460,000 per month after the

dissolving of ICD. Meaning that, G Bank has to pay higher expenses, approximately 460,000 Baht monthly, because once ICD had been dissolved, users have to deal directly with GIDA and do the requests themselves from the first step so most users who lack the knowledge and skills are unable to complete most of the requests properly which results in a high increase in the rejection rate that directly effects higher expense with the user ID maintenance.

The higher amount of user ID maintenance expense is derived from the higher amount of rejected requests that require more time for GIDA's working staff to complete, facing by GIDA in communicating with users occurs from lacks of English skills and technical skills in IT field so GIDA has to take over the time to correct, update, investigate, report and send back the rejected requests which all effect the increase in the user ID maintenance expense. Though this charge does not occur or pay to ICD, this is an expense of G Bank that G Bank has to pay monthly.

4.5 Analysis of ICD Operation Cost

Previously when ICD existed, there was also one major cost to G Bank which was the hiring cost of an ICD team as called salary, which included others allowances and benefits which paid for two ICD staff, one assistant manager and one manager of the ICD department. The calculation of the total costs are shown in Table 4.8.

Table 4.8: Estimate Salary of ICD Staff

Level of Staff	Amount (Person)	Salary + Benefits (THB)
ICD Staff	2	25,000 each
ICD Assistance-Manager	1	100,000
ICD Manager	1	150,000
Total	4	300,000

Source: Interview of ICD Manager

There is an expense per month to G Bank for ICD salary and other concerns and benefits and allowances estimated at THB 300,000. After dissolving ICD, G Bank can save about THB 300,000 per month or THB 3,600,000 per year.

By only looking at the cost savings of ICD salary and benefits of approximately 3,600,000 Baht yearly, the top management decided to dissolve ICD with an expectation of higher lead times in requests processed as well. On the other hand, there are also hidden costs associated in terms of both monetary and non-monetary costs after dissolving ICD that contribute to the higher expense to G Bank and other indirect effects as well that all mentioned after analyzing all data that the top management may not have been aware of.

4.6 Important Findings from Data Analysis

After all concerned data were collected and analyzed from both current processes without ICD and previous processes with ICD, leading to both costs and benefits of G Bank a total of seven aspects in terms of processing lead times, complexity, complaints from users, interview result from both GIDA and users, rejection rate, user ID maintenance expense and ICD salary and benefits as concluded in Table 4.9.

Table 4.9: Important Findings from Data Analysis

Main Result Factors	The Current Process without ICD	The Previous Process with ICD
Average Total Process Time	90 minutes per request (user's preparation process = 45 minutes, GIDA operation process = 45 minutes per request)	56 minutes per request (ICD operation process = 32 minutes, GIDA operation process = 24 minutes per request)
Comments and Complaints from Users by interviewing	- Complexity in filling the correct request forms due to lack of skills and knowledge. - Facing with an increase in request rejections. - Difficult to contact GIDA and always get late responses from GIDA. - Miscommunication with GIDA due to lack of language skills and technical words.	- Not facing with any complexities since all users ID tasks were the responsibility of ICD. - There is no increase in the rejection rate. - Not facing problems or complexity in contacting directly with GIDA.
Comments and Complaints from GIDA by interviewing	Facing a high complexity for communication and direct contact with each user since there is no middleman.	Convenient for GIDA in communicating since there is a middle man called ICD that is in charge with all requests.
Requests Rejection Percentage	39.92%	1.55%
Expense of User Maintenance (THB per month)	670,024.37	206,762.47
Expense for ICD Staff Salary (THB per month)	-	300,000.00

Source: Author

From Table 4.9, the discussion of important findings is described point by point as follows:

4.6.1. Average Total Process Time

For the average total process time which came from interviews with the users and GIDA and combined with each processing time together to get the average total process time. The average total process time increased to 90 minutes from 56 minutes per request after dissolving ICD. Meaning that for a total working hour of approximately eight hours, 480 minutes, the requests can be done for approximately five requests a day which have not yet included the rejection requests. Since all requests from users are used for further processes to serve customers and banking transaction, the lesser the number of completed requests can lead to higher lead times of other process which directly and indirectly impacts the reputation and satisfaction of both internal and external customers. Moreover, for a service provider such as a bank, these time consuming activities are critical factors that influence the company image and reputation. So, the higher lead times of current processes without ICD can be implied as a cost for G Bank.

