THE INFLUENCE OF SERVICE QUALITY, PRICE, PRODUCT QUALITY AND PROMOTION TOWARD CONSUMER PERCEPTION IN PURCHASING MOBILE SERVICE PROVIDER: EMPIRICAL STUDY ON BLACKBERRY USERS

A THESIS

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DECLARATION OF AUTHENTICITY

Herein I declare the originality of this thesis; I have not presented anyone else's work to obtain my university degree, nor have I presented anyone else's words, ideas or expression without acknowledgement. All quotations are cited and listed in the bibliography of this thesis.

If in the future this statement is proven to be false, I am willing to accept any sanction complying with the determined regulation for its consequence.

Yogyakarta, April 16th, 2012

Nurul Annisa Minandara

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بسم الله الرحمن الرحيم

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Nurul Annisa Minandara (2012). The Influence of Service Quality, Price, Product Quality, and Promotion toward Consumer Perception in Purchasing Mobile Service Provider: Empirical Study on Blackberry Users. Yogyakarta, International Program, Universitas Islam Indonesia.

This research objective is to determine the influence of Service Quality, Price, Product Quality, and Promotion toward Consumer Perception in purchasing mobile service provider, especially as Blackberry users. The competition among mobile service provider in Indonesia is very tight. Consumers now have many options before they decide to purchase certain brand of mobile service provider to fulfill their needs of communication. The device they used, which is Blackberry pushed consumers to be more selective in choosing the suitable provider while the companies of mobile service provider offers differences in term of quality, price, or promotion activity.

This study took 150 respondents who currently using Blackberry and were asked about their consideration among service quality, price, product quality, or promotion that affects them in purchasing mobile service provider. The data were analyzed using AMOS Ver.5 in hypothesis testing by regression test. Hypotheses were accepted if the probability level is less than 5% ($p < 0.05$). The result of the hypothesis testing is showing that Service Quality, Price, and Promotion significantly affects Consumer Perception with the dominant variable is Promotion. However, Product Quality is insignificantly affects Consumer Perception in their purchasing decision of mobile service provider, showing the lowest value with probability level is greater than 5% ($p > 0.05$)

Based on the research, the dominant variable that influences them in purchasing mobile service provider is Promotion. It means that consumers now are not give much consideration about Product Quality since they have many option in choosing mobile service provider while there are not much differences in feature offerings excepts in Promotion and Price. Hence, the result showing that the market of mobile service provider is in maturity stage based on Product Life Cycle theory.

Keyword: *Service Quality, Price, Product Quality, Promotion, Consumer Perception, Mobile service provider, Blackberry users*

ABSTRAK

Nurul Annisa Minandara (2012). The Influence of Service Quality, Price, Product Quality, and Promotion toward Consumer Perception: Empirical Study on Blackberry Users. Yogyakarta, International Program, Universitas Islam Indonesia.

Penelitian ini bertujuan untuk mengetahui pengaruh Kualitas Layanan, Harga, Kualitas Produk, dan Promosi terhadap Persepsi Konsumen dalam pembelian kartu seluler sebagai pengguna Blackberry. Persaingan diantara perusahaan-perusahaan penyedia kartu seluler di Indonesia saat ini sudah sangat ketat. Konsumen sekarang mempunyai banyak pilihan sebelum mereka menetukan untuk membeli suatu merek kartu seluler untuk memenuhi kebutuhan komunikasinya. Sebagai pengguna Blackberry, mendorong para penggunanya untuk lebih selektif dalam memilih kartu seluler yang sesuai yang dengan kebutuhannya, sementara perusahaan-perusahaan penyedia kartu seluler menawarkan banyak hal di kualitas, harga, atau aktifitas promosi.

Studi ini mengambil 150 responden yang menggunakan Blackberry dan ditanyakan mengenai pertimbangan mereka dalam kualitas layanan, harga, kualitas produk, dan promosi yang memengaruhi mereka dalam pembelian kartu seluler. Analisis data menggunakan Amos Ver.5 dan uji hipotesis menggunakan analisis regresi. Hipotesis diterima jika probabilitas level kurang dari 5% ($p < 0.05$). Hasil dari uji hipotesis menunjukkan bahwa kualitas produk, harga, dan promosi berpengaruh secara siginifikan terhadap persepsi konsumen dengan variabel yang dominan adalah promosi. Namun, kualitas produk tidak berpengaruh secara signifikan terhadap persepsi konsumen dalam keputusan pembelian kartu seluler dengan nilai terendah dan nilai probabilitas lebih dari 5% ($p > 0.05$).

Berdasarkan penelitian, variabel yang memengaruhi secara dominan adalah promosi. Hal ini berarti konsumen tidak banyak mempertimbangkan kualitas produk, karena konsumen memiliki banyak pilihan dalam kartu seluler sedangkan tidak terdapat banyak perbedaan dalam penawaran fitur kecuali dalam hal promosi dan harga. Hasil penelitian ini juga menunjukkan jika industry kartu seluler sudah memasuki *maturity stage* berdasarkan teori *Product Life Cycle*.

Kata Kunci: *Kualitas Layanan, Harga, Kualitas Produk, Promosi, Persepsi Konsumen, Kartu Seluler, Pengguna Blackberry*

CHAPTER I

INTRODUCTION

1.1. Background of Study

Business and technology now become un-separated terms and are related to each other. Business without supporting technology will have no strength to face the challenge of rapid changes. The technology development has resulted in an invention of telecommunication technology which nowadays becomes a part of daily life (Tung, 2010). With the telecommunication technology, the communication process among all people in the world now become borderless, without a limitation of time and space. All kind of information, data, texts, and mails can be delivered by the telecommunication technology. This is a transformation of the telecommunication technology from a traditional voice from a telephone to the era of sending data and its related information with one device of telecommunication (Haque, Rahman, & Rahman 2010).

The technology development has created what is now called communication in wireless technology. The invention of mobile phone creates a new style of communication. People can communicate well with anybody every time they want, in any place they want without any burden in place and distance. Therefore, communication has become a part of daily life.

On the other hand, in business perspective, the development of wireless technology communication opens a new market opportunity. People will start to use mobile phones as their communication device, which means that there is a

market for the mobile phone industry. The mobile phone producer will create many manufacturers in order to fulfill the people's needs of the mobile phone. As a further development and also an impact of the increasing number of mobile phone devices, this will open a new market for mobile phone service providers. This is because a mobile phone device cannot operate by itself without a cellular card provided by a service provider. The relationship between the mobile phone device and mobile phone service provider is influencing each other. People only can use their mobile phone to communicate with other people only if they have inserted a SIM card produced by a certain service provider in their mobile phone devices.

As the number of mobile phone device consumers increases, this will also impact the number of mobile phone service provider. The increasing number of the mobile service provider's consumers has a positive relationship to the increasing number of mobile phone devices. Consumer who has an intention in using a mobile phone, will automatically use a mobile service provider or cellular card which he thinks the most suitable provider for him.

In Indonesia, there are more than five mobile service operators offer their consumer benefits, quality, and opportunities of using their products. All of them have been well-known held by big national and multinational company. Basically, the telecommunication industry in Indonesia is divided into two types of communication standard, which is Global System for Mobile Communication (GSM) and Code Division Multiple Access (CDMA). Telkomsel, Indosat, Axis, XL Axiata, and Hutchison 3 (Tri) are the main players in cellular

telecommunication industries in Indonesia, especially for GSM market. Smartfren Telecom, Sampoerna Telecom, Bakrie Telecom are the players in CDMA market, besides Telkom and Indosat which also offer CDMA service for their consumers with their products of Telkom Flexi and Indosat Starone.

Along with the development of technology, mobile phone industries now vary based on features, quality, price, and style. Consumers tend to become followers in case of choosing the mobile phone. The easiness way to have communication with others also becomes one consideration for consumers to choose the product they want. Blackberry is one of the newest mobile phones offering the easiness in delivering communication by Blackberry Messenger. Besides common services like Short Message Service (SMS) and voice call, Blackberry Messenger offers their consumers the fastest and easiest way to deliver message. Although it requires Personal Identification Number (PIN) in order to get access to connect with other Blackberry users, the demand of Blackberry is still high. As long as the users have the other user's PIN, then they can enjoy the feature of the Blackberry Messenger.

The relationship between Blackberry mobile phone and mobile service provider especially in GSM is almost similar with the other mobile phones in terms of price, product quality, promotion, and service. The difference only relies on the Blackberry service that is specially offered by the mobile service provider. It is also different in terms of price and promotion offered. Mobile service providers give different treatment for consumers who only prefer using their Blackberry devices for social networking service such as Blackberry Messenger,

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Twitter, Yahoo Messenger, Facebook, and also provide a push mail feature which allows the users to receive any emails on their device. There is another service given by the provider for social networking with an additional service which is browsing. Then, to fulfill the need of the consumers, the mobile service provider also provides a special service including all of packages starting from social networking, browsing, and special voice call and texts (SMS) tariffs.

Nowadays, there are many options for consumers in choosing mobile service providers. The producers of the mobile service provider have to differentiate their products from the other competitors' products. It is necessary for the company to gain more new consumers or in retention of old costumers. In order to gain new consumers, they need to be more active in selling activities, but in a case of the consumers' retention they need to maintain a good service quality so that the costumers will always be satisfied with the service offered.

Companies or mobile service provider producers need to make sure not only their product availability in the market, but also the price of the product, promotion activity toward the product, and also the supported service offered by the company. Consumers tend to look for the easier product they can have, cheaper price, good quality and good service quality for them. Consumers now become more sensitive in choosing the best product for them. The same thing happens to Blackberry users when choosing the mobile phone provider. Therefore, the producers of mobile service provider or cellular card compete with each other and offer special services for Blackberry users. This will automatically

make Blackberry users have more options in choosing their mobile service provider.

1.2. Problem Identification

Problem identification is related to the title of the research and focused on the factors which can drive the consumers in choosing or purchasing their mobile phone service providers, especially for Blackberry users. Choosing the best one among many options is not an easy decision to make. Many considerations might be occurred before consumers decided to buy a certain brand for their mobile service provider. Moreover, there is a special feature of Blackberry device such as Blackberry Messenger which allows the users to share information or data among Blackberry users. However, this feature can only be used when the consumers choose a certain package of Blackberry provided by the producers of the mobile service provider. As the more choices of the mobile service provider, the more confused the customers are to choose the most suitable mobile service provider for them.

Despite of many brands of mobile service providers or cellular cards that the consumers can use or decide to buy, this research will examine how the following factors affecting consumer perception in choosing mobile service provider for them. The factors include the service quality, price of the product, the product quality and availability, and also the promotion of the product. Based on the explanation above, the researcher tries to conduct a research about what factors

influence much Blackberry users toward their purchasing decision of the mobile service provider. The title of this research is The Influence of Service Quality, Price, Product Quality, and Promotion toward Consumer Perception in Purchasing Mobile Service Provider: Empirical Study on Blackberry Users.

