CUSTOMER'S ATTITUDE TOWARD ONLINE BANKING
(A STUDY OF GLOBAL ELECTRONIC BANKING SERVICES OF
JAPANESE BANKS IN THAILAND)

By

SUNISA PHATARATHAWORN

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok Thailand

October 2003
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Abstract

In the modern financial world, technology becomes an indispensable service product for customers. Global Electronic Banking Services has focused on evolutionary modification in the financial system. A major force behind this development is based on customers' satisfaction and need which are important components in determining customers' behavior toward such system. Therefore, the purpose of this research is to describe customers' attitudes toward Global Electronic Banking Services – one product of banking service system.

The study was undertaken on corporate customers of Japanese banks in Thailand because of its modern technologies. Theory of Reasoned Action model (TRA) has been applied to the diagram of framework in this study. Accuracy, user-friendliness, security, connectivity and technical support are the independent variables of the framework. Attitude, the dependent variable is composed of cognitive, affective and behavioral. The attitude may be positive or negative depending on evaluation of each variable. The hypotheses showed the relationship between customers' attitudes and those variables implied the quality of such system. Data are collected by Phone Structured Interview to the individual companies. The Spearman's Rank Correlation Coefficient is used to test the hypotheses on this research.

The Statistical Package for Social Science (SPSS) is used to analyze and interpret the data. The results from this study can be concluded that there is a relationship between each variable (accuracy, user-friendliness, security, connectivity and technical support)
and customers' attitudes. However, some variables such as security, connectivity and technical support were found dissatisfied by the customers because of its inconsistency.

Based on the findings of this research, it can be concluded that the consistency of those variables will enhance bank’s revenue and retained customers.
Acknowledgements

I would like to express my sincere gratitude to Dr. Theerachote Pongtaveewould, advisor of this research, who has made constructive suggestions, valuable guidance and excellent advice to put me in the right direction throughout the study of this research.

I am greatly indebted to Dr. Chittipa Ngamkroeckjoti, Dr. Thongdee Kijboonchoo and Dr. Micheal Schemmann, committee members, for their recommendation and advice to make this research more complete.

A special thank is extended to Ms. Benjawan Boonsri for her contribution and assistance in the writing of this research.

I would also appreciate every participant for his or her contribution to this research.

A final great thanks to my parents for their love, encouragement and understanding throughout the time of study.
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Chapter 1

Introduction

1.1 Background of The Study

Financial institutions today are under tremendous pressure to show performance improvement, to yield higher output with reduced input factors. Automation of processes can facilitate this objective, if implemented wisely.

Today, most large banks offer some forms of online banking, variously known as PC banking, home banking, electronic banking or Internet banking. Banks view online banking as a powerful "value added" tool to attract and retain valued customers while helping to eliminate costly paper handling and teller interactions in an increasingly competitive banking environment. Online banking saves time and money for users. For banks, it offers an inexpensive alternative to branch banking and a chance to enlist remote customers (Turban et al., 2002).

Japanese banks have been already using proprietary Global Electronic Banking Services to process and deliver information-intensive, fee-based financial services. In proprietary Global Electronic Banking Services, customers have online access to such services through a wholly owned system of computers, applications programs, data bases, and terminals connected through the host.
1.2 Introduction to Global Electronic Banking Services

Global Electronic Banking Services (hereinafter referred to as a “GEBS”) provides fee-based financial services which range from electronically processing to delivering relevant information through a terminal to institutional clients worldwide. This system is supported by an international network via Internet browser technology. The services create the linkage between host computers and personal computers (PCs) of the bank’s customers in order that data can be shared between both parties. GEBS has been introduced to customers of Japanese banks in Thailand since 1997 by Sumitomo Mitsui Banking Corporation, The Bank of Tokyo-Mitsubishi, Ltd., and Mizuho Corporate Bank, Ltd. respectively.

GEBS provides a variety of financial services which enable customers to have an easy and timely access to customers’ account information at fingertips, such as outstanding balance, debit-credit entries, foreign exchange contracts, loans and guarantee position. The services include developing the quick and accurate fund transfer and opening letter of credit (L/C).

Furthermore, GEBS will develop account monitoring and fund transfer in remote areas and across the border. GEBS will facilitate payment of import proceeds and collection of export proceeds, with customers’ non-resident accounts held with a branch of the global bank network. Thus customers will realize their efficient financial and accounting operations on a global basis using GEBS. Customers can easily manage the accounts of their globally affiliated companies.
1.1.1 Feature of Global Electronic Banking Services

GEBS is an application system processing on Value-Added Networks (VANs) between "client" and "server". The client is the user point-of-entry for the required function and is normally a desktop computer, workstation or laptop computer. The user generally interacts directly only with the client portion of the application, often to input data or retrieve data for further analysis (Laudon, 2002). The client herewith means the registered customers. The server provides the client with services. Servers store and process shared data and also perform back-end functions not visible to users, such as managing network activities (Laudon, 2002). The server herewith means the bank’s host computer at Tokyo head office.

The features of Global Electronic Banking Services comprise:

1.1.1.1 Windows® Based System 1.1.1.3 High Level Security
1.1.1.2 Web Technology 1.1.1.4 Global Network

1.1.1.1 Windows® Based System

a. PC Operating Systems: PC running on Windows 95, 98, 2000 with memory 32MB or higher, Pentium 166MHz processor or higher.

b. Software: Netscape Navigator 4.01a or higher, Internet Explorer 4.01 or higher, Microsoft Excel 95/97

c. Modem: Asynchronous modem at the speed of 28.8kbps or higher.


e. Telephone Line.
1.1.1.2 Web Technology

The display is designed with Web browser that makes it possible for customers to tap the information resources by retrieving and viewing them from servers on electronic banking. Web technology interaction with servers allows customers to interact with server-based systems and to submit information to these systems.

1.1.1.3 High Level Security

High level security reinforces the need for reliable security measures. GEBS designed to facilitate access – intrinsic safeguards and aimed at ensuring security is limited. Data are encrypted during transmission to prevent unauthorized access. Each user is required to register his/her ID and password in which the available level of service is determined. Password system and electric attestation system of server can prevent unauthorized access of the third party. User activity list is available to monitor each user's operation. As users select multi approval level (maximum 3 levels) or joint approval levels, at least two authorizers are available.

The security on VANs is higher than that of the Internet (Turban, Lee, King and Chung, 2000)

1.1.1.4 Global Network

A global network, called the Internet, links millions of computers throughout the world (Long, 2002). As part of such network, the customers’ PCs share resources and information. The net can be accessed by the users in an organization which is connected to the host computer via a modem.
1.1.2 Functions of Global Electronic Banking Services

The main services of Global Electronic Banking Services comprise:

1. **Inquiry Service** – A variety of information can be displayed, including cash inflows and outflows and outstanding balances.

2. **Fund Transfer Service** – A service comprises domestic and foreign fund transfer.

3. **Letter of Credit (L/C) Service** – A service includes opening and amendment to L/C.

![Diagram of Global Network Server, Customer PC, and Bank Account Holding Office](image)

Figure 1.1 Function of Global Electronic Banking Services
Source: The Bank of Tokyo-Mitsubishi, Ltd.

1.1.2.1 Inquiry Service

This service can provide a variety of information. Upon request, customers can easily access to their bank accounts using their own PCs which are connected to the bank server (see figure 1.1) to check their transaction data and outstanding balances.
(forex) contracts can be displayed. The displayed information can be output to a file or form as necessary.

1.1.2.2 Fund Transfer Service

Fund Transfer Service is provided through customer's PCs that are connected to the bank's server from Global Electronic Banking Services network (Head Office). (see figure 1.1). The service allows customers to send fund transfer instructions via their PCs to the bank.

Before sending fund transfer instructions, customers are required to create payment data on their PCs and then develop fund transfer instructions which are created from invoices and/or debit notes, etc. of customers. Then, such data will be transmitted electronically to the bank server. Frequently used fund transfer instruction can be saved as templates. Repetitive data entry can be eliminated in order to prevent making erroneous data. GEBS provides high security so different access level can be assigned for each template to ensure security control.

Under this service, customers can do the following:

a. Creating discrete transfer data

Discrete transfer data can be created, changed and deleted.

b. Approving fund transfer data

Discrete transfer data and batch transfer data can be approved.

c. Viewing fund transfer data

The created discrete transfer data and batch transfer data can be
displayed. Also, the discrete transfer data can be changed and deleted as necessary.

d. Transmitting batch transfer data

The batch transfer data that have been created offline can be transmitted to the center.

1.1.2.3 Letter of Credit (L/C) Service

Letter of Credit (L/C) service is another service provided through customers’ PCs. The service helps customers create relevant data to request the bank to open L/C. In order for the bank to open L/C, customers are required to complete application forms shown in their PCs. After completing the form, they have to approve those forms before sending the forms electronically to the bank.