4.6.2. Comments and Complaints from Users by Interviewing*

For comments and complaints from users, there are mainly four factors that result in complaints from users which are; first, the complexity of preparation process that users have to complete the correct request form to GIDA. Second, is the experience in facing with the rejection rate that requires more time to redo the requests. Third, is the difficulty to contact GIDA who work abroad and fourth is the miscommunication with GIDA who are foreigners so users who lack English and technical skills with no experience find it difficult to understand each other.

4.6.3. Comments and Complaints from GIDA by Interviewing

Comments and complaints from GIDA can be understood that GIDA is also facing a complexity and miscommunication with users after ICD who works as middleman had been dissolved. So, if there are any urgent requests or urgent needs for feedback, the results always turn into delays and late responses due to the difficulty to contact each user from the different departments and communication errors and information distortion also occurs from unskilled persons.

4.6.4. Requests Rejection Percentage

For the rejection rate, obviously there is a gradually increase in the rejection rate of 39.92% per month that occurs from the current process after dissolving ICD due to the complexity of process and lack of skills from users which results in the high increase of the rejection rate from 1.55% a month when ICD existed which is counted as one of the costs for G Bank that needs to be taken into consideration and can lead to other costs that G Bank may be unaware of.

4.6.5. Expense of User Maintenance

For expenses of user ID maintenance charges, as the dramatic increase of the rejection rate which also directly effects on high an increase in expenses of user ID maintenance charge to G Bank as well. So this cost is the monetary monthly cost that G Bank has to pay. Before dissolving ICD, G Bank paid a user ID maintenance expense of 206,762.47 Baht or approximately 2,481,200 Baht annually but after dissolving of ICD, G Bank currently pays for 670,024.37 Baht monthly for this charge or approximately 8,040,000 Baht annually. Meaning that G Bank has been charged over 5,560,000 Baht annually higher after dissolving ICD which is quite a large amount.

Table 4.10: Comparison on Costs and Benefits of Current Process without ICD

Type	Costs	Benefits
Monetary	There is huge increase in user ID maintenance charge after dissolve of ICD from THB 2,481,200 in 2012 to THB 8,040,000 in 2013 which increase for THB 5,560,000 in a year	G Bank no needs to pay for ICD staff salary with total of 3,600,000 Baht annually.
Non-Monetary	There is a complexity in request process flow due to unskilled users and lack of experience in this field.	The process can be shorter because the middleman acted as previous ICD has been dissolved so the total process lead time should be improved if the users are more familiar with the process.
	More time consuming for total process of 90 minutes which increase from previously before dissolve of ICD that spent only 56 minutes per request.	
	There is a risk to G Bank since the bank can be charged in case of any urgent issue which cannot be done within deadline due to higher lead time of current process after dissolve of ICD.	
	Once there is complexity, the number of reject rate also increase by 38.6% from 1.55% per month after dissolve of ICD which is a dramatically increase.	-
	There are complaints occurring from the current process after dissolve of ICD from both user side and GIDA side due to complexity that reduce good working condition and work efficiency.	-

Source: Author

The conclusion summary of the data analysis can be understood that there are more costs which occurred from dissolving ICD compared with previous process with ICD in terms of both monetary and non-monetary costs while the benefits derived from dissolving ICD also limited and unable to give advantages in terms of cost savings plan or improvements of lead time as the top management thought.

4.7 Proposed of Alternative Options

As the aforementioned of important findings and conclusion from data analysis, showing the excess costs with less benefit after dissolving ICD that G Bank is currently occurring, there are three alternative options for G Bank which are recommended and discussed in the costs and benefits of each option in details as follows:

4.7.1 Option A: Provide Training to Users without ICD

Option A; which is to provide training to users with current process without ICD is proposed and considered as one of the possible options for G Bank.

The training is provided to representatives of each user's department totally 42 departments so two user representatives from each users is 84 person, taught by two existing ICD staff. The representatives of users from each department are no more than two persons for better understanding and correction in process method. The training is held for two days by two previous ICD staff to train each representative from all departments.