1.3. Problem Formulation

In order to make the problem more specific and efficient, this research will focus on these points:

1. Does service quality influence the consumer perception as Blackberry users in purchasing mobile service provider?

2. Does price influence the consumer perception as Blackberry users in purchasing mobile service provider?

3. Does product quality influence the consumer perception as Blackberry users in purchasing mobile service provider?

4. Does promotion influence the consumer perception as Blackberry users in purchasing mobile service provider?

1.4. Problem Limitation

The researcher limits this research into:

1. This research is only addressed to Blackberry users without any specification of their mobile service provider brand.

2. The users of Blackberry have to be experienced with certain mobile service providers, and at least have an experience in purchasing and using certain mobile service providers.

3. The objects of this research are service quality, price, product quality, and promotion of the mobile service provider.

4. Respondents are differentiated based on demographic characteristics which is based on: gender, age, and personal income.

5. The place to conduct research is in all faculties at Universitas Islam Indonesia Yogyakarta

1.5. Research Objectives

The objectives of this research are:

1. To know what factors among service quality, price, product quality, and promotion which are more influencial for Blackberry users in purchasing their mobile service provider.

2. To develop a better understanding of such constructs as well as to explain their relationship and to conduct an exploratory investigation of this model.

1.6. Research Contribution

1. The researcher: The result of this research can make the researcher comprehend about theoretical knowledge taught in class and its implication to the research in real business.

2. The mobile service industry: The result of this research will make the producers know what factors are influencing Blackberry users as their consideration in purchasing their product. Moreover, this research can help the companies in improving their marketing activities.

3. Future researcher: The study will add the number of literature especially for marketing concentration. Hopefully, this study will be useful for future research on exploring factors of product attribute and consume purchasing decision.

1.7. Definition of Terms

    1. Consumer Perception

Consumer perception is a type of consumer behavior which represents the way how a consumer's point of view toward a product. As the company produces many products in order to give consumer options and to give them better quality based on their interest, the company still needs to make the product which nearly matches with consumer perception. Consumer perception toward a product will affect the next step of consumer behavior; moreover it could affect their intention to purchase a product. If they see that certain products do not match with their perception then they might be not decide to buy the product. The perception therefore is an important factor for a company to know what their consumers need and looks for are toward the products they provide.

2. Service Quality

Service quality is a measurement of one's expectation with the performance. Service quality is also a tool to measure how well a delivered service matches customer's expectations. It is an important value for the company in order to achieve costumers' satisfaction. Customer satisfaction is also an important factor for a company to survive. Company must have their own value which makes them different from other companies who produce the same products. Therefore, since customers' satisfaction is a leading factor for a company to survive, maintaining their satisfaction is a matter. The service quality of the company should be matched and improved so that it could give significant contributions in differentiation, positioning, and competing strategy for each company.

3. Price

Price is the value of the product or service provided by the company. Price is the first thing that consumers see about the product and the value or even the quality it brought. Price represents the value and quality of the product and it is important for consumers to give them information about the amount of money they will spend. Moreover, for the company price could also affect the satisfaction and loyalty of the customers which will give impact on company existence in business.

4. Product Quality

Product quality is the other measurement for consumers in the way they see or value the product. If a product could give satisfaction with its quality or service

brought, which is quality measurement may differ for each consumer, then it can be said that the product has a good quality. Consumers will keep going to use the product or service whenever they need it. Then, as the impact of providing a good product quality, consumer satisfaction will be increased and it means the company already has a good positioning in the market. Therefore, providing a clear differentiation of its product, and maintaining the service means the company succeeds in delivering the quality value of their product to the consumers.

5. Promotion

Promotion is a tool for a company to make consumers aware of their products. Promotion can be executed in many ways, such as advertising, direct selling, direct marketing, telemarketing, or public relation activity. The main purpose of doing promotion for a company is to create consumer awareness, interest, desire, and action to purchase the product produced by a company. Promotion is a way for a company to announce or to publicize to consumers about the product they produced. It can also become a strategy to attract consumers such as by giving a discount or premium if they buy certain products. Recently, many companies use this kind of promotion activity in order to have a consumer basis and improve the customers' satisfaction.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1. Theoretical Review

1. Consumer Perception

Consumer perception is one realization of consumer behavior, as it is known if consumer has many types of consideration or points of view toward a product or service provided by a company (Lee, 2009). Since consumers have many considerations when they decide to buy certain products or services, it is important for them to get information as much as possible besides their own knowledge or interest toward the product (De Pelsmacker & Janssens, 2006).

Consumers have expectations which it lead to their perception toward a product. Then, until a certain period of time using the products it will lead to satisfaction (Lee, 2009). According to the result of previous research conducted by Lee, it is important for a company to determine consumers' expectation in order to have appropriate perceptions toward the product or service offered to the consumers. In addition, it is important for a company to convince the consumer with continued communication because behavioral intentions is created based on the communication relationship that the company brings to consumers (Khan, Kadir, & Wahab, 2010).

2. Service Quality

Service quality involves comparisons of expectation with the performance. It delivers the value that a company brings to the consumers. Service has strong correlation with satisfaction and loyalty from customer perspective (Haque, Rahman, & Rahman, 2010). A company, with the offered product to its customer, needs to measure its service along with the quality they have. Therefore, there are some measurements that a company should have in order to build consumer perceived image well (Aburoub, Hersh, & Aladwan, 2011). Gupta (2011) stated that it is hard for a company to examine and assess the service quality moreover for a service company. However, in order to measure the capability of the company to provide their services to the consumer, service quality must be improved and maintained well.

It can be improved and maintained based on several things inside the company. Khan (2010) used tangible, reliability, assurance, empathy, responsiveness, and network quality and convenience as the measurements. There are also other measurements of service quality. Haque, Rahman, and Rahman, (2010) pointed tangibles, reliability, responsiveness, assurance, and empathy. The importance of keeping consumers satisfy with the product is by maintaining service quality the company offers (Tung, 2010). Therefore, it is important for the company to have quality management so that they can evaluate consumer satisfaction toward their product (Krivobokova, 2009).

Since the changing of marketplace is now becoming very competitive, it is important to measure the quality that a company has (Krivobokova, 2009). Leisen and Vance (2001) stated that service quality is necessary as a competitive advantage by being an effective differentiation factor. Besides, according to Barney (1991), service quality is the competitive advantage to existing or potential competitors. Therefore, it is very important for companies especially mobile phone operators to get stronger position in the competitive changing market environment (Khan, 2010).

3. Price

Price is the value of a quality or service provided by the company. It also has an important factor in driving customer satisfaction and loyalty in mobile communication (Tripathi & Siddiqui, 2010). There are many considerations of consumer perspective toward a price of a product. The most important thing is about information of a given price to a certain product or service provided by a company and the other companies which have the same product or service provided toward its price (Diaz & Cataluna, 2011).

Estelami (2008) stated that price is the relationship of consumers' knowledge about price and advertising of a service provider company. Also, it gives insight of price quality rather than product features complexity. Price is one of company strategies especially a vertical differentiation strategy and is often placed as a common strategy (Draganska & Jain, 2003).

Price for a telecommunication market especially in mobile service provider company has an important role (Kollmann, 2000). According to Grewal & Marmorstein (1994), there are many considerations from consumers before deciding to buy certain products, such as the psychological aspect of the product. Moreover, consumers build their perceptions of a product based on the price stated for the products or service provided from the company. Surely, price is an important factor in consumers' point of view and it affects consumer behavior toward a certain product or service whether it affects positively or negatively (Haque, Rahman, & Rahman, 2010).

Since price in consumers' point of view is an important factor to measure, then any kind of reference of price is also important. There are two types of price reference which are internal and external price references, where external reference refers to external environment or consumer's source of information and internal reference of price is from the environment that the company creates (Niedrich, Sharma, & Wedell, 2001).

4. Product Quality

Product quality is another important factor in consumers' perspective in the way they decide to purchase a product (Haque, Rahman, & Rahman, 2010). Consumer usually takes external reference of certain product they would like to buy and this means that their feeling or their mood is easily influenced by their environment before deciding to purchase a product (De Pelsmacker & Janssens, 2006).

According to Archibald, et al. (1983) in Haque, Rahman, and Rahman research (2010), a product quality from consumer perspective is associated with the capacity of a product in satisfying consumers' needs. There are many factors that can influence consumer perception in defining the product quality. According to Wells, Valacich, & Hess (2011), there are attributes of the products that can convey consumers about the product quality, such as written on the product features, picture, virtual product experiences, and security. Consumer defines a quality of a product by the attributes it has since it gives consumers first impression toward the product or services offered by the company (Venkatesakumar, Ramakumar, & Thillalirajan, 2008). Hence, it is necessary for the telecommunication service providers to effectively communicate with the consumers for measuring the quality (Haque, Rahman, & Rahman, 2010).

5. Promotion

Promotion is a tool for a company to communicate with their consumers toward their products or service offered (Haque, Rahman, & Rahman, 2010). Consumers are more interested when there are some information they can get by any promotional activities executed by the company such as advertising for a certain product offered to them (Liu, 2002). The objective of promotional activities is to create direct impact on purchasing behavior and consumer perception of the service provider offered by the company (Haque, Rahman, & Rahman, 2010).

Promotion as a part of marketing mix activities can support positively consumer behavior toward a product or services provided by the company, besides it is also one way for the company to increase short-term sales and get more revenue (Lin & Lin, 2009). On the other hand, promotion can also lead to consumer disappointment in case when they miss their opportunity when the company offers a promotion for products or services (Chen, Tsai, & Chuang, 2010). Since the fundamental purpose of promotion is related to the price of the products or services offered by the company, consumers face with an option that they will have variety of considerations when they look at the price (Lin & Lin, 2009).

Promotion activities can also be executed through several ways, and one of the ways to gain quick and effective promotion activities is by doing a promotion to a certain group (Huili & Chunfang, 2011). The promotion activity executed for a certain group will make a company maintain the cost of promotion efficiently. Besides, it is easier to measure the increasing sales that can increase the company's revenue (Bratina, 2011).

2.2. Hypotheses Formulation

1. Service quality

Service quality involves comparisons of expectation with the performance. It delivers the value that a company brings to the consumers. Service has strong correlation with satisfaction and loyalty from customer perspective (Haque,

Rahman & Rahman, 2010). On the other hand, as a company with the offered product to its customer, the company needs to measure the terms of service along with the quality they have (Aburoub, Hersh, & Aladwan, 2011). According to Aburoub, Hersh, and Aladwan's (2011) research, a company needs to determine a standard of specification when they start to put quality as their goals. Service has a significant influence on mobile service provider industries since it is the only way how the customer can get the value offered by the company. This means that there is a strong relationship between customers and the company as the service provider (Tung, 2010). Sometimes, service can also be defined differently by people. It can be based on lifestyle, buying capacity, demand, taste, and also the other companies which bring differentiation strategies (Haque, Rahman, & Rahman, 2010). Therefore, based on the expected service quality delivered by a company, it tends to have a significant influence on the consumer perception when choosing their mobile phone provider. The following hypothesis is presented as:

H1: Service quality positively influences the consumer perception in choosing a mobile phone service provider

2. Price

Price is the value of a quality or service provided from a company. It also has an important factor in driving customer satisfaction and loyalty in mobile communication (Tripathi & Siddiqui, 2010). Price or tariff charge of the mobile service can make service quality not the sole variable although another following

factor is important such as the service quality. According to Grewal & Marmorstein (1994), there are many considerations from consumers before deciding to buy certain products, such as the psychological aspect of the product. Consumers build their perception of a product based on the price stated for the products or service provided by the company. Kollman (2000) stated that the basic commercial success for mobile service providers is the income of call minutes. He also added that the success of the company position largely depends on continuing usage and pricing policies which have to be considered on several levels.