In case there may be modifications made on terms of condition concerning businesses between customers and their suppliers or creditors, customers have to inform the bank and concurrently make amendments to L/C on their PCs and then approve such L/C prior to sending the modified L/C to the bank.

Customers can also view created L/C via their PCs. Customers must enter an entry date or L/C expiry date to list the data items through customers’ PCs. The latest, erroneous data or history can be displayed.
1.1.3 The Strength and Weakness in Operation of GEBS

The Strengths in Operation

1. Reduced workload (manual work). Data are retrievable without manual preparation of application forms. The instruction data are stored in the database system for further processing. Thus, database installment will be systematically configured to be in line with paperless database system.

2. Relief from time-consuming tasks (delivery of application forms to the bank). On-line transmission can be prevented from the retardation by car traffic.

3. Enhanced accuracy by reducing error-prone manual work. The errors on manual preparation are eliminated by retrieving data from the database system.

4. Streamlined administrative process (managers' approvals and other internal control procedures). Security for the authorized person can save time on signing many application forms.

The Weakness in Operation

1. Increased fixed cost. GEBS maintain a monthly charge so customers who hold irregular transactions incur relatively higher expenses.

2. The long distance call carries comparatively higher rental rate than that of the local call cost.

3. Technical problem (i.e., telephone line or computer out of order). It causes inconvenience and job retardation.
1.1.4 Japanese Banks in Thailand

There are three Japanese banks in Thailand that received full-branch licensed foreign banks as follows:

1. Sumitomo Mitsui Banking Corporation (SMBC)
   Boonmitr Building, 138 Silom Road
   Silom, Bangrak, Bangkok 10500

2. The Bank of Tokyo-Mitsubishi, Ltd.
   Harindhorn Tower, 54 North Sathorn Road
   Silom, Bangrak, Bangkok 10500

3. Mizuho Corporate Bank, Ltd.
   TISCO Tower Floor 18, 48 North Sathorn Road
   Silom, Bangrak, Bangkok 10500
1.2 Statement of the Problems

Nowadays, technology plays an important role in the bank services. New electronic banking services have been provided to the bank's customers including GEBS. Customers' attitude is an important factor that will lead to success or failure of GEBS application. Therefore, this research focused on customers' attitude and will answer the following research questions.

1. What factors of Global Electronic Banking Services relate to customers' attitudes to the quality of the application?
2. What are the problems on application of Global Electronic Banking Services?

1.3 Objectives of the study

Attitude may be positive or negative depending on the customers' satisfactions. Hence, the purposes of this research are the following:

1. To identify important factors of Global Electronic Banking Services that relate to customers' attitudes to the quality of the application.
2. To gather problems on application of Global Electronic Banking Services in order to be guidelines for development.

1.4 Scope of the Study

The principle on this research is to study the customers' attitudes toward Global Electronic Banking Services. The study focuses on regular customers. Because of their familiarity with GEBS, users can provide the information of
problems on the usage for this research. Accuracy, user-friendliness, security, connectivity and technical support are the factors of the study. Furthermore, the study is restricted to the corporate customers of Japanese banks in Thailand. Sumitomo Mitsui Banking Corporation, The Bank of Tokyo-Mitsubishi, Ltd. and Mizuho Corporate Bank, Ltd. are the focus banks on this research.

1.5 Limitation

The limitation on this research are: (1) data will be gathered in a limited number of sample units since there are only three full-branch licensed Japanese banks in Thailand. And (2) Global Electronic Banking Services is only provided for corporate customers, therefore, data will be focused only on the corporate customers that rely on GEBS regularly.

1.6 Significance of Study

The research paper presents important factors of GEBS that relate to customers’ attitudes to the quality of the application. The information of the problems on the application and the important factors exposed from this research could be guidelines for Japanese banks in Thailand to assess their electronic banking service systems so that their development of such systems would be utilized efficiently.
1.7 Definition of Key Terms

**Global Electronic Banking Services**
Bank’s international electronic banking system, designed to provide customer with easy access to bank accounts around the world, through bank’s global network.

**Attitude**
An enduring disposition to respond consistently in a given manner to various aspects of the world, including persons, events, and objects (Zikmund, 1994).

**Cognitive**
Customers’ beliefs on an object which is based on their knowledge.

**Affective**
Customers’ feelings or emotional reactions to an object.

**Behavioral**
Customers’ tendency to respond in a certain manner toward an object.

**Customer**
The company that maintains accounts at Japanese banks in Thailand and/or receives services provided by such banks.

**User**
Group of customers who rely on Global Electronic Banking Services.

**Quality of the application**
Quality in terms of accuracy, user-friendliness, security, connectivity and technical support.
Chapter 2

Literature Review

2.1 Definition of Attitude

"Attitude is a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein and Aizen, 1975).

"Attitude can briefly be described as likes and dislikes with regard to products, service, people, ideas, behaviors and other attitude objects" (Gross, 1987).

"Attitude is an enduring disposition to consistently respond in a given manner to various aspects of the world; composed of affective, cognitive, and behavioral components" (Zikmund, 1994).

"Attitude is the individual predisposition to evaluate an object or an aspect of the world in a favorable or unfavorable manner" (Antonides, Raaij, 1998).

"Attitude is consistent inclinations whether favorable or unfavorable that people hold toward products, services, people, places or events" (Hanna and Wozniak, 2001).

Churchill (1991) proposed that there are a variety of interpretations, but there does seem to be substantial agreement about the following:

1. Attitude represents a predisposition to respond to an object, not actual behavior toward the object. Attitude thus possesses the quality of readiness.
2. Attitude is persistent over time. It can change, to be sure, but alteration of an attitude that is strongly held requires substantial pressure.

3. Attitude is a latent variable that produces consistency in behavior, either verbal or physical.

4. Attitude has a directional quality. It connotes a preference regarding the outcomes. Involving the object, evaluations of the object, or positive/neutral/negative feelings for the object.

Finally, East (1997) defined that attitudes are what we feel about a concept which may be a brand, a category, a person, an ideology or any other entity about which we can think and to which we can attach feeling. Attitudes are thus about the evaluation that we give to a specific concept; they are not like mood, which is a generalized state of feeling with no clear focus, and they are not thought structures with no feelings attached.

An important class of attitudes is those about actions, including those commercially relevant behaviors such as buying, renting, using, eating, betting, stealing, etc. We focus on attitudes to actions because, as we shall see, it is these attitudes that relate most to actual behavior.

2.2 Tricomponent Attitude Model

Most researchers agree that an attitude has three components: cognition, affect and behavior (Solomon et al., 1999).

The traditional model of attitudes, called the tricomponent model, expresses this interrelationship and posits that attitudes consist of three components: cognitive,
affective, and behavioral or conative (Rosenberg, 1960, cited in Hanna and Wozniak, 2001).

Each of these three components is described in the paragraphs that follow:

1. **Cognitive Component** refers to the beliefs a consumer has about an attitude object.

2. **Affective Component** refers to the way a consumer feels about an attitude object.

3. **Behavioral or Conative Component** involves the person’s intentions to do something with regard to an attitude object.

![Schematic conception of attitude: the traditional model](image)

**Figure 2.1 Schematic conception of attitude: the traditional model**
Source: Hanna & Wozniak, 2001 “Consumer behavior: an applied approach”

Traditional model of attitudes. A view that attitudes consist of three components; cognitive, affective, and behavioral (Hanna and Wozniak, 2001). This model emphasizes the interrelationships between knowing, feeling and doing (Solomon et al., 1999).
2.2.1 Cognitive Component

The first component of the tricomponent attitude model consists of a person’s cognition; that is, the knowledge and perceptions that are acquired by a combination of direct experience with the attitude-object and related information from various sources. This knowledge and resulting perceptions frequently take the form of beliefs; that is, the customers believe that the attitude-object possesses various attributes and that specific behavior will lead to specific outcomes (Schiffman and Kanuk, 2000).
The cognitive component consists of customers' belief and knowledge about GEBS. They believe that GEBS facilitates them by saving time, reduce paper work, transforms the instruction into database system, etc. These beliefs reflect knowledge about an attribute of GEBS. The total configuration of beliefs about facilitation represents the cognitive component of an attitude toward GEBS. The more positive beliefs there are associated with GEBS and the more positive each belief is, the more favorable the overall cognitive component is presumed to be.

2.2.2 Affective Component

Customers' emotions or feelings about a particular product or brand constitute the affective component of an attitude. These emotions and feelings are primarily evaluative in nature. They capture an individual's overall assessment of the attitude-object; that is, the extent to which the individual rates the attitude-object as favorable or unfavorable.

Since the affective component assesses overall feelings about the attitude object, it is frequently considered the essential aspect of an attitude (Schiffman and Kanuk, 2000).