Before having a training session, firstly, ICD has to consult and have permission from ICD managers to provide training to users at G Bank. Next, is mailing to all users concerns in each department to give information about time, date of training, representative users of each department to join the training with agenda. The first day involves guiding how to fill in the request forms correctly and completely and teaching some technical words etc. The second day opens for training and questions

and answers sessions for any further information required concerning about each department and giving opportunities to all representative users to share common mistakes that occur during the request process which can help improve the knowledge and communication between users and GIDA. The training is held internally without any outsourcing by two ICD staff since G Bank is concerned with data or information leaks out so only the internal staff can receive the information and be involves in the training.

This training option aims to solve the current problem in terms of complexity, no knowledge and no experience of users after dissolving of ICD that disrupts the success of G Bank and does not align with the cost saving plan that the top management expected so the training option is considered as one possible alternatives with the costs and benefits from providing training has to be considered as follows:

Table 4.11: Costs and Benefits from Providing Training to Gs' Users

Costs	Benefits
Monetary	
-	Reduce the expense of ICD staff salary total of 300,000 baht a month.
Non-Monetary	
This requires some material used and course material in training which has to be prepared.	Users have better knowledge and learn more on request process.
The production downtime occurs due to users' time off from the jobs for training and interrupt the current job.	The better knowledge and clear information lead to fewer errors and reject rate.
Time consuming for appointment training date, compile representative users, making confirmation	Once the users clearly understand and have experience, the lead time in processing can also be improved.
Unable to guarantee the result whether the training can be effective to users or not	Working condition and complaints can be reduced since the users are trained and have knowledge and skills.

Source: Author

Table 4.11 shows the costs and benefits in terms of both monetary and non-monetary costs which can be understood that for monetary associated costs, G Bank has no costs for providing training to users but can derive the benefits of dissolve of ICD which is the salary for ICD members totally 300,000 baht monthly.

However, non-monetary costs of providing training can be shown that training requires some material be used and course materials in training which have to be prepared, resulting in time consuming activities. Moreover, there is a production downtime since the representative users have to be out from work and responsibilities. Furthermore, complexity and time wasted occurs during preparation process and during training sessions since there is only 2 members of ICD but total representative users are 84 person and at worst, the training is unable to guarantee the results that the skills and performance of users can be improved. For considering on benefits side of providing training in terms of non-monetary costs, showing that users can have a better knowledge that leads to fewer errors and rejection rate since the representative users have a better knowledge and understanding and also can expand their knowledge to other users within the same department so the correct process and correct complete requests can be done with better working condition as the users can enjoy and be able to do it by themselves with efficiency. As a result, the number of complaints from users can also be reduced since the users are trained and have knowledge and skills which can also make GIDA work without timeliness to recheck the requests and to communicate with users. Once the users clearly understand and have experience, the lead time in processing can automatically be improved as well.

4.7.2 Option B: Return of ICD in Traditional Pattern

Option B is to return previous ICD in traditional pattern. This option allows previous ICD to work and act as middleman with GIDA same as before by calling back ICD members totaling 4 members who still work at G Bank under other departments and responsibilities.

This option can be done without any complexity since currently all ICD staff are still working at G Bank but assigned to work for other responsibilities but there are also some costs and benefits from this option that can be concluded as shown below:

Table 4.12: Costs and Benefits from the Return of ICD in Traditional Pattern

Costs	Benefits
Monetary	
There is an expense of ICD members total of 300,000 baht a month for salary and benefits expense.	-
Non-Monetary	
-	No time consuming in conducting training.
-	No associated non-monetary and monetary costs in term of utility fee, facility fee.
-	The number of reject rate can be reduced same as previously that ICD existing.
-	The reduction in reject rate lead to reduction in user ID maintenance charge.
-	Working condition and complaints can also be reduced.
-	Since ICD staff has been working and involved in this field for long time, ICD staff are more specialize and become expertise.
-	No time consuming in case of any further information or update from GIDA to users since ICD will work as middleman to communicate instead of GIDA contact Gs' users of each department themselves.

Source: Author

From Table 4.12 it shows the monetary costs and benefits from returning ICD in the traditional pattern, there is only one cost that G Bank has to pay for this option which is the salary costs for ICD members as previously totaling 300,000 baht monthly with no monetary benefit.