H2: Price positively influences the consumer perception in choosing a mobile phone service provider

3. Product Quality

Mobile service provider is categorized as the service business or in the other word the products offered is intangible. According to Tripathi and Siddiqui (2010) it is more difficult for consumers in making a decision toward intangible products because it is more risky than tangible products. Consumer perception toward a product quality is an important factor for a company since it is related to the purchasing decision (Haque, Rahman, & Rahman, 2010). The quality of a product is also related to the product's availability which is related to the functional features of the product itself.

According to Sjolander (1992), consumers now are in a modern market which is different from the theoretical case of consumer decision making in free markets.

In free markets, buyers and sellers can collect perfect information about all possible products, utility, performance, prices, even their budget ability for the product (Sjolander, 1992). However, now consumers regularly face the task of estimating product quality under conditions of imperfect knowledge about the attribute of the product itself. The researcher also added that the better a product quality, the more utility of the product, and finally the higher the price is offered too. Quality reflects the extent to which a product or services meets consumers' perception (Wal, et al. 2002). Therefore, the success of telecommunication sector in the market significantly depends on product quality.

H3: Product quality positively influences the consumer perception in choosing a mobile phone service provider

4. Promotion

Kotler, et al. (1999) stated that promotion is the activities when a company communicates about their product or service and its competitive advantage to target customers and persuade them to buy. Promotion is the tool for company to communicate with their consumer toward their products or their service offered (Haque, Rahman, & Rahman, 2010). The objectives of promotional strategy according to Rowley (1998) are to increase sales, maintain or improve market shares, improve brand recognition, create favorable climate for future sales, inform and educate the market, create a competitive advantage relative to competitor product or market position, and improve promotional efficiency.

Consumers are more interested when there are some information they can get by any promotional activities executed by a company such as advertising for the product offered to them (Liu, 2002). Since the objective of promotional activities is to create direct impact on purchasing behavior and consumer perception of service provider offered by the company, a company has to create its promotional activities which can directly attract consumers to the products or services offered (Haque, Rahman, & Rahman, 2010).

H4: Promotion positively influences the consumer perception in choosing a mobile phone service provider.

2.3.Theoretical Framework

This research aims to investigate the relationship between service quality, price, product quality, and promotion toward consumer perception in purchasing mobile service provider. There are many considerations in consumers' point of view regarding their purchasing decision, especially for Blackberry users because it has a special feature in their devices. In a marketer's perspective, this needs to be fulfilled in order to create satisfaction even the customer will be charged more than non Blackberry users. Therefore, the researcher builds a conceptual framework adopting the framework from Haque, Rahman, and Rahman (2010) which consists of Service Quality, Price, Product Quality, and Promotion that positively affect consumer perception in their purchasing decision.

Figure 2.1

The Relationship between Service Quality, Price, Product Quality, and

Promotion toward Consumer Perception
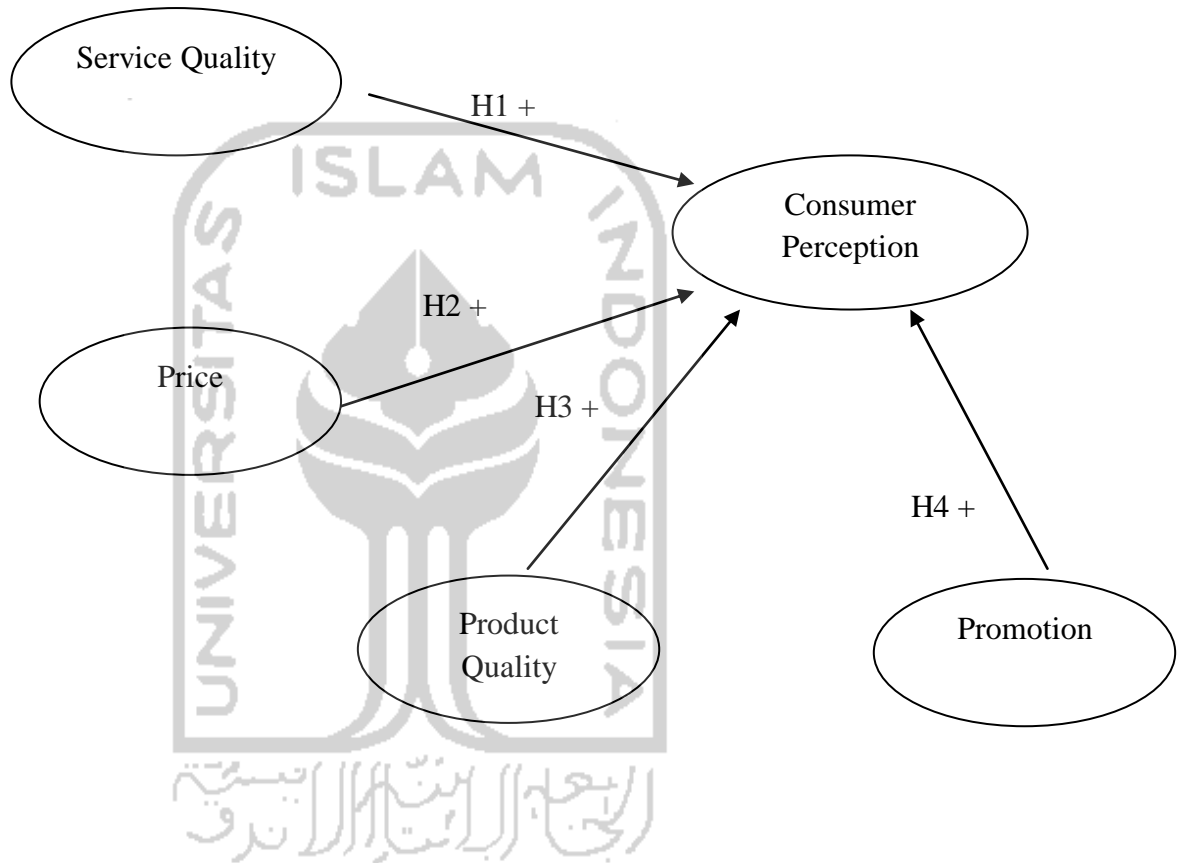
CHAPTER III

RESEARCH METHOD

3.1. Research Method

The type of study in this research is an empirical research. The researcher employs quantitative and qualitative research. The method used in this research is a survey method by using questionnaires with itemized rating scale to assess data.

3.2. Research Subject

3.2.1. Population

In this study, the population is Blackberry consumers in Universitas Islam Indonesia. Due to the limitation of time, this study uses a non-probability and convenience sampling method. The non-probability sampling is a sampling design in which the elements in the population have not known yet that they will be selected as sample subjects (Sekaran, 2000). Convenience sampling is a non-probability sampling design by which information and data for the research are gained from members of the population who are conveniently accessible to the researcher (Sekaran, 2000).

3.2.2. Sample

The sample of this study is students of Universitas Islam Indonesia who use Blackberry as their mobile phone and have experiences in using a mobile service provider. Subjects were also asked to assess the item on different constructs such as factors viewed as antecedents of service quality, price, product quality, and promotion in terms of their perception before they decided to buy a mobile service provider.

3.3. Research Setting

The research is located in Daerah Istimewa Yogyakarta specifically in Universitas Islam Indonesia including all faculties. An empirical study was conducted on February – March 2012 among the students in all faculties at Universitas Islam Indonesia who are using Blackberry as their mobile phone.

The background in choosing Universitas Islam Indonesia is because the students in this university are varied and represent the consumers of the mobile service provider. Besides, there are many Blackberry users at Universitas Islam Indonesia, and they even have Blackberry Messenger group which is based on their department or entry year.

3.4. Research Instrument

3.4.1. Data Collection Method

The data that is used in this research is primary data. The primary data is information that have not been collected and summarized and it has to be collected by the researcher.

3.4.1.1. Primary Data

The type of data that will be used in this research is primary data. The primary data is the data collected directly from the research object by using certain measurement directly from the subject of the research as the source of information.

The research instrument that will be used to collect the data for this research is the distribution of questionnaire directly to mobile service provider consumers with Blackberry device as their mobile phone. The questionnaire used to collect data from respondents consists of 21 questions. To ensure respondents' understanding of questions, the questionnaire was given in Indonesian language. The questionnaire consists of five parts. All the five parts relate to service quality, price, product quality, and promotion as the independent variables and consumer perception as dependent variable.

- Service quality consists of five questions

- Price consists of four questions

- Product quality consists of four questions

- Promotion consists of four questions

- Consumer perception consists of four questions

The questionnaire was distributed to respondents who considered themselves as the consumers of mobile service provider or have ever been using mobile service provider with Blackberry as the device or mobile phone. Furthermore, a pre-test was constructed prior the distribution of the questionnaire. The pre-test is aimed to identify the respondents' difficulty in understanding the statements and questions in the questionnaire.

The type of scale used in this research questionnaire is Likert interval scale with the score of 1 to 5 with descriptions as follows:

1 = Strongly disagree

2 = Disagree

3 = Neither agree/nor disagree

4 = Agree

5 = Strongly Agree

3.5. Research Variables and Operational

3.5.1. Independent Variables

This research is conducted with independent variables which are service quality, price, product quality, and promotion and one dependent variable which is

consumer perception. An independent variable is a variable that influences the dependent variable in either a positive or a negative direction (Sekaran, 2000). The independent variables analyzed in this study are derived from the previous study conducted by Haque, Rahman, and Mahbubur Rahman (2010)

1. Service quality

Service quality is an important factor for a company in order to get satisfaction and loyalty from consumers (Haque, Rahman, & Rahman, 2010). It is also one way for a company to provide product quality to match with consumers' expectation. Besides, the service quality is also one factor which creates company's differentiation of the same products produced by the other companies. The indicators used for the service quality in this research are:

- Tangibility, means the physical evidence of the service provided by the company such as its employee's capability, technology offered, and physical appearance.

- Reliability, means the ability of the company in delivering services as offered.

- Responsiveness, means the ability of their service toward consumers by giving prompt responses.

- Assurance, refers to the knowledge and abilities in creating trust and convincing consumers.

- Empathy, refers to the company's ability in giving attention to each consumer.