The affective or evaluative component is how customers feel about GEBS. The emotion or feeling attached to a given belief depends on the individual and the situation. GEBS is evaluated in a specific situation, customers' affective reaction to GEBS may change as the situation changes. While feelings are often the result of evaluating specific attributes of GEBS, customers can precede and influence cognition. "One may come to like a product through classical conditioning without acquiring any cognitive beliefs about the product. Indeed, our initial reaction to a
product may be one of like or dislike without any cognitive basis for the feeling. This is initial affect can then influence how we react to the product itself” (Zajonc, 1980).

2.2.3 Behavioral or Conative Component

Behavioral or Conation, the final component of the tricomponent attitude model, is concerned with the likelihood or tendency that an individual will undertake a specific action or behave in a particular way with regard to the attitude-object. According to some interpretations, the behavioral or conative component may include the actual behavior itself (Schiffman and Kanuk, 2000).

The behavioral component of an attitude is one's tendencies to respond in a certain manner toward GEBS. A series of perception on quality of the system reflects the behavioral component of an attitude. The behavioral component consists of response tendencies or behavioral intentions. Such intentions can imply that customers will continue or cease using GEBS.

2.3 Theory of Reasoned Action Model (TRA)

The theory of reasoned action builds on the other research conducted by Fishbein and his associates. It represents a comprehensive integration of attitude components into a structure that is designed to lead to both better prediction and better explanations of behavior. Like the basic tricomponent attitude model, the theory of reasoned action model incorporates a cognitive component, an affective component, and a conative component; however, these are arranged in a pattern different from that of the tricomponent model.
In accordance with this expanded model, to understand intention we must also measure the subjective norm that influences an individual’s intention to act. A subjective norm can be measured directly by assessing a consumer’s feelings as to what relevant others (family, friends, roommates, co-workers) would think of the action being contemplated; that is, would they look favorably or unfavorably on the anticipated action?

As with an attitude, consumer researchers can get behind the subjective norm to the underlying factors that are likely to produce it. They accomplish this by assessing the normative beliefs that the individual attributes to relevant others, as well as the individual’s motivation to comply with each of the relevant others. (Schiffman and Kanuk, 2000)

![Figure 2.3 A Simplified Version of the Theory of Reasoned Action](source)

Source: Adapted from Icek Ajzen and Martin Fishbein, Understanding Attitudes and Predicting Social Behavior
2.4 Modified TRA Model

Chittibabu Govindarajulu, Brian J. Reithel and Vikram Sethi proposed the modification of TRA model in their research of a model of end user attitudes and intentions toward alternative sources of support in *The International Journal of Information Systems Applications*, volume 37, number 2, March 2000, pp. 77-86, defined that according to TRA (Figure 2.4), a person’s behavioral intention is a function of two components, one personal in nature (attitude) and the other reflecting social influences (subjective norm). Attitude is the individual’s positive or negative evaluation of the proposed behavior. A subjective norm is the person’s perception of the social pressures put on him/her to perform or not perform the behavior in question. According to the model, attitudes are function of behavioral beliefs.

![Diagram of GEBS Attitude Behavior Intention](image_url)

**Figure 2.4 A model of customers' attitude toward GEBS**

Source: Adapted from A model of end user attitudes and intentions toward the source of support by Govindarajulu et al., 2000. *The International Journal of Information System Applications, Volume 37:2*

The principal on this research is to study the customers’ attitude toward online banking. The attitude may be positive or negative depending on the evaluation of each variable. Therefore, the study is scoped only within the dotted frame.
2.4.1 Customer Evaluation of GEBS

In order to identify factors that relate to customers' attitudes toward GEBS, a detailed review of the literature on users information satisfaction was made. Based on an empirical study – Internet-based e-banking and consumers’ attitudes by Ziqi Liao and Michael Tow Cheung in The International Journal of Information Systems Application, volume 39, number 4, January 2002, pp. 283-295, defined that the important variables that relate to customers’ attitudes are: (1) accuracy, (2) user-friendliness, (3) security, (4) connectivity, and (5) technical support.

2.4.2 The Variables and Its Concept

1. Accuracy

Research by Ziqi Liao and Michael Tow Cheung has shown that operational precision is a significant quality consideration in products and services involving computer technology (Davis et al., 1992 cited in Liao and Cheung's research, 2002). Since Global Electronic Banking Services involves fund transfer and accounting via electronic systems, individuals would be especially concerned about precision in the sense of expected accuracy in arithmetic and implementation. Therefore, the evaluation is in terms of expectations regarding error-free transaction and recording.

Network must be able to transfer data from one device to another with complete accuracy. A system that cannot guarantee that the data received by one device are identical to the data transmitted by another device is essentially useless. Yet anytime data are transmitted from source to destination, they can become corrupted in passage. In fact, it is more likely that some part of a message will be
altered in transit than that the entire contents will arrive intact. Many factors, including line noise, can alter or wipe out one or more bits of a given data unit. Reliable systems must have a mechanism for detecting and correcting such errors.

When transferring data, the primary goal of reliability is error control. Data must be delivered to their destination exactly as they originated from the source. (Forouzan, 2001).

It is almost inevitable that a file will be damaged or lost, due to either software or human errors. When a file is damaged, it must be restored to an accurate and reasonably current condition. A file and database designer has several techniques for file restoration, including:

- Periodically making a backup copy of a file.
- Storing a copy of each change to a file in a transaction log or audit trail.
- Storing a copy of each row before or after it is changed. (Hoffer et al., 2002).

2. User-friendliness

Research by Ziqi Liao and Michael Tow Cheung has shown that ease of use is generally regarded as an important quality attribute in computer-technological services (Bagozzi, 1990; Davis et al., 1989). In choosing between delivery options in such cases, it has been shown that a significant factor is the effort involved (Langeard et al., 1981).

A system is user friendly when users and participants can learn and use the system easily and efficiently. The systems analyst can build user friendliness into a
system by achieving consistency, simplicity, complete help support, ease of error correction, and judicious use of screen features.

Consistency – things should happen the same way every time. For example, all systems should use the same log-on procedure, certain types of material should always appear in the same areas of the screen, and the same keys on the keyboard should always be used for the same purposes. Such consistency can be seen in popular prewritten software where the F1 key is typically used for help, menu bars are usually positioned at the top of the screen, and menu choices can be selected by using arrow keys, typing the first letter, pressing Enter, or pointing and clicking.

Simplicity – the system should be simple to use. When you can barely fit all the input onto a single screen, consider using multiple screens. Such a cluttered display makes it difficult to learn and use the model.

Complete Help Support – users should be able to obtain help when they need it. There are basically two kinds of help: context sensitive and functional.

Context-sensitive help answers the user’s questions concerning particular features of the software being used. For example, the user might need to enter data into a field but not understand the field label. The user can use the mouse to click on the field and obtain a help message.

Functional help provides instructions about how to perform particular operations, such as saving a file, loading a file, printing, and so on.

Ease of Error Correction makes it easy for users to correct their errors. Many software systems provide the Escape key as a way for the user to “back out” of error
conditions. Also, when the software detects users' mistakes, the error message should be stated respectfully and should provide an explanation of the error so that the user can correct it.

Judicious Use of Screen Features – Computers provide a variety of features that can attract the user’s attention – color, blinking cursors, reverse background, audible beeps, and so on. If these features are overused, they lose their effectiveness. An example of judicious use of color can be found in executive information systems. The EISs typically use stop-light colors, where red means that something has gotten out of control, yellow means that it might get out of control, and green means that everything is okay. The colors guide the executives through the information displays. These are just a few of the considerations that can be incorporated into systems to increase the efficiency and effectiveness of the computer-human interface. (McLeod, 1994).

3. Security

Research by Ziqi Liao and Michael Tow Cheung has shown that according to Parasuraman et al. (1988) reliability is fundamental to product or service quality. For transactions conducted through an open network which may involve sizeable money values, security – especially with regard to proper authorization and confidentiality – would tend to be that aspect of reliability which matters the most (Roboff and Charles, 1998).

Many of the concerns about electronic commerce development, particularly over open networks (e.g., the Internet), deal with the risk of possible fraud, security, infraction, counterfeiting, and with consumer privacy issues (Minoli, 1998).
Network security issues include protecting data from unauthorized access. Unauthorized access for a network to be useful, sensitive data must be protected from unauthorized access. Protection can be accomplished at a number of levels. At the lowest level are user identification codes and passwords. At a higher level are encryption techniques. In these mechanisms, data are systematically altered in such a way that if they are intercepted by an unauthorized user, they will be unintelligible (Forouzan, 2001).

Data security has four fundamental objectives:

a. Confidentiality: Ensuring that information is not disclosed or revealed to unauthorized persons.

b. Integrity: Ensuring consistency of data; in particular, preventing unauthorized creation, alteration, or destruction of data.

c. Availability: Ensuring that legitimate users are not unduly denied access to information and resources.

d. Legitimate use: Ensuring that resources are not used by unauthorized persons or in unauthorized ways (Ford and Baum, 1997 p.94).

4. Connectivity

Research by Ziqi Liao and Michael Tow Cheung has shown that the quality of connectivity is likely to be significant in the perceived of convenience.

