CHAPTER 2
THEORETICAL FOUNDATION

2.1. Internet

Internet has become a phenomenon in this global age. Many have tried to identify what is "Internet". Even until now, people are still trying to elaborate more about Internet. There are several opinions about definition of Internet. Turban et. al (2001, pp. 241) defined Internet as follow "Internet as a public and global communication network which provides direct connectivity to anyone over a local area network (LAN) or Internet Service Provider (ISP). The Internet is a public network that is connected and routed over gateways". According to Nielsen (1995), Internet is combination of one-to-one connection characteristics, such as telephone and characteristics one-to-many connection, such as radio and television. In other word, Internet can be defined as a multimedia presentation tool, capable of attracting listener with its interaction activity.

Refers to the Federal Networking Council (FNC) (Internet Monthly Reports, October 1995), the definition of term "Internet" is a global information system that:

1. Is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-on;

2. Is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-on, and/or other IP-compatible protocols; and
3. Is providing, using or making accessible, either publicly or privately, high level services layered on the communications and related infrastructure.

From humanities and art perspective, Internet is people, computers and information electronically linked around the world by a common Protocol for communicating with each other. From Kleinschmidt.com, “The Internet” is a global communications network consisting of thousands of networks typically interconnected by fibre-optic cabling. It had two parent networks whose joining began the ongoing evolution.

- U. S. Military (Tactical communication in the event of telephone downtime during wartime)
- Academics (Shared information between researchers)

To access Internet, there are equipment and standard tools that are needed, as follows:

1. Personal Computer (PC)

PC is a hardware that is used to operate Internet.

2. Modem

Modem is tool to link PC and telephone line, by connect to Internet Service Provider (ISP).

3. Telephone Line

We need telephone line to get Internet connection through ISP.

4. Internet Account at one of the ISP

ISP is a service communication provider company that we need to access Internet network. In order to get Internet connection; we must have an Internet account. We can get it by register to ISP Company, borrow someone's Internet account, through internal network at office/university or using public services such as Internet Cafes (Warnet).

2.2. Internet Value Creation.

According to Ernest & Young (1999) Internet creates direct value. It means increasing company profitability by decreasing transaction cost compare to other delivery channels and effectively in market penetration caused by the Internet ability in reaching all around the world. Company can use Internet:

1. As one of the channels in selling products and services.
2. As a supplemental channel in increasing the existing market from other competitors.
3. For customer service benefit.

   Company can use Internet to communicate with customers such as email.
4. For order processing.
5. As an information medium relates to company.

   Besides direct value, the company also gets indirect value, such as company image.

Refers to Prescott & Slyke (1996), Internet is an innovation. It can be categorised to a radical innovation or incremental, product innovation or process, voluntary or involuntary innovation, technology push or business pull.

Radical innovation is an innovation that needs a lot of extensive changes in implementing a new thing. On contrary, if the changes are small parts from the whole, it can be classified to incremental innovation. Innovation can be classified from a result of a product or a process. Innovation as a product if the result benefits to the user. Innovation as a process if the innovation is a step or a part in a whole process before it benefits to the user. From usage perspective, innovation can be categorised to a voluntary innovation that is when the innovation is occurred because third parties or involuntary that is occurred by itself. The last category is from the cause perspective. Technology push is when the cause of the Internet development is the development of technology network. But it is a business pull, if the innovation is caused by business demand as a solution for business process.

According to the perspectives above, Internet fulfils all categories. Internet is a radical innovation. It also a product and process innovation, for users want to get information (as a product innovation) and for company who want to get benefit by building web pages (as a process innovation). Internet also a voluntary innovation since it has many features and very complex. The last is Internet appears because of technology push and business pull.

2.3. Traditional Banking

A bank is basically where you put your money, where you do all your everyday money transactions. These days, banks offer one-stop shops for everything from checking, savings, and credit cards to investments (MsMoney, 2002).

In the past, banks only served their customers physically. It means that customer has to come to the bank in order to do transaction. Traditional Banking is a way in doing transaction at bank where customer must go to the bank and being served by the bank officer. Customer can see the officer directly, know them personally. Although, nowadays Internet has changed the way in doing business transactions and it provides many advantages but traditional banking is still exist for several reasons:

1. Not all transaction can be done using Internet Banking, such as deposit and withdrawal.
2. For customers who feel more confident if they are being served directly
3. For customers who do not have adequate hardware and software for doing Internet Banking.