Non-monetary costs and benefits found that there is a total of seven benefits derived from this option which consists of no time consuming activities for providing training, no associated non-monetary and monetary costs in terms of utility fees, facility fees etc., the rejection rate can be reduced as before, the reduction in the rejection rate also leads to a reduction in user ID maintenance charges. Moreover, working conditions of users and complaints from users can also be reduced. The existing ICD can be an expertise at G Bank since they are involve in this field for a long time and are able to do with more efficiency comparing with users. Lastly, there is no time consuming and complexity for users to contact with GIDA also for GIDA side as well since in case of any information or update from GIDA to users, ICD works as a middleman to communicate and deal with them instead of GIDA contacting individual users.

4.7.3 Option C: Return of ICD with New Pattern

The third option, option C, is to return ICD in new a pattern as been proposed in this study. This new pattern of ICD is done by returning of two existing ICD staffs without an ICD assistant manager and ICD manager and let assistant manager and ICD manager be in charge with their current jobs after dissolving ICD but hiring new skillful IT staff who have experience in the IT filed and technical words as existed with the two ICD staff. As a result, there are still 4 members as previously with ICD but under the IT department with a position of executive staff for all members without any managers and also after being an executive staff, all members' salaries increase to 40,000 Baht from 25,000 Baht for each. As a result, this options costs is only for the salary of executive staff with experience totaling THB 160,000 monthly while the benefits derived from this option are still the same as option B, return of ICD in the traditional pattern, but can reduce the salary expense of ICD managers and ICD

assistant managers by a total of THB 250,000 per month but requires some times for acquiring new executive staff and trainings.

4.8 Selection of the Options

Among the three options that are proposed previously, the third option which is “Return of ICD with new pattern” is recommended by the researcher after analyzing all monetary and non-monetary costs and benefits.

Since all options aim to eliminate and minimize the costs from dissolving ICD in terms of lead time reduction, complex and complaints reduction, expense and operation costs reduction etc. so the focus is on all associated costs that varies from each option. The results found that option A, training users, providing most associated costs and unable to guarantee the results whether the users’ performance can be reduced or not while option B, return of ICD in a traditional pattern, also costs ICD salary with a total of THB 300,000 monthly. On the other hand, option C that returns ICD in a new pattern can maximize and eliminate the current problem together with minimum costs associated. G Bank pays only THB 160,000 monthly from THB 300,000 which G Bank can save for THB 140,000 monthly but with a guarantee of effective work and improvement.

4.9 Summary

After the conclusion of the data analysis from the G Bank database and interviews with both GIDA and users who are concerned most on highest usage IT applications, this can be a reference that after dissolving ICD, G Bank is facing higher costs for both monetary and non-monetary costs associated with this change which is in contrast with what the top management expected before making the decision to dissolve ICD. Hence, there are a total of three possible options to solve the current situation as proposed which are to provide training, to make the return of the ICD Department in traditional pattern and to introduce the return of the ICD with a new pattern. Among the three aforementioned options, resulting in various associated costs

and benefits to measure before making the best options solutions and after analyzing all costs and benefits from each option, option C which is to return ICD with a new pattern is proposed since this option provides the least costs with the most benefits and can be done without complexity.



CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a summary of the research findings that are associated with the costs and benefits comparison of current process after dissolving ICD and previous process with ICD that occurs at G Bank followed by the research results conclusion, theoretical and managerial implication with limitations found in this research and ends with recommendations as a guideline for further research.

5.1 Summary of the Findings

After all data had been collected and analyzed in the previous chapter in terms of average total process time, comments and complaints from both users and GIDA after interviewing, number of requests and the rejection rate, process complexity, expense of user ID maintenance and expense salary of previous ICD staff.