When a variety of computing resources are available, it is frequently desirable to connect them. Interconnection provides better use of hardware and software and
allows users to communicate more easily (Stamper, 2001). Customers were expected to link up to the bank server by dial-up connection (Turban et al., 2000).

Providing network connection is now an industry – a fast growing one, still in its infancy (Huitema, 2000). A direct connection can be implemented in a number of ways with a number of different technologies (Frost and Norris, 1997). Because the directly connected user is often part of a larger organization, there are additional subtleties we now need to know about. One of the more notable is that there has to be some way of telling one user of a direct connection from another who uses that same access route. The dial-up user’s name and phone can usually be regarded as one and the same thing. When a number of people are connected to the same LAN you need to be able to tell them apart in just the same way (Frost and Norris, 1997).

Connectivity refers to the linkage of computing devices, allowing them to share data and information without human intervention. The computers located in a firm’s central computing facility are only one piece of the security puzzle. Also included are computing facilities located in the firm’s functional areas, remote workstations in practically every department, and both networks and personal computers in the firm’s environment (McLeod, 1994).

5. Technical Support

Research by Chittibabu Govindarajulu, Brian J. Reithel and Vikram Sethi has shown that the competent staffs and good communication with users are critical for the success of Information Centers (Magal et al., 1988 cited in Govindarajulu et al. research, 2000). In addition, relationship between support staffs and users are equally crucial.
Research by Nancy R. Davis in Internet Banking System Analysis, 2002 has shown that most of the vendors provide a great deal of support, installation assistance and training. Eighty-seven percent (87%) of the systems include online, context sensitive help for the customer. Eighty percent (80%) provide documentation for the financial institutions. All the vendors that offer programs for in-house use provide installation assistance and most (87%) will help with conversion from another Internet banking system.

It is important that the vendor provides technical support when it is needed. Software vendors usually have hotline that users can turn to when they have questions or need help (McLeod, 1994).

Another relatively routine ongoing activity of systems support is technical support. No matter how well users have been trained or how well documentation has been written, users will require additional assistance. The systems analyst is generally on call to assist users with the day-to-day use of specific applications. In mission critical applications, the analyst must be on call day and night.

The most typical tasks include:

- Routinely observing the use of the system.
- Conducting user-satisfaction surveys and meetings.
- Changing business procedures for clarification (written and in the repository).
- Providing additional training as necessary.
- Logging enhancement ideas and requests in the repository. (Whitten et al., 2001).
2.5 Previous Research

The previous researches in this part are concerning about attitude and some relevant electronic media and banking that were studied in Thailand.

The study of Leelawatana (2002) on attitude and behavior of entrepreneurs on electronic commerce in Thailand. The survey used secondary and primary data from the interview of 100 sampling population, entrepreneurs in Bangkok who ran business involved with e-commerce activity with online payment. The data were analyzed by using Chi-square statistic. The result from the hypothesis testing was found that the entrepreneur’s attitude on e-commerce had no relationship with the pattern of business, but had relationship with ages and education levels. The behavior of selecting e-commerce service provider had relationship with the quality of servers and image of the provider.

The study of Visutkul (2000) on attitude of male teens towards violent Japanese comics in print and electronic media is undertaken in male schools from the teenagers aged between 14 - 18 years old. Data were collected by using questionnaire distributed to 300 respondents in Bangkok area and were tested by using ANOVA and T-test in SPSS program. The result shows that: (1) the sampled male teenagers are exposed to violent Japanese comics in both print and electronic form. Most of the studied youth tend to be exposed to the comics in both media and while they enjoy the graphics in the electronic medium, they are exposed to the print medium more frequently. (2) There is not a significant correlation in the relationship between the exposure to violent Japanese comics and the teenagers’ attitudes toward violence. Mostly, the exposure to violent Japanese comics is related to certain
attitudes towards violence. (3) The type of school is also not significantly related to the attitudes toward violence. Other variable, which may influence the sampled population in their different attitudes toward violence, includes family, friends, and other contextual factors.

The study of Wungvanitchakorn (2001) on adoption intention of banks' customers on Internet banking service was taken from working people who use Internet and hold bank accounts. Independent sample t-tests are carried out to examine the differences between intending adopters and non-intending adopters and to determine predictor factors of adoption intention, binary logistic regression analysis in conducted. The results indicate that: (1) intending adopters perceive the online service to have higher relative advantage and social value. (2) There is no evidence to say that the interested-to-adopt are younger and earn a higher income that the other group.

From the binary logistic regression analysis, six variables are found as predictors of adoption intention. They are opinion leaders in terms of technological matter, relative advantage from timesaving, complexity, trial ability, compatibility (self use) and electronic banking usage in terms of telephone banking usage. The study shows that the first three services intending adopters want from using the Internet are balance inquiry, money transfer and information inquiry respectively.

The study of Sakkamjorn (1996) on attitude towards abortion: a comparative study between medical doctors and lawyers. The study is the survey research aiming to find and compare the attitudes of medical doctors and lawyers toward abortion. The instrument used in this survey is the questionnaires collecting data from 247 total
samples included 114 medical doctors and 133 lawyers. The research methodology concerned percentage, means and t-test.

The result of the research could be summarized as follows:

1. There is no significant difference of attitudes toward abortion between medical doctors and lawyers.

2. There is significant difference of attitudes towards abortion law between medical doctors and lawyers at .05. More medical doctors supported abortion law than lawyers.

3. There is no significant difference of attitudes toward conditions and increasing on conditions of abortion between medical doctors and lawyers.

In addition, most medical doctors and lawyers agree to recommend for the adjustment of abortion law in order to make it more compatible with present day society.
Chapter 3
Research Framework

3.1 Diagram of Framework

According to TRA model, attitudes are function of behavioral beliefs. The model in this research as shown in Figure 3.1 is adapted from a model of end user attitudes and intentions toward alternative sources of support by Chittibabu Govindarajulu, Brian J. Reithel, and Vikram Sethi in The International Journal of Information Systems Applications, volume 37, number 2, 1 March 2000, pp. 77-86.

![Diagram of Framework](image)

Figure 3.1 A model of customers' attitude toward GEBS
Source: Adapted from A model of end user attitudes and intentions toward the source of support by Govindarajulu et al., 2000. The International Journal of Information System Applications, Volume 37:2

In this research, the researcher studies focus only on the customers' attitudes toward online banking. Therefore, the study is scoped only within the dotted frame which is applied to the research framework as shown in Figure 3.2.
3.2 Definition of the Variables

Accuracy
The ability of the system to provide reliability when transmitting the instruction, recording and confirming responsiveness without failure.

User-friendliness
Regarding the ease of use in computer-technological services.

Security
Regarding the proper authorization and confidentiality. The reliability to prevent unauthorized access.

Connectivity
The ability of connection via modem whether the system can be connected whenever users desire.
Technical Support  The quality of service, information support, and problem solving by well-qualified technicians.

Cognitive  Customers' beliefs on an object which is based on their knowledge.

Affective  Customers' feelings or emotional reactions to an object.

Behavioral  Customers' tendencies to respond in a certain manner toward an object.

3.3 Hypothesis

H₀₁: Accuracy is not related to customers' attitudes toward Global Electronic Banking Services.

Hₐ₁: Accuracy is related to customers' attitudes toward Global Electronic Banking Services.

H₀₂: User-friendliness is not related to customers' attitudes toward Global Electronic Banking Services.

Hₐ₂: User-friendliness is related to customers' attitudes toward Global Electronic Banking Services.

H₀₃: Security is not related to customers' attitudes toward Global Electronic Banking Services.

Hₐ₃: Security is related to customers' attitudes toward Global Electronic Banking Services.
H₄: Connectivity is not related to customers' attitudes toward Global Electronic Banking Services.

H₅: Connectivity is related to customers' attitudes toward Global Electronic Banking Services.

H₆: Technical Support is not related to customers' attitudes toward Global Electronic Banking Services.

H₇: Technical Support is related to customers' attitudes toward Global Electronic Banking Services.