There are several transaction's types that are available in traditional banking, such as funds transfer, balance inquiry, withdrawal and deposits, etc. In doing the transactions, customers must fill in some kind of forms, get authorisation and then the transaction being processed.

2.4. Internet Banking

Internet Banking is doing banking transactions using Internet as the media. According to bankrate.com, Internet Banking is an online system allow customers to plug into a host of banking services from a personal computer by connecting with the bank's computers over telephone wires. There are two types of Internet Banking. First, a bank with physical branches then builds web site and offers Internet Banking as an additional or supplementary for existing delivery channels, such as Wells Fargo and Bank of America. Second, bank that really built in Internet (virtual), with no branches. The main system that is a server is located in an office and registered as a bank and it applies law where the server located, such as netbank (www.netbank.com) and compubank (www.compubank.com)

The comparison between Internet banking and traditional banking are in the table below:

Table 2.1 Service Comparison between Internet Banking and Traditional Banking

Feature	Internet	Traditional
Performance of service	Face with monitor	Face with staff
Availability	Every time	Standard working time
Access	From home	Go to location
Competitive Difference	Convenience	More personally
Privacy	Machine interaction	Social interaction

Source: Fitzsimmons (2000, pp. 243)

And advantages and disadvantages comparison between online services and traditional service is as follow:

Table 2.2 Advantages and Disadvantages Comparison between Online Services and Traditional Services

	Internet	Traditional
Advantages	Convenience	Social interaction
	Timeless	
Disadvantages	Depends on the computer	Need time
		Queuing

Source: Fitzsimmons (2000, pp. 243)

According to bankrate.com, the Internet Banking has advantages and disadvantages. The advantages are:

1. Consumers can use their computers and a telephone modem to dial in from home or any site where they have access to a computer.
2. The services are available seven days a week, 24 hours a day.
3. Transactions are executed and confirmed quickly, although not instantaneously.
4. Processing time is comparable to that of an ATM transaction.
5. The range of transactions available is fairly broad. Customers can do everything from simply checking on an account balance to applying for a mortgage.

There are also disadvantages, they are:

1. User must be comfortable using a computer.
2. Investment of time up-front can be formidable. The data entry is necessary before the numbers can be massaged and money managed successfully. Online bill payment is an example of an effort that requires setting up which leads to ultimate convenience.
3. Switching software or banks can mean re-entry of data, although Internet-based systems are less impacted.

2.4.1 World Internet Banking Development

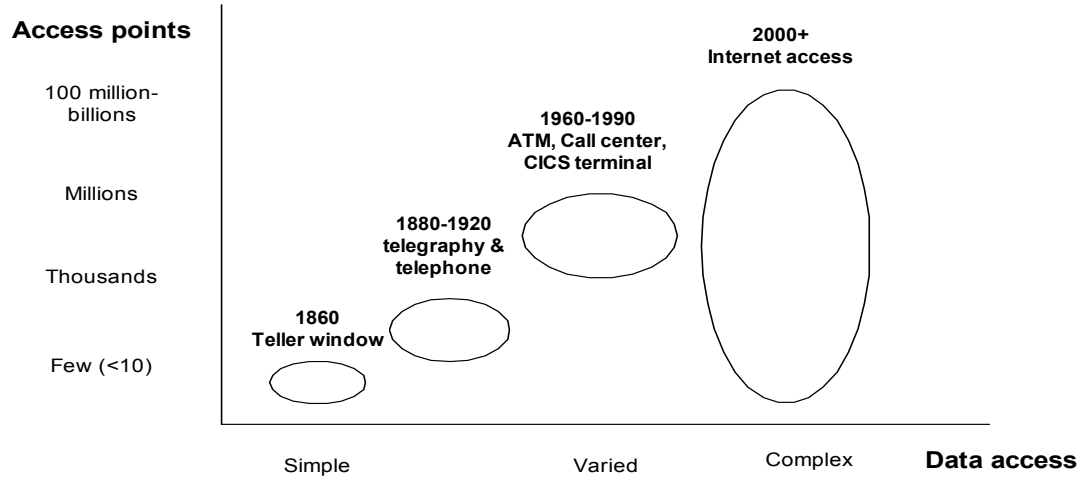
Internet banking technology began since Wells Fargo for the first time displayed customer statement on web in 1996. Then the growth of Internet banking users in the world increased rapidly (see table 2.3). According online banking report there are about 7,000 bank has implemented this kind of service with increasing users. At the beginning on May 1995, there are about 5,000 users in the world and then it increases until 7 millions in May 2000.