2. Price

   Price is another factor used by consumers to measure the products quality

or services that they will get by purchasing a certain product or service. It is a

kind of reference for consumers before they decide to buy a product.

Moreover, now among telecommunication companies, the competition of

price is very tight (Haque, Rahman, & Rahman, 2010). Therefore, as a

company, it is necessary to have a good relationship with consumers so that

price can become one way for the company to communicate to the consumers

about their value or service through the offered price.

The indicators of price used in this research are:

- Satisfactory price charge

- The impact of the price

- The services which are desirable than price

- The vital role of the price

3. Product quality

   In consumers' point of view, product quality is as important as service

quality offered by the company. Meanwhile, product quality is about the

capacity of a product matching with consumer needs (Haque, Rahman, &

Rahman, 2010). Therefore, a company needs to realize this variable in order to

maintain consumer satisfaction for their product. The indicators used for

product quality is:

- Product outlet availability

- Product outlets which are hardly reachable

- Product offering the best solution to fulfill the needs

- Product offering the best technology

4. Promotion

Promotion is another tool for a company to communicate with their consumers. It is one of marketing communication tools purposed to make a relationship with their consumers. Through promotion activities, consumers will know about the product specification or service they will get. When a company does a promotion activity of their product, then consumers will find that it is easier for them to get information about the product. By doing the promotion not only about the product will be announced, but also about the service they delivered. Therefore, it is important for a company to do promotion activities. The indicators used for promotion are:

- Attractiveness of promotional offers

- Promotional offers are not attractive

- Real needs more than promotional offers

- Considering services at the same time when promotional offers

3.5.2. Dependent Variables

A dependent variable is the primary interest variable of the researcher (Sekaran, 2000). The dependent variable analyzed in this study is consumers'

perception derived from the previous study conducted by Haque, Sabbir Rahman, and Mahbubur Rahman (2010).

1. Consumer perception

Consumer perception in this research is one type of consumer behavior which represents consumers' point of view before they decide to purchase a certain products or services that they will use. Perception can be based on many references, and the results can be positive or negative perception about a product. Therefore, in order to create a positive perception of products or services, a company has to measure the consumer perception to create the relationship value to its consumers.

The measurements of consumer perception in this research are:

- Service quality positively influences the consumer perception in their buying decision

- Price positively influences the consumer perception in their buying decision

- Product quality positively influences the consumer perception in their buying decision

- Promotion positively influences the consumer perception in their buying decision

3.6. Technique of Data Analysis

In this research, the data analysis and the hypothesis testing used is Structural Equation Modeling (SEM). The data will be collected from existing customers who had previously used mobile telecommunication services at least for a day. In order to minimize bias results, the identity of respondents is also provided, and in this research also screens for errors, incomplete and missing responses.

In addition, AMOS software analysis has been used to carry out the investigation of the relationship among the variables which can influence the consumer perception choice in purchasing or selecting a certain mobile telecommunication service provider. There are several steps in the SEM analysis, which are:

1. **Model Development Based on Theory**

   SEM is based on causality relationship, when one variable changes it is assumed as a result of other variables changes. Strong causality relationship between two variables assumed by the researcher is not because of the analysis method chosen, but theoretical justification to support the analysis (Ghozali, 2004).

2. **Path Diagram and Structural Equation**

   According to Ghozali (2004), there are two important things arranging the structural model by correlating latent construct (endogenous and exogenous) with indicator variable (manifest variable).

3. Choosing Input Matrix and Estimation Model

SEM is different from other multivariate analysis techniques because SEM only uses data input that is variance/covariance matrix or correlation matrix. Rough data from the questionnaire is changed into variance/covariance matrix or correlation matrix so that the equation is also stated as *covariance structural analysis.*

The covariance matrix has more advantages than the correlation matrix in giving comparison validity between different population and different sample. The use of correlation is best suited if the researcher objectives are simply to understand the pattern of construct relationship, but do not describe the total variance of the construct (Ghozali, 2004).

4. Structural Equation Model (SEM) Identification

Identification problem is incapability of the proposed model to result the estimation model. To see the identification problem is by seeing the estimation result, which are: big value of *standard error* for one or more coefficients, incapability of program to invert *information matrix*, impossible estimation value (negative *error variance*), and high correlation (>0.90). If there is any identification problem so that there are 3 things that must be concerned, (1) coefficient number estimated toward its covariance or identified correlation with small values of *degree of freedom (df)*, (2) using reciprocal correlation among constructs, and (3) failures in determining fix value on construct scale (Ghozali, 2004).

5. **Goodness of Fit Criteria**

If *offending estimates* happen, which are are: negative variance *error* or *non-significant error variance* of construct, *standardized coefficient* is close to value of 1.0 and high standard error, the cause of offending *estimates* must be eliminated first. In the SEM analysis, there is no single statistical test tool to measure or test the model (Ghozali, 2004). *Fit index* and *cut off value* used to test whether the model can be accepted or not are listed below.

   a. *Absolute Fit Measure*

      1) *Likelihood Ratio Chi Square Statistics*

         An analytical tool to measure an overall fit is *likelihood ratio chi-square statistic* with a minimum sample of 100 respondents. The model which is tested will be considered good or satisfied if the *chi-square* (χ^2) value is small. Small value of χ^2 means that the model is good. ($\chi^2 = 0$ means that there is no differences, so H0 is accepted) based on the probability with the *cut off value of* $p > 0.05$ or $p > 0.10$ (Ghozali, 2004).

         Because this analysis objective is to develop and test a model which suits and *fit* based on the data so that it requires insignificant value of χ^2 that tests null hypothesis (*estimated*

population covariance is not equal than *sample covariance*). Value of χ^2 can be compared with *degree of freedom (df)* to get relative value of χ^2 and it is used to make a conclusion that high relative value of χ^2 means that there is a significant difference between covariance matrix observed and covariance matrix estimated.

Small value of χ^2 will result in a significant level which is more than 0.05 indicating that there is no significant difference between covariance matrix data and covariance matrix estimated (Ghozali, 2004).

2) *CMIN/DF (The Minimum Sample Discrepancy Function)*

The minimum sample discrepancy function (CMIN) divided by its *degree of freedom (df)* will result in CMIN/DF (generally, it is used by the researcher as an indicator to measure the model's fit level. CMIN/DF is also as *chi-square* statistics; χ^2 divided *by* its *degree of freedom (df)* is relative χ^2. Value of χ^2 is relatively less than 2.0 or even less than 3.0 as an indication of *acceptable fit* between model and data (Arbuckle, 1997 in Ghozali, 2004).

3) GFI (Goodness of Fit Index)

Fit Index can measure the proportion of variance in covariance matrix sample stated by estimated matrix covariance population (Ghozali, 2004). GIF is a non-statistical measurement tool having the value ranging from 0 (poor fit) until 1.0 (perfect fit). The higher the value in this index, the better fit it shows

4) RMSEA *(The Root Mean Square Error of Approxiamtion)*

RMSEA is an index that can be used to compensate *chi-square* statistics in a big sample. RMSEA value shows an expected *Goodness of Fit Index* if it is an estimated model in the population and the accepted value of RMSEA is between 0.05 to 0.08 (Ghozali, 2004).

b. Incremental Fit Measures

1) AGFI (Adjusted Goodness of Fit Index)

Ghozali (2004) stated that GFI was analogue or R^2 in multiple regressions. This *Fit Index* can be adjusted toward recommended available *degree of freedom (df)* ≥ 0.90 to test

whether the model can be accepted or not. The index can be

obtained from the equation below:

$$AGFI = 1 - (1 - GFI)\frac{d_b}{d}$$

Where:

d_b = *Sample moments; d = degree of freedom*

2) **TLI (Tucker Lewis Index)**

TLI is incremental fit index alternatives that compares

tested model toward baseline model (Baurgartner Homburg,

1996). The recommendation value as the base model is ≥ 0.90

and the value that is close to 1 shows a very good fit

(Ghozali, 2004). The index of TLI can be seen as follows:

$$TLI = \frac{\left(\frac{X^2_{null}}{df_{null}}\right) - \left(\frac{X^2_{proposed}}{d_{proposed}}\right)}{\left(\frac{X^2_{null}}{df_{null}}\right) - 1}$$

Or:

$$TLI = \frac{\frac{C_b}{d_b} - \frac{C}{d}}{\frac{C_b}{d_b} - 1}$$

Where C is discrepancy of the model that is evaluated and d is the degree of freedom, meanwhile C_b and d_b is discrepancy and *degrees of freedom* from the baseline model that have a comparison.

3) **NFI (Normed Fit Index)**

NFI is the measurement to compare between the *proposed model* and the *null model*. The value of NFI will be varied from 0 *(no fit at all)* until 1.0 *(perfect fit)*. Like TLI, there is no *absolute value* used as the standard, but generally recommended as equal or ≥ 0.90.

c. **Parsimonious Fit Measured**

1) **PNFI (Parsimonious Normal Fit Index)**

PNFI is the modification of NFI and it put the number of degree of freedom *(df)* in order to reach fit level. The use of PNFI is to compare the model with different degrees of freedom *(df)*.

*2) **PGFI (Parsimonious Goodness of Fit Index)***

PGFI modifies GFI based on parsimony estimated model. The value of PGFI is ranged between 0 - 1.0 and the higher value, the more parsimony the model is.

6. Model Interpretation

According to Ghozali (2004), a model is stated as acceptable, when it can be considered able to make a modification index to recover theoretical justification or goodness of fit. This modification must have a consideration. The modification model must be cross validated (estimated with separated data) before the modification model is accepted or it shows the value of absolute fit model from the default model, with a relatively big value of chi-square, which is showed by the significant probability level ($p < 0.05$) so that it requires a modification. A model can be stated as a good fit model if the probability level of chi-square is relatively smaller than significant probability level ($p > 0.05$).

CHAPTER IV

RESEARCH FINDINGS, DISCUSSION, AND IMPLICATIONS

4.1. Research Description

4.1.1. Overview of the Strategy Analysis

This research was conducted at Universitas Islam Indonesia in all faculties and it is aimed to answer the questions as mentioned in the previous chapter.

The first section discusses the descriptive analysis. It describes the respondents' demographic characteristics which includes gender, age, and personal income per month. The next section is a measurement model to determine whether the data is valid, reliable and meets the requirements of further analysis.

Quantity analysis used in this research is a Structural Equation Model (SEM) with AMOS program version 5.0. The Structural Equation Model was chosen to determine the model of the influence of service quality, price, product quality, and promotion toward the consumer perception in their buying decision.