3.4 Concepts and Variables Operationalization

<table>
<thead>
<tr>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Operational Component</th>
<th>Measurement</th>
</tr>
</thead>
</table>
| Accuracy      | The ability of system to provide reliability during transmission and recording        | • Error-free transaction and recording  
• Information forwarded to bank successfully  
• Contingency with back-up data                                                            | Ordinal     |
| User-friendliness | The ease of use in computer technological service                                   | • The clear and easy-to-follow instruction  
• Simple operational procedures  
• Efficiently designed display menu  
• Availability of manual guide                                                             | Ordinal     |
| Security      | The reliability to prevent unauthorized                                              | • Authorized person can access only  
• Data are kept confidentially  
• Transaction limit with authorized level                                                  | Ordinal     |
<table>
<thead>
<tr>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Operational Component</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>The ability of connection via modem whenever users desire</td>
<td>• Easy connection to the bank&lt;br&gt;• Access can be made anytime</td>
<td>Ordinal</td>
</tr>
<tr>
<td>Technical Support</td>
<td>The quality of service by technician</td>
<td>• Quick response from the technicians&lt;br&gt;• The technicians offer courteous services&lt;br&gt;• The technicians are professionals&lt;br&gt;• The technicians are available upon request</td>
<td>Ordinal</td>
</tr>
<tr>
<td>Attitude</td>
<td>Cognitive</td>
<td>GEBS supports operating work</td>
<td>Ordinal</td>
</tr>
<tr>
<td>Affective</td>
<td>GEBS is more convenient than manual procedures</td>
<td>Ordinal</td>
<td></td>
</tr>
<tr>
<td>Behavioral</td>
<td>Increasing trend of utilizing GEBS</td>
<td>Ordinal</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 4
Research Methodology

4.1 Data Source

Propositions were tested in terms of survey data obtained according to standard procedures. A questionnaire is a tool to evaluate quality attributes of Global Electronic Banking Services. Data are collected from corporate customers of Japanese banks in Thailand that regularly utilized Global Electronic Banking Services.

4.1.1 Target Population

The target population for this study is the corporate customers of Japanese banks in Thailand; Sumitomo Mitsui Banking Corporation, The Bank of Tokyo-Mitsubishi, Ltd. and Mizuho Corporate Bank, Ltd. who register as members of Global Electronic Banking Services both in Bangkok and provincial areas.

4.1.2 Sample Procedure

The sampling methods on this research are the combination of Quota sampling and Judgment sampling.

Quota sampling is judgment sampling with the constraint that the sample includes a minimum number from each specified subgroup in the population (Aaker et al., 1999).
Quota samples attempt to ensure that the sample is representative by selecting sample elements in such a way that the proportion of the sample elements processing a certain characteristic is approximately the same as the elements with the characteristic in the population (Churchill, 1991).

Judgment sampling is a form of convenience sampling in which the population elements are selected based on the judgment of the researcher. The researcher, exercising judgment or expertise, chooses the elements to be included in the sample, because he or she believes that they are representative of the population of interest or are otherwise appropriate (Malhotra, 1999).

4.1.3 Sample Unit

Some of the individual companies that rely on GEBS regularly will be selected as target companies in the sample size.

4.1.4 Sample Size

A sample size consists of 20 percent of total number of individual companies that rely on GEBS regularly. Such sample size excludes duplicate users.

<table>
<thead>
<tr>
<th>Target Population</th>
<th>Number of actual use GEBS</th>
<th>Percentage (20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMBC</td>
<td>260</td>
<td>52</td>
</tr>
<tr>
<td>BTM</td>
<td>160</td>
<td>32</td>
</tr>
<tr>
<td>Mizuho</td>
<td>85</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>505</td>
<td>101</td>
</tr>
</tbody>
</table>

(As of Sep. 2002)
20% is sufficiently qualified to identify items that are characteristic of the population and it is in the scope of the study. The less percentage is used, the bigger number of error for percentage is found. In contrast, the more percentage is used, the smaller number of error for percentage is found, but the sample size is too large to collect the data (sample size calculator method by Malhotra, 1999). Therefore, 20% is the most appropriate sample size.

4.2 Data Collection

The purpose of the data collection technique is to produce trustworthiness that is relevant to the research question asked. The order of structured questionnaires with closed questions which are asked together with their wording are laid down. The interviewer must not alter or explain questions. Many questions are closed and possible answers to most questions are pre-coded so that all the interviewer has to do is to ring a code number or tick box (Crimp and Wright, 1995).

Data will be collected by Phone Structured Interview. A survey that gathers information through telephone contact with individuals (Zikmund, 1994). Phoning a sample of respondents and asking them a series of questions. The interviewer uses a paper questionnaire and records the responses with pencils (Malhotra, 1999). Telephone interview is convenient and completely data return.
4.3 Data Measurement

We know about a person's attitude from observation of his or her behavior and from what he or she says. Thus attitude may be inferred from actions or measured using a systematic questioning procedure (East, 1997).

Fixed-alternative questions (closed-ended questions) are questions in which the respondent is given specific limited-alternative responses and asked to choose the one closest to his or her own viewpoint (Zikmund, 1994).

The questionnaire is used to measure the degree to which the Global Electronic Banking Services had been effectively utilized. “The Likert scale, also called a summated-rating scale, a self-report technique for attitude measurement in which the subjects are asked to indicate their degree of agreement or disagreement with each of a number of statement; a subject's attitude score is the total obtained by summing over the items in the scale” (Churchill, 1988).

Likert Scale is a measurement scale with five response categories ranging from “strongly disagree” to “strongly agree”. Accordingly, a “strongly agree” response to a favorable statement and a “strongly disagree” response to an unfavorable statement would both receive score of five. (Malhotra, 1999)

4.4 Pre-testing

Pre-testing refers to the testing of the questionnaire on a small sample of respondents in order to identify and eliminate potential problems. (Martin and Polivka, 1995)
The purpose of a pretest is to ensure that the questionnaire meets the researcher's expectations in terms of the information that will be obtained. First drafts of questionnaires tend to be too long, often lack important variables, and are subject to all the hazards of ambiguous, ill-defined, loaded, or double-barreled questions. The objective of the questionnaire pretest is to identify and correct these deficiencies. (Kumar et al., 1999)

In this research, the questionnaire was pre-tested in order to find out possible problems and test the reliability of the questionnaire by distributing 20 copies of the questionnaires to the respondents. Mistakes were corrected and adjusted in terms of sequencing, wording, and structure of the sentence so that communication between the researcher and the respondents will not be biased or distorted.

4.5 Data Analysis

In this research, the model to analyze the degree of association between two ordinal variables is Spearman's Rank Correlation Coefficient. The Spearman's Rank Correlation Coefficient ($r_s$), is one of the best-known coefficients of association of rank-order data. The coefficient is appropriate when there are two variables per object, both of which are measured on an ordinal scale so that the objects may be ranked in two ordered series (Churchill, 1996). The calculation formula is as follows:

$$r_s = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$
where

\[ d_i = \text{the difference between the } i\text{th sample unit’s ranks on the two variables} \]
\[ n = \text{the total sample size} \]
\[ r_s = 1 \text{ when the sum of the } d_i^2 \text{ values is zero} \]

When the two sets of ranks are identical. The range of possible values for \( r_s \) is +1 (perfect direct association) to -1 (perfect inverse association), with a value of 0 signifying no association (Parasuraman, 1991).

The hypotheses are:

\[ H_0 = \rho_s = 0 \]
\[ H_a = \rho_s \neq 0 \]

Where \( \rho_s \) = the population correlation coefficient between the two sets of ranks. When the number of sample objects is greater than 10 (\( n \geq 10 \)) by calculating the \( t \) statistic with \( n - 2 \) degrees of freedom:

\[ t = r_s \sqrt{\frac{n-2}{1-r_s^2}} \]

**Correlation Coefficient**

The correlation coefficient is a statistical measure of the covariation or association between two variables. The correlation coefficient (\( r \)) ranges from +1.0 to -1.0. If the value of \( r \) equals +1.0, there is a perfect positive linear (straight-line)
relationship. If the value of \( r \) equals -1.0, a perfect negative linear relationship, or a perfect inverse relationship, is indicated. No correlation is indicated if \( r \) equals 0.

A correlation coefficient indicates both the magnitude of the linear relationship and the direction of that relationship. For example, if we find that the value \( r = -0.92 \), we know we have a relatively strong inverse relationship - that is, the greater the value measured by variable \( X \), the lower the value measured by variable \( Y \).

The formula for calculating the correlation coefficient for two variables, \( X \) and \( Y \), is as follows:

\[
r_{xy} = \frac{\sum (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum (X_i - \bar{X})^2 \sum (Y_i - \bar{Y})^2}}
\]

where the symbols \( \bar{X} \) and \( \bar{Y} \) represent the sample averages of \( X \) and \( Y \), respectively.

An alternative way to express the correlation formula is:

\[
r_{xy} = r_{yx} = \frac{\sigma_{xy}}{\sqrt{\sigma_x^2 \sigma_y^2}}
\]

where

\[
\sigma_x^2 = \text{variance of } X
\]

\[
\sigma_y^2 = \text{variance of } Y
\]

\[
\sigma_{xy} = \text{covariance of } X \text{ and } Y
\]

with

\[
\sigma_{xy} = \frac{\sum (X_i - \bar{X})(Y_i - \bar{Y})}{N}
\]
If associated values of $X_i$ and $Y_i$ differ from their means in the same direction, their covariance will be positive. The covariance will be negative if the values of $X_i$ and $Y_i$ tend to deviate in opposite directions.