If in 1995, there are only 50 banks in the world that has Internet site with traffic 100,000 access/month. But now there is about 3,000 banks that have Internet site and can be accessed by 18,8 millions people/month.

Table 2.3 The Growth of Internet Banking in the World

Five Years of The Web Banking		
Metrics	**May 1995**	**May 2000**
Financial institution with The web banking (WW)	1	3,000
Financial institution with The web sites (WW)	50	10,000
The web banking users (US)	6,000	7 million
Total online banking users (US)	300,000	11 million
Total monthly bank The web traffic (US)	100,000	18.8 million
Monthly credit apps submitted via The web (US)	0	10,000

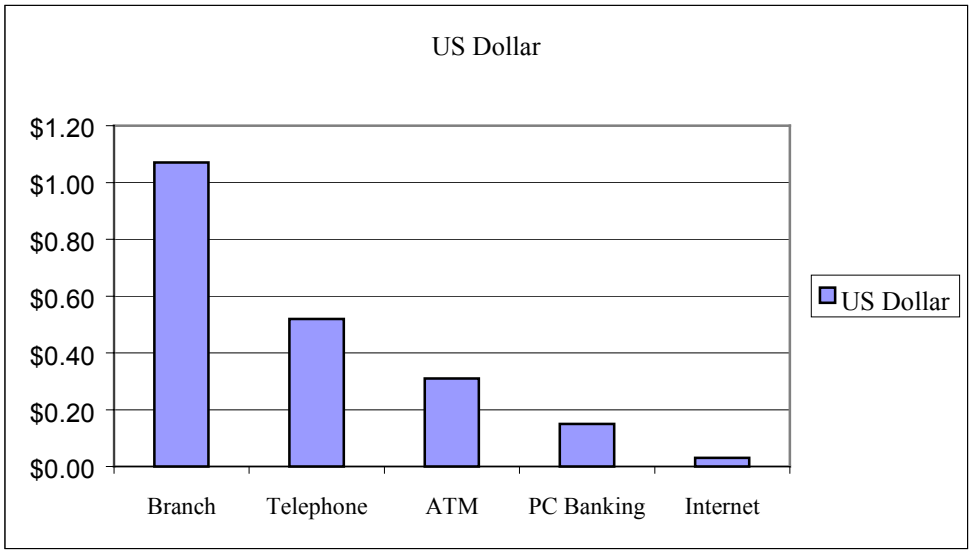
Source: Online Banking Report estimates, +/- 25%, and 5/00



Source: Nomura International Internet Banking Report

Figure 2.1 Banking Channels Evolution

Besides user convenience, the main reason why bank management implement this Internet Banking technology is because the efficiency. The result from Goldman Sachs and Boston Consulting Group Research, show that fee for each transaction through Internet is the lowest compared with other delivery channels, such as traditional branches, telephone, ATM, and PC banking



Source: Electronic Financial Landscape Around the World (2000, pp. 7).

Figure 2.2 Comparison Transaction Fees

2.4.2 Internet Banking Development in Indonesia

Internet banking development process in Indonesia can be sees in this table below:

Table 2.4 Map of Internet Banking Development Process in Indonesia

Name of bank	Internet Banking	Stock Trading	Mutual Funds	Insurance	Payment Gateway	Online Shop
BII	Stage 4	V	V	V	V	V
BCA	Stage 4		V		V	
Lippo Bank	Stage 4		V		V	
Bank Bali	Stage 4		V		V	
BNI	Stage 1					
Bank Mandiri	Stage 1					
Bank Universal	Stage 4		V		V	
Bank Niaga	Stage 4		V			

Source: Bank's brochures

Based on the technology, Anthony Look in Nomura Internet Banking Report (2000) clarifies Internet banking process into 5 stages:

Stage 1: Information-Only

Only shows information and interact using email. The orientation is only as marketing medium.

Stage 2: Information-Transfer

Customer can do transaction with bank, Such as fill in application online.

Stage 3: Internal Transactional

System can do banking transaction online. Every transaction in ATM (except withdrawal) can be done through this system. Such as: inquiry, fund transfers within bank and pay credit card bill.

Stage 4: External Transactional

System can interact with external parties. Such as: telegraphic transfer, pay bill to third parties.

Stage 5: Personalised Gateway

System can combine relational database and can support customer relationship management system. By using the database, bank can categorised their customer based on need and value to the bank

For Internet banking service, Bank Papan Sejahtera (1996) appeared as the pioneer, then Lippo Bank (1997), Bank International Indonesia (1998) and at last Bank Central Asia (2000).