The summary findings can be concluded that the average total of processing time after dissolving ICD is increasing to 90 minutes per request from 56 minutes due to more complexity of a process that has to be done and completed by users who have no knowledge, skills and experience about this task before which also creates complexity in terms of information updates and information required since without ICD as a middleman, GIDA and users have to contact each other by themselves so GIDA who work abroad has a complexity in contacting with users at each department with more time required at the same time, on the users' side they are also facing complexity in communication with GIDA due to their lack of language skills and technical words. From the aforementioned of complexity, there are comments and complaints from users and GIDA after interviewing and also the rejection rate dramatically increased from incomplete requests from unskilled users that align with the reason of higher lead times that contribute to higher expenses of user ID maintenance from redoing

new requests due to rejections. Though the top manager thought that they can do a savings plan and can save the ICD salary after dissolving ICD totaling 3,600,000 Baht annually with improvements in processing lead time, the effects on dissolving ICD are enhanced and expanded beyond that. The reason behind the higher costs that G Bank is unable to save is due to the higher expense on user ID maintenance totaling 8,040,000 Baht annually which is higher than the salary of all ICD for approximately 4,500,000 Baht annually. Moreover, the process time that could be improved also turns opposite results as the lead time is also higher due to dissolving ICD so users who have no knowledge, skills and experience in this field have to be responsible and complete the request process themselves which results in complexity and rejections as mentioned.

Hence, in order to improve the working environment, work efficiency and all associated hidden costs for both monetary and non-monetary costs, there are a total of three options for solutions to the current problem which are; provide training to representative users, returning of ICD as traditional pattern and returning of ICD as a new pattern. Since each alternative option provides different costs and benefits, the researcher analyzed all concerned costs and benefits of each option to come up with the best alternative.

5.2 Conclusions

In order to answer the main research question of ***“What are the costs and benefits after the dissolving of ICD and how to imply costs and benefits to minimize the possible costs?”*** In order to achieve the three main objectives of this research study, the costs and benefits analysis of the current process after dissolving ICD are analyzed and proposed together with three possible alternative options to help eliminate the costs and help increase the benefits that G Bank is currently facing with or without notice.

After analyzing and summarizing all findings to get all potential costs and benefits after dissolving ICD, the researcher concluded and suggested that G Bank should

return the ICD department in a new pattern which provides the least cost in total THB 160,000 monthly or only THB 1,920,000 annually for salary expenses and requires only a little time for acquiring two new executive staff and training time consuming is surely less than training representative users who lack IT skills and experience. Moreover, the results can be guaranteed and effective since all executive staff have skills and knowledge in this field. Furthermore, though option B which is to return ICD in a traditional pattern can ensure the effective results as well, the salary costs for ICD that G Bank has to pay is 300,000 Baht a month, THB 3,600,000 annually which higher than 160,000 baht monthly or 1,920,000 annually from option C, return of ICD with a new pattern that can save the cost to G Bank for over that half amount.

In conclusion, the return of ICD with a new pattern is suggested by the researcher after analyzing all data in terms of costs and benefits.

5.3 Theoretical Implications

This research study is based on costs and benefits analysis which has been applied as a problem solving method to evaluate the results or outcomes and is considered as a basic tool to analyze the costs and benefits that help proving before making a decision for any change or any new project in an organization so the organization can be assured of the outcome whether the outcome can turn out as higher costs or higher benefits to the organization by identifying and evaluating all associated costs and benefits to find out all hidden associated costs and benefits in terms of both monetary and non-monetary costs.

Nevertheless, the use of costs and benefits analysis also helps in preventing the wrong decision making that costs highly for an organization and helps to find the likelihood or risk rate if the changes or new projects have been applied in an organization (Campbell et al., 2003). Due to prevention is better the cure, costs and benefits analysis is considered as one of the powerful tools for decision making which this study is a good example of using cost and benefit analysis to measure and analyze the

outcomes that may be in hidden costs and benefits which can be easily ignored without notice but lead to further problems and risks.

5.4 Managerial Implications

With the use of costs and benefits analysis for dissolving ICD at G Bank, the costs and benefits of the current process after dissolving ICD can be identified and evaluated in terms of monetary and non-monetary costs and benefits that help contribute to the first objective of this research study which is to identify and evaluate the advantages and disadvantages of the current process after dissolving ICD.