The simple correlation coefficient actually is a standardized measure of covariance. In the formula the numerator represents covariance and the denominator is the square root of the product of the sample variances. (Zikmund, 1994)

**Qualitative Data Analysis**

Qualitative is an unstructured, exploratory research methodology based on small samples that provides insights and understanding of problem setting. Qualitative data analysis is undertaken used to explain people’s attitude, opinion and behavioral toward an object. “The information collected using a qualitative approach does not usually lend itself to statistical analysis and conclusions are not based on statistics” (Ticehurst and Veal, 2000).
4.6 Statistical Treatment of Data

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy is not related to customers’</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>attitudes toward GEBS.</td>
<td></td>
</tr>
<tr>
<td>User-friendliness is not related to</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>customers’ attitudes toward GEBS.</td>
<td></td>
</tr>
<tr>
<td>Security is not related to customers’</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>attitudes toward GEBS.</td>
<td></td>
</tr>
<tr>
<td>Connectivity is not related to customers’</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>attitudes toward GEBS.</td>
<td></td>
</tr>
<tr>
<td>Technical Support is not related to</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>customers’ attitudes toward GEBS.</td>
<td></td>
</tr>
</tbody>
</table>

4.7 Expected Outcome

To study customers’ attitude toward Global Electronic Banking Services, all dimensions in the attitude component are expected to be related to customers’ attitudes.
Chapter 5

Data Analysis

This chapter concerns with analysis of collected data which are processed by the Statistical Package for Social Science (SPSS). SPSS generates information for analyzing and interpreting the information. The main programs in SPSS are Frequencies and Spearman’s. The former produces a table of frequency counts and percentages which are major components of Descriptive Analysis. The latter is used to conduct correlation coefficient which play an important role in Inferential Analysis.

5.1 Descriptive Analysis

Descriptive analysis refers to the transformation of raw data into a form that will make them easy to understand and interpret (Zikmund, 1994).

Describing users’ characteristics are presented in the form of summarized information, such as average, frequency of distributions, and percentage distributions.

Users’ Characteristics

Figure 5.1: Users’ areas

Province

Others
39.5%
Bangkok
60.4%
Figure 5.1 shows most of bank’s customers are in Bangkok area. The rest are located outside Bangkok. Many of them are in the industrial areas, such as Ayuthaya, Pathumthani, Chachoengsao, Rayong and etc. In terms of business types, Figure 5.2 imply that most of bank’s customers fall under the manufacturing sector.

Figure 5.3: Year of use
Regarding the scope of the study, the researcher focuses on regular users of GEBS, therefore, the respondents are well familiar with GEBS. Familiarity reflects in frequency of use which is shown in Figure 5.3. 70% of them are familiar with GEBS for 1-3 years. The study found that frequency of the utilization as shown in Figure 5.4 goes to the transactions of Domestic Fund Transfer, such as transfer between accounts for covering overdraft balance or transfer to customer's affiliate company.

5.2 Inferential Analysis

Inferential analysis is used to generate conclusion about the population based on information contained in the data matrix provided by the sample. Inferential statistics includes hypothesis testing and estimating true population value based on sample information (Burns and Bush, 2003). Such analysis consists of reliability testing and hypothesis testing.
5.2.1 Reliability Testing

Reliability is the degree to which measures are free from random error and, therefore, provide consistent data. The less error there is, the more reliable the observation, so that a measurement that is free of error is a correct measure (McDaniel and Gates, 1995).

To test reliability, Coefficient Alpha or Cronbach’s alpha is a measurement in this research.

Cronbach’s alpha is the average of all possible split-half coefficients resulting from different ways of splitting the scale items. This coefficient varies from 0 to 1, and value of 0.6 or less generally indicates unsatisfactory internal consistency reliability (Malhotra, 1999).

Table 5.1: Summary of reliability test

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Alpha ((\alpha))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>.6011</td>
</tr>
<tr>
<td>User-friendliness</td>
<td>.7446</td>
</tr>
<tr>
<td>Security</td>
<td>.7439</td>
</tr>
<tr>
<td>Connectivity</td>
<td>.6747</td>
</tr>
<tr>
<td>Technical Support</td>
<td>.8635</td>
</tr>
</tbody>
</table>

From the resulting test of reliability in Table 5.1, the alpha value of each independent variable is greater than 0.6 which imply that the attitude measurement is reliable.
5.2.2 Hypothesis Testing

Hypothesis testing is a statistical procedure used to “accept” or “reject” the hypothesis based on sample information (Burns and Bush, 2003). The hypothesis will be accepted or rejected depending on the significance level.

Significance level is a critical probability in choosing between the null hypothesis and the alternative hypothesis. The level of significance determines the probability level – say, .05 or .01 – that is to be considered too low to warrant support of the null hypothesis (Zikmund, 1991).

Hypothesis 1
H₀: Accuracy is not related to customers’ attitudes toward Global Electronic Banking Services.
H₁: Accuracy is related to customers’ attitudes toward Global Electronic Banking Services.

\[ H₀ = \rho_s = 0 \]
\[ H₁ = \rho_s \neq 0 \]

Table 5.2: Summary of hypothesis 1

<table>
<thead>
<tr>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>Decision</td>
</tr>
</tbody>
</table>

The result from Table 5.2 shows that the significance value is .000 which is less than .01 (.000 < .01). Therefore, the null hypothesis was rejected and accepted the alternative hypothesis that accuracy is related to customers’ attitudes toward
GEBS at 0.01 significance level. The correlation coefficient at .478 means that accuracy has positive relationship in a quality attribute to customers’ attitudes. This relationship implied that accuracy is an important factor of GEBS to the customers’ attitudes.

**Hypothesis 2**

**H₀₂:** User-friendliness is not related to customers’ attitudes toward Global Electronic Banking Services.

**H₁₂:** User-friendliness is related to customers’ attitudes toward Global Electronic Banking Services.

\[
H_0 = \rho = 0 \quad \text{Sig. (2-tailed)} = .01 \\
H_a = \rho \neq 0
\]

**Table 5.3: Summary of hypothesis 2**

<table>
<thead>
<tr>
<th>User-friendliness</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.512</td>
<td>.000</td>
<td>Reject (H_0)</td>
</tr>
</tbody>
</table>

The result from Table 5.3 shows that the significance value is .000 which is less than .01 (.000 < .01). Therefore, the null hypothesis was rejected and accepted the alternative hypothesis that user-friendliness is related to customers’ attitudes toward GEBS at 0.01 significance level. The correlation coefficient at .512 means that user-friendliness has positive relationship in a quality attribute to customers’ attitudes. This relationship implied that user-friendliness is an important factor of GEBS to the customers’ attitudes.
Hypothesis 3

Hₐ₃: Security is not related to customers' attitudes toward Global Electronic Banking Services.

Hₐ₃: Security is related to customers' attitudes toward Global Electronic Banking Services.

H₀ = ρₛ = 0
Hₐ = ρₛ ≠ 0

Table 5.4: Summary of hypothesis 3

<table>
<thead>
<tr>
<th>Security</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.330</td>
<td>.000</td>
</tr>
<tr>
<td>Decision</td>
<td></td>
<td>Reject H₀</td>
</tr>
</tbody>
</table>

The result from Table 5.4 shows that the significance value is .000 which is less than .01 (.000 < .01). Therefore, the null hypothesis was rejected and accepted the alternative hypothesis that Security is related to customers' attitudes toward GEBS at 0.01 significance level. The correlation coefficient at .330 means that security has positive relationship in a quality attribute to customers' attitudes. This relationship implied that security is an important factor of GEBS to the customers' attitudes.

Hypothesis 4

H₀₄: Connectivity is not related to customers' attitudes toward Global Electronic Banking Services.

Hₐ₄: Connectivity is related to customers' attitudes toward Global Electronic Banking Services.
\[ H_0 = \rho_s = 0 \quad \text{Sig. (2-tailed)} = .01 \]
\[ H_a = \rho_s \neq 0 \]

Table 5.5: Summary of hypothesis 4

<table>
<thead>
<tr>
<th>Connectivity</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Coefficient</td>
<td>.542</td>
<td>.000</td>
<td>Reject ( H_0 )</td>
</tr>
</tbody>
</table>

The result from Table 5.5 shows that the significance value is .000 which is less than .01 (.000 < .01). Therefore, the null hypothesis was rejected and accepted the alternative hypothesis that connectivity is related to customers' attitudes toward GEBS at 0.01 significance level. The correlation coefficient at .542 means that connectivity has positive relationship in a quality attribute to customers' attitudes. This relationship implied that connectivity is an important factor of GEBS to the customers' attitudes.

Hypothesis 5

\[ H_{05}: \text{Technical Support is not related to customers' attitudes toward Global Electronic Banking Services.} \]
\[ H_{a5}: \text{Technical Support is related to customers' attitudes toward Global Electronic Banking Services.} \]

\[ H_0 = \rho_s = 0 \quad \text{Sig. (2-tailed)} = .01 \]
\[ H_a = \rho_s \neq 0 \]
The result from Table 5.6 shows that the significance value is .000 which is less than .01 (.000 < .01). Therefore, the null hypothesis was rejected and accepted the alternative hypothesis that technical support is related to customers’ attitudes toward GEBS at 0.01 significance level. The correlation coefficient at .447 means that technical support has positive relationship in a quality attribute to customers’ attitudes. This relationship implied that technical support is an important factor of GEBS to the customers’ attitudes.