4.1.2. Respondents Demographic Characteristics

This research was conducted at Universitas Islam Indonesia, D. I. Yogyakarta where there are many students in this university are consumers of mobile service providers and using Blackberry as their mobile phone. The purpose is to identify

the characteristics of mobile service provider consumers who also Blackberry users at Universitas Islam Indonesia. The distribution of the respondents' characteristics is described in the table as follows:

4.1.2.1. Respondents Gender

Based on the gender, there are two categories which are male and female. The data of the analysis result based on respondents' characteristics of gender are showed in the table 4.1

Table 4.1

The Distribution Frequencies of the Respondents' Gender

Gender	Frequency	Percentage
Male	74	49 %
Female	76	51 %
Total	**150**	**100 %**

Source: Primary Data (computed), 2012

The table 4.1 describes that the consumers of mobile service provider using Blackberry as their mobile phone at Universitas Islam Indonesia are mostly female (51%) and the rest are male (49%).

4.1.2.2. Respondents' Age

Based on the respondents' age, there are three groups: 15 – 19 years old; 20 – 24 years old and 25 – 30 years old. The results of the data analysis based on the respondents' characteristics of age are showed in the table 4.2.

Table 4.2

The Distribution Frequencies of the Respondents' Age

Age	Frequency	Percentage
15 – 19 years old	42	28 %
20 – 24 years old	103	68 %
25 – 30 years old	5	4 %
Total	**150**	**100 %**

Source: Primary Data (computed), 2012

The table 4.2 describes that the consumers' age of mobile service provider using Blackberry as their mobile phone at Universitas Islam Indonesia are mostly 20 to 24 years old (68%) with the characteristics that consumers from this age is young people and productive age.

4.1.2.3. Respondents' Personal Income per Month

Based on the respondents' personal income, there are five categories of consumers. Consumers with < Rp.500.000; Rp.500.000 – Rp. 999.000; Rp. 1.000.000 – Rp. 1.499.000; Rp. 1.500.000 – Rp. 2.000.000 and > Rp. 2.000.000. The results of the data analysis based on the respondents' characteristics of age are showed in the table 4.3.

Table 4.3

The Distribution Frequencies of the Respondents' Personal Income per

Month

Personal Income per Month	Frequency	Percentage
< Rp. 500.000	12	8 %
Rp. 500.000 – Rp. 999.000	56	38 %
Rp. 1.000.000 – Rp. 1.499.000	51	34 %
Rp. 1.500.000 – Rp. 2.000.000	20	13 %
>Rp. 2.000.000	11	7 %
Total	**150**	**100 %**

Source: Primary Data (computed), 2012

4.1.3. Measurement Model

Measurement model in this research is used to know unobserved variables that can be measured by each observed variable construct, by using *Confirmatory Factor Analysis* (CFA) or known as a factor analysis. If the value of factor loading from each construct is more than 0.5 ($\lambda > 0.5$) it can be stated as reliable and significance rate of 5% ($p < 0.05$), it can be stated as valid or unobserved variable can be measured by using each observed variable construct (Hair, et al., 1992).

4.1.3.1. Service Quality Construct

Service quality construct *(unobserved/latent variable)* is measured by using an indicator *(observed/manifest variable)*. There are five questions in the questionnaire, and the result of *confirmatory factor analysis* (CFA) is:
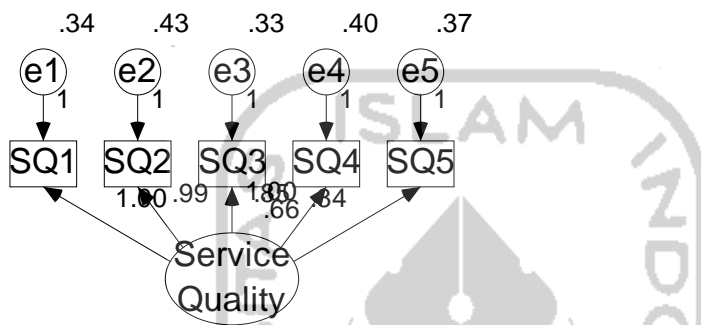
Figure 4.1 Confirmatory Factor Analysis (CFA) of Service Quality

Table 4.4

Measurement of Service Quality Construct

Regression Weights: (Group number 1 – Default model)

	Estimate	S.E.	C.R.	P	Label
SQ1 <--- Service_Quality	1.000				
SQ2 <--- Service_Quality	.991	.097	10.174	***	
SQ3 <--- Service_Quality	1.003	.092	10.887	***	
SQ4 <--- Service_Quality	.854	.089	9.573	***	
SQ5 <--- Service_Quality	.838	.086	9.707	***	

The result of confirmatory factor analysis (CFA) leads to the value for each construct (loading factor or λ):

$$SQ = \lambda_1 \, SQ.1 + \lambda_2 \, SQ.2 + \lambda_3 \, SQ.3 + \lambda_4 \, SQ.4 + \lambda_5 \, SQ.5$$

$$SQ = 1.000 \, SQ.1 + 0.991 \, SQ.2 + 1.003 \, SQ.3 + 0.854 \, SQ.4 + 0.838 \, SQ.5$$

The equation above shows that the service quality is influenced dominantly by the capability of the employee in delivering service toward their consumers (SQ3 = 1.003).

4.1.3.2. Price Construct

The data of price construct are determined by using four indicators (observed/manifest variable). There were four questions in the questionnaire, and the result of *confirmatory factor analysis* (CFA) is
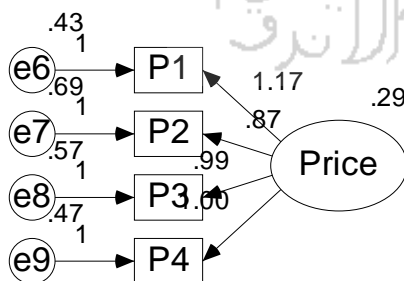
Figure 4.2 Confirmatory Factor Analysis (CFA) of Price

Table 4.5

Measurement of Price Construct

Regression Weights: (Group number 1 – Default model)

	Estimate	S.E.	C.R.	P	Label
P4 <--- Price	1.000				
P3 <--- Price	.990	.205	4.820	***	
P2 <--- Price	.867	.200	4.343	***	
P1 <--- Price	1.166	.231	5.038	***	

The result of confirmatory factor analysis (CFA) leads to the value for each construct (loading factor or λ):

$$P = \lambda_1 P1 + \lambda_2 P2 + \lambda_3 P3 + \lambda_4 P4$$

$$P = 1.166 \, P1 + 0.867 \, P2 + 0.990 \, P3 + 1.000 \, P4$$

The equation above shows that the price is influenced dominantly by the affordable price offered to the consumers (P1 = 1.166).

4.1.3.3. Product Quality Construct

The data of product quality construct are determined by using four indicators (observed/manifest variable). There were four questions in the questionnaire, and the result of *confirmatory factor analysis* (CFA) is
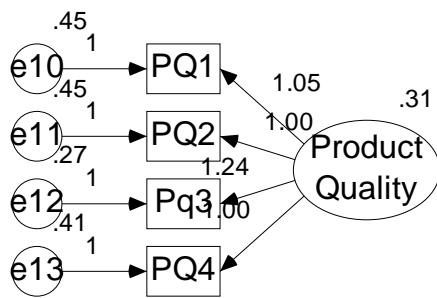
Figure 4.3 Confirmatory Factor Analysis of Product Quality

Table 4.6

Measurement of Product Quality Construct

Regression Weights: (Group number 1 – Default model)

			Estimate	S.E.	C.R.	P	Label
PQ4	<---	Product_Quality	1.000				
PQ3	<---	Product_Quality	1.236	.181	6.836	***	
PQ2	<---	Product_Quality	.999	.163	6.140	***	
PQ1	<---	Product_Quality	1.051	.167	6.287	***	

The result of confirmatory factor analysis (CFA) leads to the value for each construct (loading factor or λ):

$$PQ = \lambda_1 \, PQ1 + \lambda_2 \, PQ2 + \lambda_3 \, PQ3 + \lambda_4 \, PQ4$$

$$PQ = 1.051 \, PQ1 + 0.999 \, PQ2 + 1.236 \, PQ3 + 1.000 \, PQ4$$

The equation above shows that the product quality is influenced dominantly by the best solution to communication offered by the mobile service provider to the consumers (P3 = 1.236).

4.1.3.4. Promotion Construct

The data of promotion construct are determined by using four indicators (observed/manifest variable). There are four questions in the questionnaire, and the result of *confirmatory factor analysis* (CFA) is
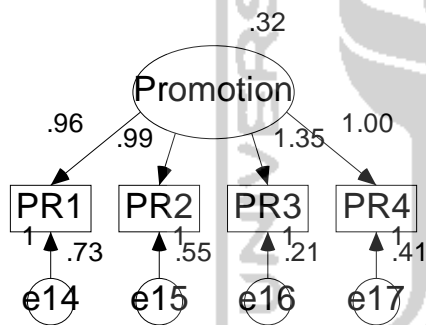
Figure 4.4 Confirmatory Factor Analysis of Promotion

Table 4.7

Measurement of Promotion Construct

Regression Weights: (Group number 1 – Default model)

	Estimate	S.E.	C.R.	P	Label
PR4 <--- Promotion	1.000				
PR3 <--- Promotion	1.351	.197	6.860	***	
PR2 <--- Promotion	.993	.161	6.149	***	
PR1 <--- Promotion	.960	.173	5.560	***	

The result of confirmatory factor analysis (CFA) leads to the value for each construct (loading factor or λ):

$$PR = \lambda_1\, PR1 + \lambda_2\, PR2 + \lambda_3\, PR3 + \lambda_4\, PR4$$

$$PR = 0.960\, PR1 + 0.993\, PR2 + 1.351\, PR3 + 1.000\, PR4$$

The equation above shows that the promotion is influenced dominantly by the real need of consumers, not only because of promotional offers (PR3 = 1.351)

4.1.3.5. Consumer Perception Construct

The data of consumer perception construct are determined by using four indicators (observed/manifest variable). There are four questions in the questionnaire, and the result of *confirmatory factor analysis* (CFA) is
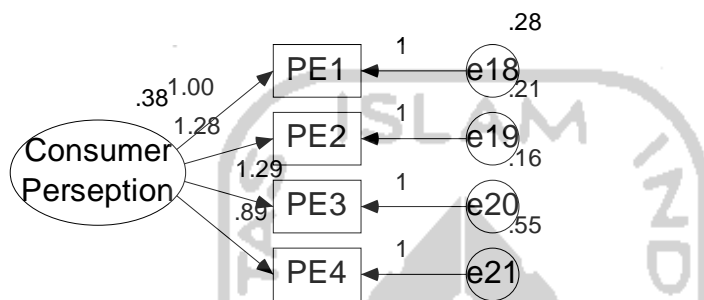
Figure 4.5 Confirmatory Factor Analysis of Consumer Perception

Table 4.8

Measurement of Consumer Perception Construct

Regression Weights: (Group number 1 – Default model)

	Estimate	S.E.	C.R.	P	Label
PE1 <--- Consumer_Perception	1.000				
PE2 <--- Consumer_Perception	1.280	.121	10.557	***	
PE3 <--- Consumer_Perception	1.287	.120	10.754	***	
PE4 <--- Consumer_Perception	.889	.126	7.063	***	

The result of confirmatory factor analysis (CFA) leads to the value for each construct (loading factor or λ):

PE = λ_1 PE.1 + λ_2 PE.2 + λ_3 PE.3 + λ_4 PE.4

PE = 1.000 PE.1 + 1.280 PE.2 + 1.287 PE.3 + 0.889 PE.4

The equation above shows that the consumer perception is influenced dominantly by the option that the consumer perception is influenced much by product quality.