Moreover, the findings help to come up with possible options to solve the current problems and costs that occur. Hence, after getting the findings with document support as discussed in previous chapter, the researcher proposed the summary of findings with possible alternative to manager to inform, suggest and discuss about the current situation in G Bank together with alternative solution to solve the problem and minimize the costs to allow top management see clear picture of what currently be in the bank and approve for the action for selected alternative which are aligned with the objectives of this research objectives which are to propose the possible alternative solutions to minimize the potential costs that occur such as the higher expense of user ID maintenance due to dissolving ICD, more lead time in process completion and more complexity of the current process that leads to the last objective which is to initiate the information sharing between top management and staff to create a low power distance organization because the information has been shared to discuss the current situation with evidence and support.

Furthermore, since there are a lot of systems currently using in G Bank as a service provider to make the business transaction to customer, it is necessary to have a control system and responsible person who get involve and have experience in this field such as ICD to monitor and control the flow of process from systems to ensure of the smooth flow of process with accuracy because errors or mistakes imply of insecure of services and more cost to G Bank. As a result of unaware of control system by

dissolving of ICD that involve and have direct experience in this field of work, resulting in more cost in operation and lead time that lead to other major effect to G Bank that may destroy the good reputation of G Bank as an international bank and this research can bring up the importance of one small change within organization that may affect the whole image and performance of organization without information and data support.

5.5 Limitations and Recommendations for Future Research

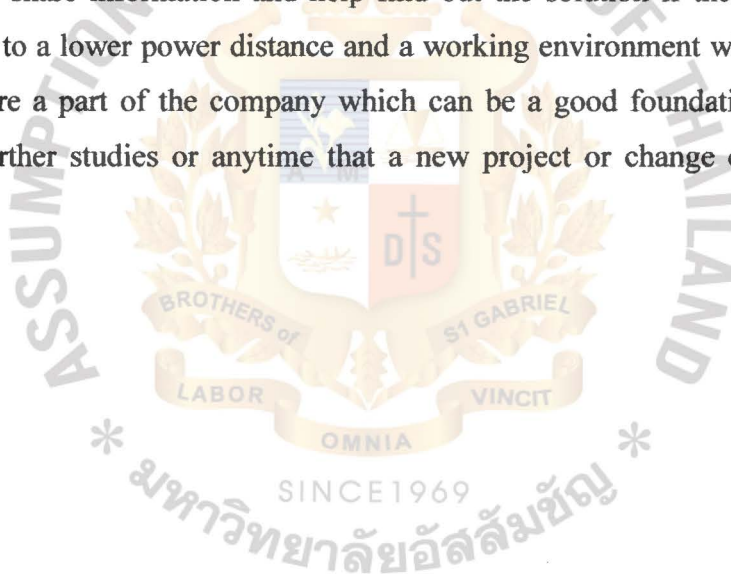
This research study aims to find out, identify and evaluate the costs and benefits on dissolving ICD at G Bank by applying cost and benefit analysis as a tool to support and evaluate in order to get the results with a number of limitations as follows:

1. This research focuses mainly on dissolving the ICD department at G Bank only which does not apply and include in other departments of G Bank.
2. Only the cost and benefit analysis tool is used in this research study as a key methodology to find out the hidden associated monetary and non-monetary costs and benefits.
3. The data collection used in this research as an evidence of support for identifying the costs and benefits which were collected at a specific timeframe for a two period which was before dissolving ICD in 2012 and the current period after dissolving ICD in 2013.
4. Since there are a huge amount of IT applications used at G Bank and totaling approximately 3,000 users with more than 25 GIDA supported all IT applications so the researcher was unable to obtain interview data from all. Thus, Pareto theory was applied in this study to focus on the most common and important usage IT applications, totaling seven IT applications which scoped down the targeting of interviewees to be representative users and GIDA from the seven common focal IT applications.

5. The interview with GIDA was done only with representatives, not all member of the GIDA team were involved since they stay in Singapore and Malaysia which is difficult to contact all of them.

Lastly, for the recommendation part, the cost and benefit analysis which has been applied in this study and used as a problem solving methodology to help find out the real outcomes of all results derived from making any changes or new project which should be commonly used for any further changes or new projects.

Nevertheless, this simple technique does not only help prevent making wrong decisions in any situation but also helps motivate the brainstorming of staff and top management to share information and help find out the solution if the costs occurs which can lead to a lower power distance and a working environment where the staff can feel they are a part of the company which can be a good foundation and good example for further studies or anytime that a new project or change occurs in the organization.



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