Table 5.7 shows the order of variables for the relationship between factors on GEBS application to customers’ attitudes. The more value of correlation coefficient there is on the variable factors, the more positive relationship there is between customers’ attitudes and the variable factors. The highest value of correlation for technical support is .447.
coefficient among five variable factors is connectivity. It implies that connectivity is
the most important factor in the perceived quality attribute to the GEBS application.

In sum, this chapter depicts and describes that customers were satisfied, to
some extent, with five factors. However, some customers were unsatisfied, so they
commented on some of five factors in terms of its inconsistency, which will be
presented in chapter 6.
Chapter 6

Conclusion and Recommendation

The objective of this research is to identify important factors of GEBS and gather problems on application of GEBS in order to be guidelines for development. Therefore, this chapter provides a summary of research results and presents some problems on GEBS and implication to achieve the research objective. The results for research problems and implication are presented as follows:

6.1 Conclusion Drawn Against Research Problems

Statement of Problem 1: What factors of Global Electronic Banking Services relate to customers’ attitude to the quality of the application?

The analytical results from chapter 5 can be concluded that accuracy, user-friendliness, security, connectivity and technical support are the important factors of Global Electronic Banking Services that relate to customers’ attitude to the quality of the application.

Furthermore, additional information in terms of users’ comments concerning five factors is obtained through Qualitative Analysis. The following factors are ranked according to correlation coefficient from Table 5.7 summary of variables in chapter 5.

1. Connectivity

Expected ease of connectivity is likely to be a very important factor determinant of users’ acceptance at the first stage prior to process transactions online.
Connectivity is an access of users to interact with banks and it is a significance of convenience to perform transaction online. It is possible to consider that connectivity is effected willingness to use underlying perceived convenience.

2. User-friendliness

User-friendliness can be measured in the form of clarity and ease to follow instruction. In addition, users can rely on manual guide as reference.

3. Accuracy and Security

As GEBS is not conducted face-to-face over the counter but over a network, expected perceived accuracy and expected perceived security would be considered a primary essence to build trust of users of the Bank.

4. Technical Support

It is crucial that the actual response of technical support staff over the phone will satisfy users and reduce stress on users.

In addition, willingness to use depends on the GEBS's ability to support operating work of the users. 73.3% of the users agree that GEBS supports their operating works, and 55.4% of the users plan to process transactions on GEBS increasingly.

Statement of Problem 2: What are the problems on application of Global Electronic Banking Services?

The results from quantitative data analysis finding problems were not exposed on application of GEBS. Furthermore, the fact that sig. (2-tailed) values of .000 of all factors are related to customers' attitudes to the quality of the application implies that
users were satisfied with them. Hence, qualitative research in terms of users' comments is approached to explore the problems on application of GEBS. The survey found that the inconsistency of some factors is the problem on GEBS application. Users were satisfied with accuracy for the success of sending data and user-friendliness for its simple operating procedure. Users were unsatisfied with connectivity, security and technical support due to the following problems:

1. Connectivity

   Difficulty in connectivity is caused by incompatible stability of user's modem, and/or inadequately of bank's telephone lines services provided to users, etc.

2. Security

   Security was issued to protect unauthorized access, but it is likely that if it provides too high security, it may make users become complicated, such as:

   a. Multiple steps for correcting data. After forwarding data to the queue for authorization and for final approval, a maker (1st level user) cannot retrieve data. Only the authorized person can retrieve for him or her to change such data. This multiple step causes inconvenience and job retardation if the authorized person is absent.

   b. Short valid period of password. Short valid period for a password, such as every month, may bother users. Frequently changing password often will make users unsatisfied.
3. Technical Support

Bergeron and Berube (1988) cited in Govindarajulu et al. 2000 reported that users were satisfied with informal support environment when information centers were present.

This survey reports that users need support staffs when the application is inconsistent. Banks have insufficient technical support staffs on department budget lines to support users in that department. Technical support staffs may not be available for assisting users in that department because technical support staffs were out. The absence of technical support staffs when users need dissatisfied them.

Research of Govindarajulu, Reithel and Sethi on A model of end users’ attitudes and intentions toward alternative sources of support in The International Journal of Information Systems Application, volume 37(2), pp. 77-86 concluded that “MIS support staffs characteristics, quality of end users’ applications, level of support received in areas important to users and proximity of services have a significant effect on users’ attitudes”.

6.2 Recommendation

The problems presented in 6.1 would be the guidelines for improving some attributes. The results may also be useful for the development planning and marketing. Quality attributes like accuracy, user-friendliness, security, connectivity and technical support relate to customers' attitudes toward GEBS. By developing them in order of significance, banks would be able to more effectively enhance quality of application and reduce redundant processes to retain customers.

1. Connectivity

To achieve easy connectivity, the relevant hardware needs a larger part of the electromagnetic spectrum such as a larger bandwidth, which depends on broadband technology that is controlled by Telecommunication Authority of Thailand.

Based on the findings, the researcher recommends:

a. Incompatible stability of user's modem. Users may have little knowledge about computer technology, therefore, the technician should provide relevant knowledge and suggest what should be compatible and stable for users' modem.

b. Inadequate bank's telephone lines service provided to users. The line was engaged due to over access at the same time. Providing more telephone lines is recommended to reduce line traffic and connect more easily. However, more telephone lines may incur additional costs which should be compensated by higher revenues.
2. Security

a. Redundant processes should be reduced on retrieval step for correction. Security is imposed to protect unauthorized access, therefore, an unauthorized person cannot correct the data. Furthermore, higher authorized level has to verify an error prior to forwarding to the final step for sending.

b. An appropriate time for changing passwords should be changed to at least four times a year or every three months.

3. Technical Support

The research found that technical support is very necessary for users. MIS department should provide information and training to the concerned departments in order that GEBS responsible staffs in the concerned department can solve the primary problems for the users when technical support staffs are not available.

6.3 Further Research

Theory of Reasoned Action (TRA) model is a widely accepted model that has been used in predicting and explaining behavior. The model on this research was adapted from modified TRA Model of Govindarajulu, Reithel and Sethi on their research. A model of end users' attitudes and intentions toward alternative sources of support in The International Journal of Information System Applications, volume 37:1, 2000. Modified TRA model comprises attitude and subjective norm which are customers' behavior.
This research focuses only on the customers' attitudes which is a part to study customers behavior in TRA model. Therefore, further research should be extended to study the intentional behavior by assessing the subjective norm and normative beliefs to predict actual behavior.
BIBLIOGRAPHY


Wall Street Journal, Their business is on the line, 7 December 1990.


The questionnaire is a part of thesis in partial fulfillment of the requirements for the degree of Masters Degree of Business Administration; Assumption University. This questionnaire will be used for thesis research only. Your confidentiality shall be strictly maintained. Your participation and input are of great of value for the furthering of this research as they represent the input for the finalization of the conceptual and empirical framework of which the core research is based on. Your critical assessment and time taken to complete the questionnaire are highly appreciated in the quest for excellence in knowledge.

**Part I Customer data**

Company name  __________________________________________________________

Province  __________________________________________________________

Business Type

☐ Manufacturing  ☐ Trading  ☐ Others
☐ Import-Export  ☐ Transportation
☐ Travel  ☐ Service

Please mark (x) for each question as you deem appropriate.

1. How long have you used Global Electronic Banking Services?
   - ☐ Less than 1 year
   - ☐ 1-2 years
   - ☐ 2-3 years
   - ☐ More than 3 years

2. How often do you use Global Electronic Banking Services?
   - ☐ Less than 1 time a month
   - ☐ 1-4 time a month
   - ☐ 4-8 time a month
   - ☐ More than 8 times a month
Part II Customer evaluation

Please circle the number as you deem most appropriate.

Accuracy

1. Do you agree that GEBS provides an error-free transaction and recording?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

2. Do you agree that information have been sent to bank successfully?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

3. Do you agree that GEBS provides contingency with back-up data?

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<tr>
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<th>5</th>
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<tbody>
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<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

User-friendliness

4. Do you agree that GEBS instruction is clear and easy-to-follow?

<table>
<thead>
<tr>
<th>1</th>
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5. Do you agree that GEBS provides simple operating procedures?

<table>
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<td>Agree</td>
<td>Strongly Agree</td>
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</tbody>
</table>

6. Do you agree that GEBS provides efficiently-designed display menu?

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<td>Neither</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

7. Do you agree that manual guides are available for using GEBS?

<table>
<thead>
<tr>
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<td>Neither</td>
<td>Agree</td>
<td>Strongly Agree</td>
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</tbody>
</table>
Security

8. Do you agree that only authorized person can access to GEBS?

<table>
<thead>
<tr>
<th></th>
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<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</tbody>
</table>

9. Do you agree that data are kept confidentiality in GEBS system?

<table>
<thead>
<tr>
<th></th>
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<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
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10. Do you agree that GEBS limits transaction with authorized level?