4.1.4. Goodness of Fit Model

In order to know good criteria of model *(Goodness of Fit),* it uses: *Absolute Fit Measured, Incremental Fit Measured* and *Parsimonious Fit Measured*. The result of the measure based on *Absolute Fit Measured, Incremental Fit Measured* and *Parsimonious Fit Measured* is as follows:
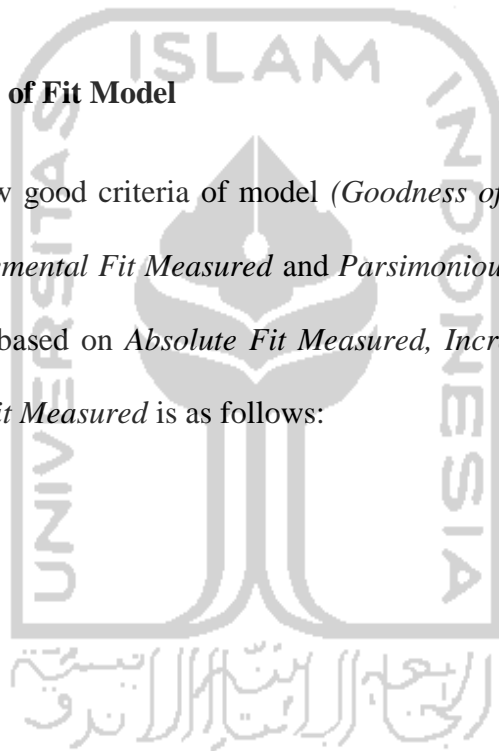
Figure 4.6

Measurement of *Absolute Fit Measured, Incremental Fit Measured*, and

***Parsimony Fit Measured* before modification Indices**

Goodness of Fit
Chi Square=334.377
Probability=.000
Dmin/DF=1.868
GFI=.826
AGFI=.775
TLI=.884
NFI=.812
CFI=.901
RMSEA=.076
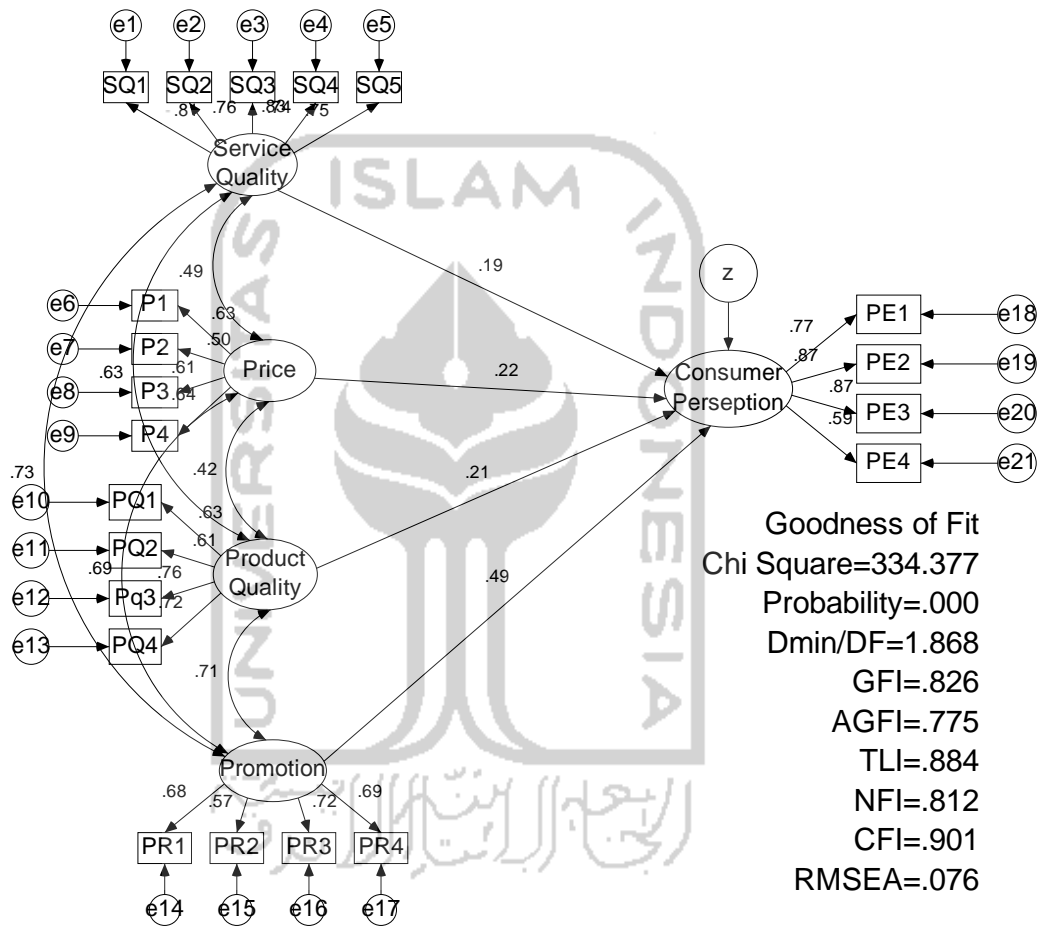
The analysis results obtained are as follows:

Table 4.9

Goodness of Fit Index **before Modification Indices**

Goodness of Fit Index	Result	Cut Off Value	Model Evaluation
Absolute Fit Measured			
Likelihood Chi Square	334.377	< 211.217	Marginal
CMIN/DF	1.868	≤ 2.00	Good
GFI	0.826	≥ 0.90	Marginal
RMSEA	0.076	≤ 0.08	Good
Incremental Fit Measured			
AGFI	0.775	≥ 0.90	Marginal
TLI	0.884	≥ 0.90	Marginal
NFI	0.812	≥ 0.90	Marginal
Parsimonious Fit Measured			
PNFI	0.692	$0.60 - 0.90$	Good
PGFI	0.640	$0.50 - 1.00$	Good

From the measurements result of *Goodness Fit Index* above, it can be seen that the number of *Absolute Fit Measured* which is measured by *Likelihood Chi Square*, *GFI*, and *RMSEA* has not reached each cut off value except for *CMIN/DF*. From the *Incremental Fit Measured*, which is measured by *AGFI, TLI*, and *NFI,* the value has not reached its cut off value. The results from *Parsimonious Fit Measured*, which can be seen from *PNFI* and *PGFI,* both have reached its cut off value. The table 4.10 shows the whole estimation model.

Table 4.10

***Result (Default Model)* before Modification**

Summary	Value
Chi-Square	334.377
Degrees of freedom	179
Probability level	0.000

The table 4.10 shows that the probability level is significant = 0.000 (p < 0.05). It shows that there is a deviation between sample covariance matrix and *model (fitted) covariance matrix*. In order to be a good model, the value of *chi-square* should have insignificant probability level (p > 0.05) to get better expected value of *Goodness Fit Index*. It is required to do a model revision by making a *modification index* to revise the model by increasing the parameter number. As a result, the value of *Chi-square statistics* will decrease rapidly compared to the decrease of *degree of freedom* (df). The modification indices according to value showed in the table 4.11 is as follows:

Table 4.11

Modification Indices* by using *Covariance

	M.I.	Par Change
e12 <--> Service_Quality	4.964	-.075
e13 <--> Service_Quality	10.563	.111

	M.I.	Par Change
e13 <--> e10	8.126	-.108
e19 <--> e11	6.255	-.074
e19 <--> e13	10.153	.084
e19 <--> e21	5.997	.076
e18 <--> Product_Quality	4.346	.051
e18 <--> e10	10.625	.106
e18 <--> e11	16.734	.133
e18 <--> e13	13.043	-.104
e18 <--> e21	4.125	-.069
e14 <--> e12	4.315	-.084
e14 <--> e21	11.787	.167
e14 <--> e19	7.071	.085
e14 <--> e18	7.217	-.094
e15 <--> Product_Quality	4.486	-.074
e16 <--> e12	9.888	.109
e16 <--> e21	9.835	-.130
e16 <--> e15	8.898	.127
e17 <--> e18	4.946	.065
e6 <--> e21	11.233	.160
e6 <--> e14	15.006	.191
e9 <--> e21	5.160	-.103
e4 <--> e21	5.344	.097
e3 <--> e7	4.007	-.088
e3 <--> e4	10.992	-.113
e2 <--> e4	9.768	.125

	M.I.	Par Change
e1 <--> e10	6.621	.101
e1 <--> e11	5.827	-.094

Modification indices can only be done based on *measurement error covariance* value assumed by 0 (zero) because modification with *measurement error covariance* does not need to do theoretical justification. On the other hand, modification indices based on *measurement regression* weight must be supported by theories (Ghozali, 2005). The result of the modification index can be seen in the figure 4.7 and table 4.12.
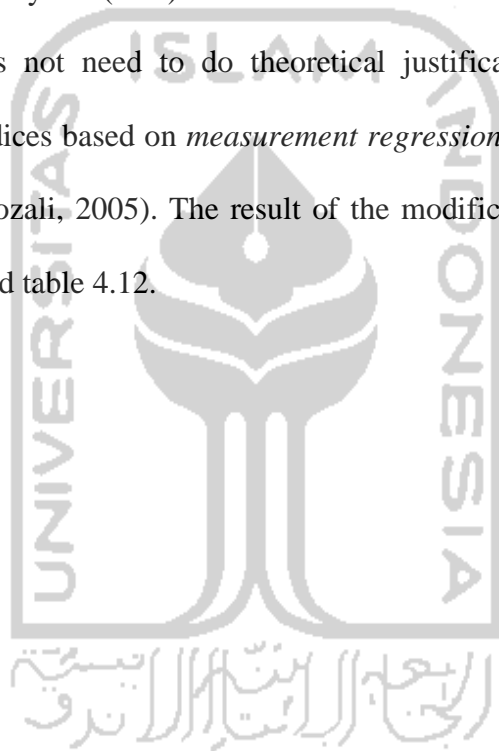
Figure 4.7