2.5. Marketing Definition

In the past, marketing is not as important as now. People tried to fulfil their own need by themselves and their need were only basic need such as food, housing and clothing. By the time, people's need was increasing, not only the basic need but also other need that can not be fulfil by themselves anymore.

Nowadays, marketing has an important economic role, because with successful marketing, we can get competitive advantage of the products that we sell. According to Kotler (2000). There are 2 types of marketing definition. They are a social and a managerial definition. A social definition describes marketing role in society. Based on social definition, " Marketing is a societal process by which individuals and groups obtain what they need and want through creating, offering and freely exchanging products and services of value with others " (Kotler, 2000, pp.7-8). And from managerial side, marketing is the process of planning and

executing the conception, pricing, promotion and distribution of ideas, goods, services to create exchange that satisfy individual and organisational goals.

2.6. Market Segmentation

We can not satisfy everyone in a market because everyone has his own perception, desire and need. We need to identify market segmentation. Market segmentation is a group of buyers who might prefer or require varying products and services. We can identify market segmentation by examining demographic, physicography and behavioural differences among buyers. Then we can determine which segments present the greatest opportunity that the firm can meet in a superior fashion.

The four major segmentation variables are geographic, demographic, physicography and behavioural segmentation. We can summarise the differences as below:

Table 2.5 Differences Between Market Segmentation Types

Segmentation Types	Variables
Geographic	Geographic locations such as countries, nations, cities, etc.
Demographic	basis variables, such as gender, income, occupation
Physicography	Lifestyle or personality, values
Behavioural	Knowledge, attitude, response to a products, use of a products.

Source: Marketing Management (Philip Kotler, Mill Ed, pp. 267)

In Millennium era, relationship marketing is an important theme in marketing. By focusing on the firm most profitable customers, products and channels, we can build a long term profitable relationships with customers.

2.7. Customer Satisfaction

Kotler (2000, pp.36) defines satisfaction as below " Satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (outcome) in relation to his or her expectations ". From this, we can clearly see that satisfaction has related with customer perceived performance and expectations.

Although customer satisfy with some products but still they can switch for a better offers. But with high satisfaction, customers are bonded with the brand; there is emotional bond so it creates customer loyalty. Usually, customer's expectation comes from past buying experiences, friends', associates' advice, information and promises from competitors and company.

If customers satisfy with our products or services, such as Internet Banking service, we can have a profitable long-term customer relationship. From the book of marketing management, Kotler (2000) said, that there are several methods of tracking and measuring customer satisfaction:

- Complaint and suggestion systems

  The company gives a suggestion and complaints form. Such in restaurants or hotels for guests to report their opinion. But usually not all of the customers want to fill the complaints.

- Customer satisfaction surveys.

  Like in this research, company does a survey to measure customer satisfaction using such as questionnaire or by phone calls to a random sample of their customers.

- Ghost shopping

  This method use a person to pose as potential buyer to report their findings on strong and weakness points when experiencing buying the company's and competitor's products.

- Lost customer analysis

  The company contact customers who have stopped buying or switched to another supplier to learn why this condition happened.

- Some caution in measuring customer satisfaction.

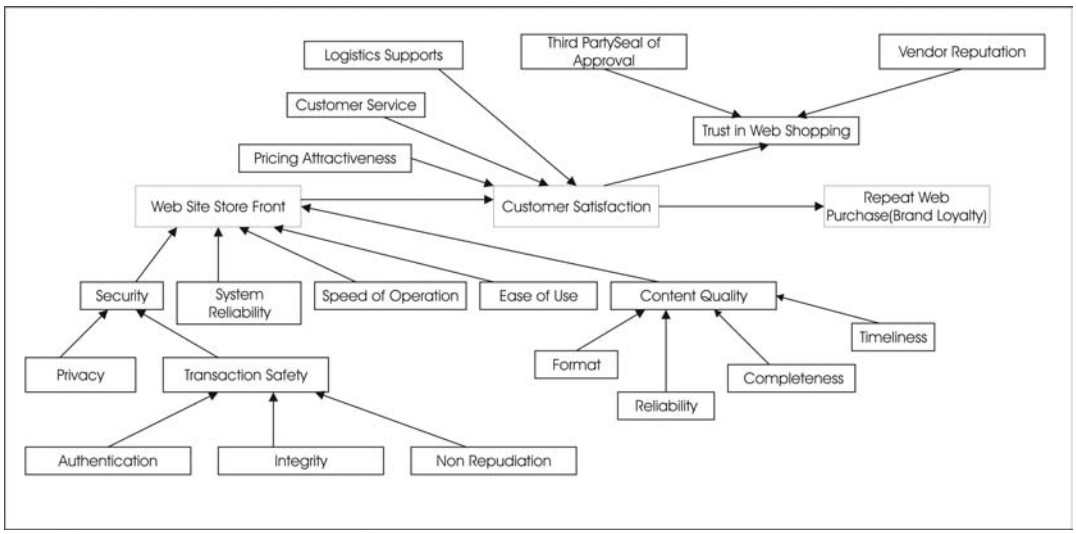
  The company must make a well-structured questionnaire; otherwise the customer would face a huge questionnaire. The company must also be able to recognise that two customers can report being highly satisfied for two reasons. One person maybe easily satisfied most of the time, and the other one might be hard to please but was pleased on this occasion.