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<th></th>
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<th>Disagree</th>
<th>Neither Disagree or Agree</th>
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</tbody>
</table>

Connectivity

11. Do you agree that GEBS provides easy connection to the bank?

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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12. Do you agree that GEBS can be accessed at anytime?

<table>
<thead>
<tr>
<th></th>
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<th>Disagree</th>
<th>Neither Disagree or Agree</th>
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Technical support

13. Do you agree that the technicians offer you a quick response?

<table>
<thead>
<tr>
<th></th>
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14. Do the technicians offer courteous service?

<table>
<thead>
<tr>
<th></th>
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</table>

15. Do you think the technicians are professional?

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
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</tbody>
</table>
16. Are the technicians available upon request?

1. Strongly Disagree
2. Disagree
3. Neither Disagree nor Agree
4. Agree
5. Strongly Agree

Part III Customer attitude

1. Does GEBS support your operating work?

1. Strongly Disagree
2. Disagree
3. Neither Disagree nor Agree
4. Agree
5. Strongly Agree

2. Do you think GEBS more convenient than manual procedure?

1. Strongly Disagree
2. Disagree
3. Neither Disagree nor Agree
4. Agree
5. Strongly Agree

3. Do you plan to use GEBS increasingly?

1. Strongly Disagree
2. Disagree
3. Neither Disagree nor Agree
4. Agree
5. Strongly Agree

Comments

________________________________________________________________________

________________________________________________________________________
APPENDIX B
Descriptive Analysis

Users' characteristics

Location

Statistics

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<th>province</th>
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<th>Mode</th>
<th>Percentiles</th>
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</thead>
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<td>0</td>
<td>1</td>
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</table>

<table>
<thead>
<tr>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>61</td>
<td>60.4</td>
<td>60.4</td>
<td>60.4</td>
</tr>
<tr>
<td>Others</td>
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<tr>
<td>Total</td>
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Users' business type

Statistics

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<td>Others</td>
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<td>Total</td>
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### Year of use

**Statistics**

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<th>Mode</th>
<th>Percentiles</th>
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</table>

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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
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<td>8.9</td>
<td>8.9</td>
</tr>
<tr>
<td>1-2 year</td>
<td>33</td>
<td>32.7</td>
<td>32.7</td>
<td>41.6</td>
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<tr>
<td>2-3 year</td>
<td>39</td>
<td>38.6</td>
<td>38.6</td>
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<tr>
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<tr>
<td>Total</td>
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### Frequency of use

**Statistics**

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<table>
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<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<tr>
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<td>1.0</td>
</tr>
<tr>
<td>1-4 time a month</td>
<td>32</td>
<td>31.7</td>
<td>31.7</td>
<td>32.7</td>
</tr>
<tr>
<td>4-8 time a month</td>
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<td>29.7</td>
<td>62.4</td>
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<tr>
<td>more than 8 times a month</td>
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<td>37.6</td>
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<tr>
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Users' attitudes

Support operating work

Statistics

cognitive

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<th>Mode</th>
<th>Percentiles</th>
</tr>
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<tbody>
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<td>101</td>
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<td>5.00</td>
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<table>
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<tr>
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<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>disagree</td>
<td>2</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>neither disagree or agree</td>
<td>9</td>
<td>8.9</td>
<td>10.9</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>74</td>
<td>73.3</td>
<td>84.2</td>
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<tr>
<td></td>
<td>strongly agree</td>
<td>16</td>
<td>15.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
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Increasingly use:

Statistics

behavioral

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<th>Percentiles</th>
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<tbody>
<tr>
<td>N</td>
<td>101</td>
<td>0</td>
<td>4</td>
<td>5.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>disagree</td>
<td>3</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>neither disagree or agree</td>
<td>33</td>
<td>32.7</td>
<td>35.6</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>56</td>
<td>55.4</td>
<td>91.1</td>
</tr>
<tr>
<td></td>
<td>strongly agree</td>
<td>9</td>
<td>8.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
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<td>100.0</td>
<td>100.0</td>
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</tbody>
</table>
Reliability Testing

Accuracy

****** Method 1 (space saver) will be used for this analysis ******

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ACCURAC1</td>
<td>3.4455</td>
<td>.7934</td>
<td>101.0</td>
</tr>
<tr>
<td>2. ACCURAC2</td>
<td>3.6832</td>
<td>.6772</td>
<td>101.0</td>
</tr>
<tr>
<td>3. ACCURAC3</td>
<td>3.6931</td>
<td>.5957</td>
<td>101.0</td>
</tr>
</tbody>
</table>

Reliability Coefficients

N of Cases = 101.0
N of Items = 3
Alpha = .6011

User-friendliness

****** Method 1 (space saver) will be used for this analysis ******

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FRIEND1</td>
<td>3.4752</td>
<td>.7822</td>
<td>101.0</td>
</tr>
<tr>
<td>2. FRIEND2</td>
<td>3.6337</td>
<td>.6888</td>
<td>101.0</td>
</tr>
<tr>
<td>3. FRIEND3</td>
<td>3.3663</td>
<td>.7446</td>
<td>101.0</td>
</tr>
<tr>
<td>4. FRIEND4</td>
<td>3.3465</td>
<td>.8993</td>
<td>101.0</td>
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</tbody>
</table>

Reliability Coefficients

N of Cases = 101.0
N of Items = 4
Alpha = .7446
Security

***** Method 1 (space saver) will be used for this analysis *****

**RELIABILITY ANALYSIS - SCALE (ALPHA)**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SECURE1</td>
<td>4.1188</td>
<td>.6211</td>
<td>101.0</td>
</tr>
<tr>
<td>2. SECURE2</td>
<td>3.9307</td>
<td>.6820</td>
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<td>3. SECURE3</td>
<td>4.0693</td>
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Reliability Coefficients
N of Cases = 101.0  
N of Items = 3
Alpha = .7349

Connectivity

***** Method 1 (space saver) will be used for this analysis *****

**RELIABILITY ANALYSIS - SCALE (ALPHA)**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CONNECT1</td>
<td>3.2970</td>
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</tr>
<tr>
<td>2. CONNECT2</td>
<td>3.2079</td>
<td>.9830</td>
<td>101.0</td>
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</tbody>
</table>

Reliability Coefficients
N of Cases = 101.0  
N of Items = 2
Alpha = .6747
Technical Support

***** Method 1 (space saver) will be used for this analysis *****

<table>
<thead>
<tr>
<th>RELIABILITY ANALYSIS - SCALE (ALPHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>1. SUPPORT1</td>
</tr>
<tr>
<td>2. SUPPORT2</td>
</tr>
<tr>
<td>3. SUPPORT3</td>
</tr>
<tr>
<td>4. SUPPORT4</td>
</tr>
</tbody>
</table>

Reliability Coefficients

N of Cases = 101.0  
N of Items = 4  
Alpha = 0.8635
Hypothesis Testing

Nonparametric Correlation

Hypothesis 1

<table>
<thead>
<tr>
<th></th>
<th>ACCURACY</th>
<th>ATTITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>1.000</td>
<td>.478**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
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<tr>
<td>N</td>
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<td>101</td>
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</tbody>
</table>

**. Correlation is significant at the .01 level (2-tailed).

Hypothesis 2

<table>
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<tr>
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<th>ATTITUDE</th>
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<tbody>
<tr>
<td>Spearman's rho</td>
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</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
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</tr>
<tr>
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**. Correlation is significant at the .01 level (2-tailed).

Hypothesis 3

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<tr>
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<tr>
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<tr>
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<tr>
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**. Correlation is significant at the .01 level (2-tailed).
Hypothesis 4

Correlations

<table>
<thead>
<tr>
<th>Spearman's rho</th>
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<tbody>
<tr>
<td><strong>Correlation Coefficient</strong></td>
<td>1.000</td>
<td>.542**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.</td>
<td>.000</td>
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<tr>
<td>N</td>
<td>101</td>
<td>101</td>
</tr>
<tr>
<td><strong>ATTITUDE Correlation Coefficient</strong></td>
<td>.542**</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.</td>
</tr>
<tr>
<td>N</td>
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**. Correlation is significant at the .01 level (2-tailed).

Hypothesis 5

Correlations

<table>
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<td>.447**</td>
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<tr>
<td>Sig. (2-tailed)</td>
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<td>.000</td>
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<tr>
<td>N</td>
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<td>101</td>
</tr>
<tr>
<td><strong>ATTITUDE Correlation Coefficient</strong></td>
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<td>1.000</td>
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<tr>
<td>Sig. (2-tailed)</td>
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<td>.</td>
</tr>
<tr>
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**. Correlation is significant at the .01 level (2-tailed).