Measurement of *Absolute Fit Measured, Incremental Fit Measured*, and

***Parsimony Fit Measured* after modification indices**

Goodness of Fit
Chi Square=147.239
Probability=.680
Dmin/DF=.944
GFI=.916
AGFI=.876
TLI=1.008
NFI=.917
CFI=1.000
RMSEA=.000
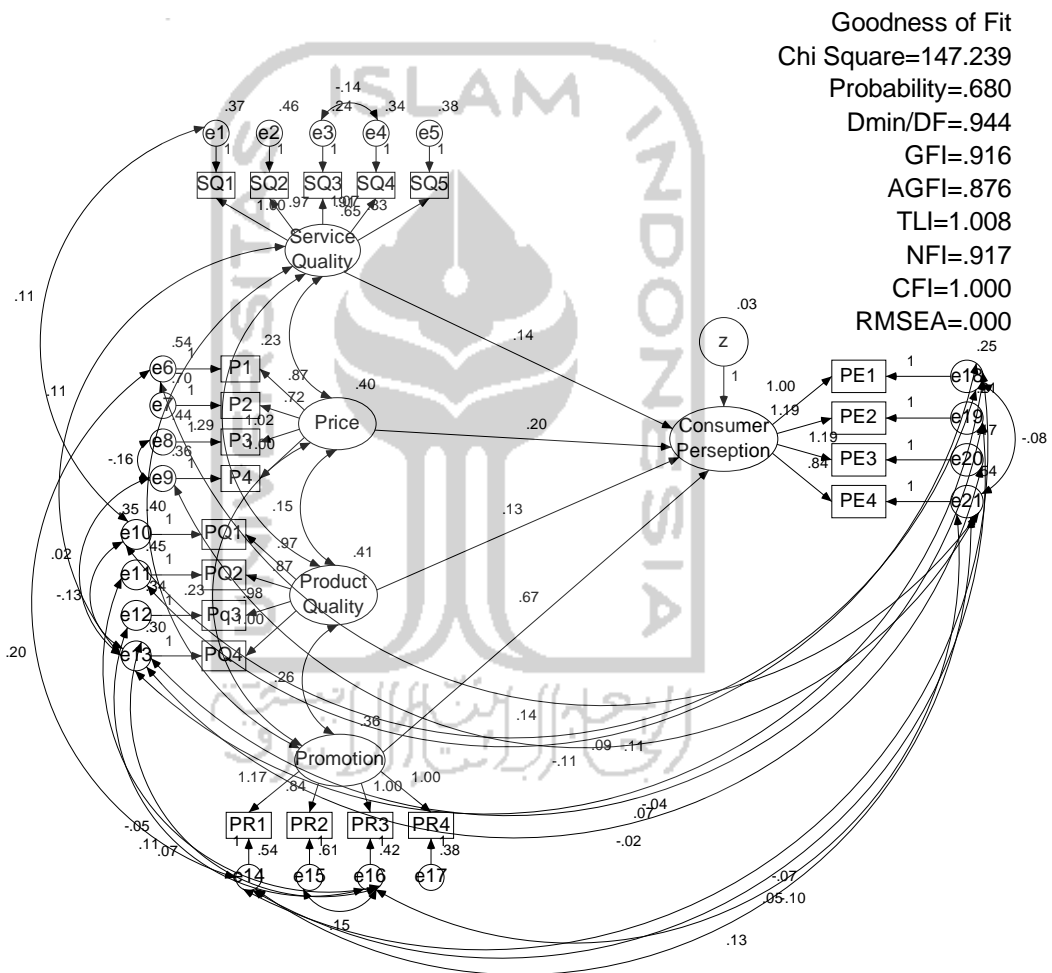
Table 4.12

Goodness of Fit Index **after Modification Indices**

Goodness of Fit Index	Result	Cut Off Value	Model Evaluation
Absolute Fit Measured			
Likelihood Chi Square	147.239	< 186.140	Good
CMIN/DF	0.944	≤ 2.00	Good
GFI	0.916	≥ 0.90	Good
RMSEA	0.000	≤ 0.08	Good
Incremental Fit Measured			
AGFI	0.876	≥ 0.90	Marginal
TLI	1.008	≥ 0.90	Good
NFI	0.917	≥ 0.90	Good
Parsimonious Fit Measured			
PNFI	0.681	0.60 – 0.90	Good
PGFI	0.619	0.50 – 1.00	Good

From the measurements result of *Goodness Fit Index* above, it can be seen that the number of *Absolute Fit Measured* which is measured by *Likelihood Chi Square*, *CMIN/DF, GFI*, and *RMSEA* have reached all cut off value. From the *Incremental Fit Measured*, which is measured by *AGFI, TLI*, and *NFI* only the value of *AGFI* have not reached the cut off value. The result of *Parsimonious Fit Measured*, which can be seen from *PNFI* and *PGFI,* both have reached its cut off value. The table 4.13 shows the whole estimation model.

Table 4.13

Result (Default Model) **after Modification**

Summary	Value
Chi-Square	147.239
Degrees of freedom	156
Probability level	0.680

The table 4.13 shows that the probability level is not significant = 0.680. This model is already a good model *(goodness fit model)* as a good model has an insignificant level of probability α = 5% (Ghozali, 2004). Thus, it shows conformity between sample covariance matrix and model (fitted) covariance matrix (Hair, et al., 1998). Therefore, the whole models used have fulfilled the expected criteria *(Goodness of Fit Model)*.

4.1.5. Causal Correlation and Hypothesis Testing

In order to know how much the value influencing each indicator variable and latent variable, regression weights are used by comparing the probability level. If the probability level is less than α = 5% then it can be stated that it has a significant regression. The results of the *regression weight* are as follows:

Figure 4.8

Regression Coefficient Service Quality, Price, Product Quality, and

Promotion toward Consumer Perception

——————————→	= significant regression
- - - - - - - →	= insignificant regression
**	= probability level less than 5% (p < 0.05)
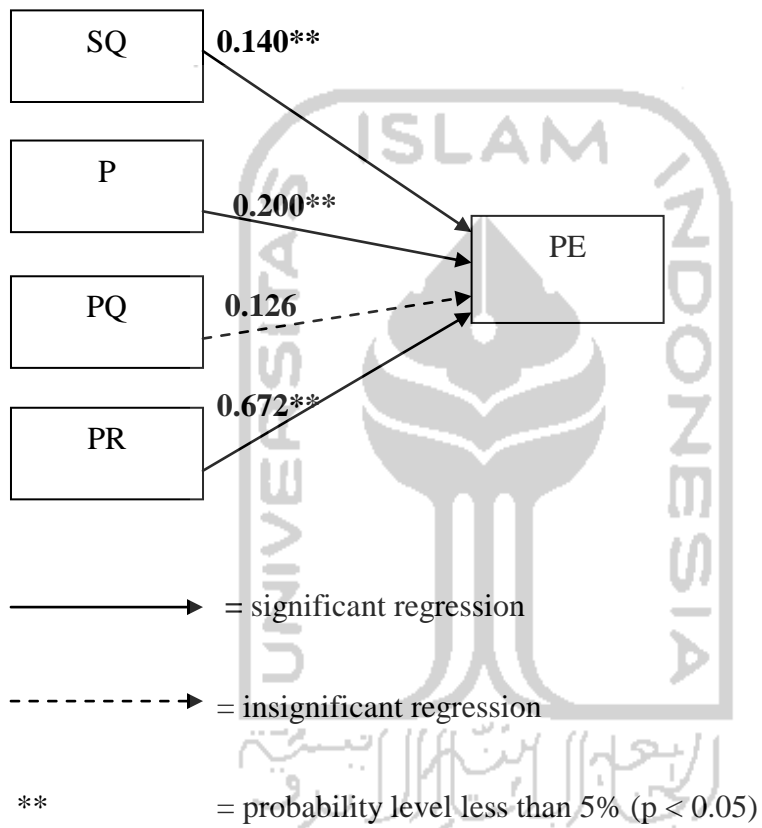
Table 4.14

Regression Weights

		Estimate	S.E.	C.R.	P	Label
Consumer_Perception <---	Service_Quality	.140	.070	1.997	.046	
Consumer_Perception <---	Price	.200	.087	2.301	.021	
Consumer_Perception <---	Promotion	.672	.175	3.852	***	
Consumer_Perception <---	Product_Quality	.126	.092	1.364	.173	

*** = 0.000

From the *regression weight* on the table 4.14, it can be concluded that Service Quality (SQ), Price (P), and Promotion (PR) have a significant positive influence on Consumer Perception (PE) with a significant level less than 5%. While Product Quality (PQ) has an insignificant positive influence on Consumer Perception (PE) with a significant level more than 5%. Therefore, the equation can be stated as follows:

$$PE = \beta_1 SQ + \beta_2 P + \beta_3 PQ + \beta_4 PR + \zeta_1$$

$$PE = 0.140SQ + 0.200P + 0.126PQ + 0.672PR + \zeta_1$$

1) **The Influence of Service Quality (SQ) toward Consumer Perception in Purchasing Mobile Service Provider**

The variable of Service Quality (SQ) has a significant positive influence on Consumer Perception (PE) = 0.140 with a significant level of 0.046 ($p < 0.05$). It

means that if the variable of Service Quality (SQ) increases, Consumer Perception (PE) will also increase. Meanwhile, if it is decreased, Consumer Perception (PE) will also decrease. In short, it can support the hypothesis 1 (H1) stating that if Service Quality has a significant positive influence on Consumer Perception.

2) The Influence of Price (P) toward Consumer Perception in Purchasing Mobile Service Provider

Price (P) variable has a significant positive influence on Consumer Perception (PE) = 0.200 with a significant level of 0.021 ($p < 0.05$). It means that if Price (P) variable increases, Consumer Perception (PE) will also increase. On the other hand, if Price (P) variable decreases, Consumer Perception (PE) will also decrease. It shows that the hypothesis 2 (H2) stating that Price (P) has a significant positive influence on Consumer Perception (PE) is not rejected.

3) The Influence of Product Quality (PQ) toward Consumer Perception (PE) in Purchasing Mobile Service Provider

Product Quality (PQ) variable has an insignificant positive influence on Consumer Perception (PE) = 0.126 because the significant level is 0.173 ($p > 0.05$). It means that if Product Quality (PQ) variable increases, Consumer Perception (PE) will not automatically increase. Hence, if Product Quality (PQ) variable decreases, Consumer Perception (PE) will not automatically decrease. It shows that the hypothesis 3 (H3) stating that Product Quality has a significant positive influence on Consumer Perception (PE) is rejected and not approved in this research.

4) The Influence of Promotion (PR) toward Consumer Perception (PE) in Purchasing Mobile Service Provider

Promotion (PR) variable has a significant positive influence on Consumer Perception (PE) = 0.670 with significant level of 0.000 ($p < 0.05$). It means that if Promotion (PR) variable increases, Consumer Perception (PE) will also increase. Meanwhile, if Promotion (PR) variable decreases, Consumer perception (PE) will also decrease. It shows that the hypothesis 4 (H4) stating that Promotion has a significant positive influence on Consumer Perception (PE) is accepted.

4.2. Discussion and Implications

The influences of Service Quality, Price, Product Quality, and Promotion on Consumer Perception on their purchasing decision of mobile service provider were determined by *Structural Equation Modeling (SEM)*. The regression weight showed that the factors influencing Blackberry users in purchasing mobile service provider are influenced by service quality, price, and promotion, while product quality has an insignificant positive influence toward consumer perception.