2.7.1 Relevant Researches

Figure 2.5 is an Online Internet Services Customer Satisfaction Model developed by Lee (1999, pp.83). This model describes factors that contribute on customer satisfaction on online services. They are system quality (web site store-

front) and customer services beside two others factors that are price and logistic support.

Internet Banking customer satisfaction model is quite different with the online internet services customer satisfaction model, since in Internet Banking, we sell services not tangible products so logistic factor can be eliminated. Furthermore, price factor can also be eliminated because in Indonesia there is no charge for customer to use Internet Banking services.



Source: Lee (1999, pp. 83)

Figure 2.3 Online Internet Services Customer Satisfaction Model

Based on Xerox's Customer Satisfaction Survey Form, there are some variables that relevance in measuring customer services for Internet Banking users, they are:

1. Speed of services.
2. Response time.
3. Product knowledge.

4. Technical knowledge.
5. Ability to solve problem.

According to National Association of Convenience Stores (NACS) survey model, it describes that customer satisfaction will contribute positively in company reputation. Moreover, good reputation will increase customer loyalty (Johnson and Gustafsson, 2000).

2.7.2 System Quality

Variables in system quality (Lee, 2000, pp.83) are:

1. Security

Security in doing transaction is the major and important basis for customer in using Internet Banking. Since Internet is a global-open network where information can be mis-used by other parties.

Bank should guarantee the security by implement security standard and procedures. In this research, the security's elements are:

- Authentication

  It is a method to verify customer identity before doing transactions.

- Integrity

  Guarantee that information will be in a proper way, such as will not be changed during transmission.

- Non Repudiation

  Protection from transaction denying both from customer and third party.

- Privacy

  Customer data protection from being use to other purpose.

2. System reliability

System reliability influences customer trust in using this service. Bank should apply standard procedures in protecting all transaction from system errors. Bank should maintain and increase system reliability based on user growth.

3. Speed of Operation

In Internet Banking, speed is very important because users want to do transaction as quickly as possible. But it is difficult to maintain speed of operation in Internet Banking, beside internal factors such as infrastructures, we also have external factor such as user hardware, Indonesia Internet network infrastructure

4. Ease of Use

Bank should implement a user-friendly system since every user has different knowledge in Internet technology. So users can use the services easily.

5. Content Quality

The content quality is also important. There are several factors in content quality; they are format, reliability, completeness and timeliness. Bank should have procedure in content quality to ensure all information has the quality.

6. Customer services

One of the factors that contribute in customer satisfaction is customer service. The easiness and the readiness from customer service staff in serving users will give positive contribution to customer satisfaction. Bank should have procedure to ensure availability of customer service staff based on user growth.

2.7.3 Customer Services

Variables in customer services according to Xerox's Customer Satisfaction Survey Form are:

1. Speed of Services

In customer services, speed is very important since customers do not want to wait long, just to get served. Speed of services means customers always can solve their problem in a short time, and be served by the right person.

2. Response Time

Response time means every time customers contact customer service officers, they should be get respond as soon as possible. Customer services officers should respond customers whenever they contact.

3. Product Knowledge

Good customer service officers should have good product knowledge so every time customers need information about products, they can get the right and the updated answers.

4. Technical Knowledge

Since Internet Banking is an electronic product and there are always questions about the technical aspect, therefore good customer service officers should have this knowledge beside product knowledge.

5. Ability to Solve Problem

Most problems in Internet Banking are technical problems and they need to be solved in order to use it.