To determine the dominant variable that may influence Consumer Perception as Blackberry users in purchasing mobile service provider, *standardized regression weight* was used. The result of analysis is as follows:

Table 4.15

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
Consumer_Perseption <--- Service_Quality	.172
Consumer_Perseption <--- Price	.192
Consumer_Perseption <--- Promotion	.614
Consumer_Perseption <--- Product_Quality	.122

The *regression weights* showed that among all four variables that represent consumer evaluation before they decide to purchase certain brand of mobile service provider, promotion is the variable or factor that consumers consider most. Then, the other factors followed are price, product quality, and service quality.

In mobile service provider industry markets, providers which serve Blackberry users, provide much promotion activities in order to attract the consumers to purchase their product. Moreover, the consumers in this research are those who are young consumers and have not earned money by themselves yet (with the range of personal income Rp.500.000 – Rp.999.000). That is why it is important for them despite any brand providers they choose, to choose the most efficient provider which offers the best promotional offers for Blackberry users. It is also supported the previous research by Alvarez and Casielles (2005), stated that a promotion activity is the explanatory element of the purchasing process at

the moment of purchase. Immediate price reduction is a greatest technique that influences brand choice process.

In addition, the product quality is not always the important factor which influences consumers in purchasing a service provider. This means that the product quality offered by the service provider company does not directly affect consumer perception in considering the important factor in choosing the most suited service provider for them. Despite any brands that consumers choose as their mobile service provider, product quality of mobile service provider from any companies might offers the similar function which is as complementary product of mobile phone. Blackberry device cannot operates and maximize the function without mobile service provider on it. The strength of the signal or service area reached by each companies has been reached even in the suburban area. Mobile telecommunication tower are built everywhere, and often some companies claim that certain area is the best area of the signal strength. However, in one tower of mobile telecommunication does not guarantee it only brings one signal from one provider. Some companies are hire one tower and joint with other companies to share the portion of network reached by the tower. Therefore, as a company it press the cost of network maintenance. Hence, this makes the consumers see a product of mobile service provider has been available in everywhere and consider that quality of the product is overall has the same offerings.

The competition in telecommunication industry markets, especially in mobile service provider markets is very tight. There are several players in mobile service provider markets in Indonesia. Telkomsel, Indosat, Axis, XL Axiata, and

Hutchison 3 (Tri) are the main players for GSM market. Each of the companies is national and multinational company that already has their market share in mobile service provider market. Even, one company has more than one brand of mobile service provider that also gives offering to Blackberry users. For certain brand that comes from the same companies, offers the similar strength of the product quality and the differences sometime only based on the segmenting of the market. When the difference is in segmentation, then the treatment will be different, and this also will affect other policy such as price of charge.

Along with the tight competition, it is more difficult for a company to attract new customers even it is also possible for them to change their current mobile service provider with other brands. The product quality and product capability of mobile service providers, one provider with another provider, does not have so many differences. It is more difficult for companies to create differences in terms of product specialization. The difference only relies on the price charges or tariff offered to the consumers. Each mobile service provider company will have different policies in determining price, tariff, and any cost charged to consumers. In addition, consumers now are more interested in promotional offers from companies.

Consumers now become very sensitive toward price charged for them by service provider companies. A promotional offer by the company is one of consumers' ways to decide whether they want to purchase the product or not. Consumers are not very sensitive toward the specification of the product since there are many options and the offerings which are similar. Tight competitions

and similar offerings, hence, make consumers look for the other options other than the main functions of mobile service providers offered to them. Therefore, companies now are more concerned with their promotional offers while maintaining current abilities and quality of the product in order to satisfy their consumers.

By doing promotional offers, companies will have direct differences with other companies which have the same product and similar product specification. Although promotion activities could not always become the first option to attract new customers and customer retention for a company, it is an effective way to achieve their objectives in gaining more profit and also to have differences with competitors.

With the many players of mobile service provider and the product which is already accepted by potential buyer, this according to the theory of product life cycle, the stage of mobile service provider markets which already reached the maturity stage. It is no longer in growth stages since there are so many players in the market.

Figure 4.9. Product Life Cycle
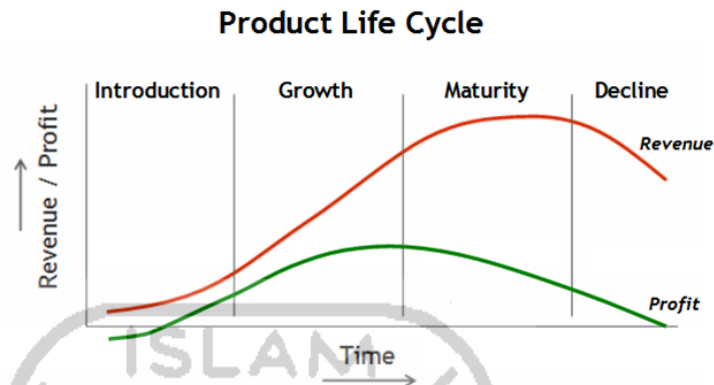
Based on the figure, the maturity stage is showing on the top or the peak of lifecycle. The characteristic of products in the maturity stage is a period of slowdown in sales growth because the product has achieved an acceptance by most potential buyers. Profit level off or decline because of increased marketing outlays to defend the product against competition. As the company, while in the maturity stage, the strategy that has to be set is to maximize profits while defending market shares. Because diversified products in mobile service providers are difficult to set up, sales promotion strategy should be increased and the price should be matched or even beat competitors' price to defense brand switching of customers.

Since the mobile service provider is the product needed by consumers in their daily life, people as consumers no longer see this product from specific features it offers. However, they see the product from the other advantages they can take as customers, and promotion is one of the advantages that customers can get.

For young consumers, price is an important factor to consider before purchasing a service provider. Price of each provider brand which is various has significantly influenced consumers in choosing their mobile service provider. The offering may influence the promotion activity executed by each service provider companies. In telecommunication market, especially for service provider companies, sales, purchase price, and charges are important factors considered by consumers. Then, price factor is undisputed for consumer as their decision to purchase. Hence, it is also supported by the previous research by Kollman (2000) stated that the choice of telecommunication service provider is often connected with purchasing a new end-user set, for example, consumers consider the fixed connection costs and variable call charges.

Service quality, however, is also an important factor for consumers in choosing their mobile service provider. Service quality in telecommunication market especially for mobile service provider companies is essential to establish and maintain loyal and profitable customers (Zeithaml, 2000; Leisen and Vance, 2001). Maintaining a good service offered to the consumers can derive their consideration that they are also aware of the company's performance, ability, and competitive advantage before they decide to purchase a certain brand of mobile service provider. According to Lovelock (1996), service quality which is based on customer driven on quality had replaced the traditional marketing philosophy which stated if customers' preferences based on products and process.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Based on the result, the influence of Service Quality, Price, Product Quality, and Promotion toward Consumer Perception in purchasing mobile service provider as Blackberry users by using 150 respondents as the sample can be concluded as follows:

1. The users of Blackberry in Unversitas Islam Indonesia are dominated by female students whose age between 20 – 24 years old with personal income of Rp.500.000 – Rp.999.000 per month.

2. Service Quality variable has a significant positive influence on Consumer Perception as Blackberry users in purchasing mobile service provider. This means if Service Quality (SQ) increases, Consumer Perception (PE) will increase as well. Thus, the hypothesis 1 is proven. In other words, Blackberry users are very concerned with the service quality offered by their mobile service provider.

3. Price variable has a significant positive influence on Consumer Perception as Blackberry users in purchasing mobile service provider. This means if Price (P) increases, Consumer Perception (PE) will increase as well. Then, the hypothesis 2 is proven. In other words, Blackberry users are concerned with the variety of price offered by the service provider companies. It will

affect their perception before they decide to purchase the mobile service provider.

4. Product Quality (PQ) has an insignificant positive influence toward Consumer Perception (PE) as Blackberry users. Although it has a positive relationship, the probability is greater than 0.05. This means that the Product Quality does not strongly influence. In other words, even though there is an increasing product quality, consumer perception will not automatically increase. Therefore, the hypothesis 3 is not proven.

5. Promotion has a significant positive influence toward Consumer Perception as Blackberry users. If Promotion (PR) increases, Consumer Perception (PE) will also increase. Therefore, the hypothesis 4 is proven. This means that Blackberry users are concerned with the promotional offers by the service provider companies. The variety of promotional activity affects directly to consumer perception in their purchasing decision.

5.2. Recommendation

1. Based on the result of standardized regression weight, Product Quality is placed at the lowest rank as a consideration of consumers when they will purchase a mobile service provider. Product quality in marketing perspective is a product-based associated with specific feature, function or performance of a product. Therefore, it is important to offer a good quality of product to consumers. Increasing the product performance in terms of

mobile telecommunication can be an improvement in network quality, performance to access data, efficiency in terms of cost, and the area of the service reached by the mobile service provider companies. Hence, in consumer perspective, product quality associated with user-based or value-based of how the product can satisfy them is what product quality means.

2. Promotion has been proved as the highest ranking that influences consumers' perception as Blackberry users. Attractive promotional activities such as bundling of Blackberry device with the cooperation with mobile service provider company, free Blackberry service for a certain period of time can be good strategies to acquire new customers or retention of old customers. Bundling Blackberry device can minimize the price of both device and service provider, this is one type of advantage that consumer can get. The attractive promotional offers will not always become consumers' first choice if it is not supported by other features of the product or service offered. Therefore, besides special offers for Blackberry service, mobile service companies also need to maintain their product quality, service quality and performance in order to satisfy Blackberry users. So, even if the period of promotion activity ends, customers will keep using their recent mobile service provider.

5.3. Limitations of the Study and Guidelines for Future Research

Based on the result of the research, there are some limitations encountered:

1. The results of this research have temporary implications because consumers' perception varies over time.

2. The subject of the research was only conducted in Universitas Islam Indonesia by taking 150 respondents.

3. The research does not investigate every possible relevant effect that can potentially influence Blackberry users in purchasing mobile service provider other than the factors of service quality, price, product quality, and promotion.

Based on the limitations, the researcher suggests the following guidelines for future research:

1. More elements of service quality, price, product quality, and promotion can be used to make more detailed research.

2. Larger number of respondents or even wider areas is suggested to have more reliable data.

3. The future research should concern with specific samples such as by taking several brands of mobile service providers before generalizing Blackberry users in the perception of purchasing mobile service provider.

4. The future research should be incorporated with other possible irrelevant effects that influence Blackberry users in their mobile service provider purchasing decision such as words of mouth as the base of their purchasing decision.

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APPENDICES A:

Questionnaire

BAGIAN I

KARAKTERISTIK RESPONDEN

Pertanyaan berikut akan berkenaan dengan jati diri Saudara. Jawablah pertanyaan berikut dengan memberi tanda **silang (X)** pada nomor jawaban yang dianggap sesuai.

Apa jenis kelamin Saudara?

1. Pria

2. Wanita

Berapakah usia Saudara pada saat ulang tahun terakhir?

1. 15-20 tahun

2. 21-30 tahun

Berapakah pendapatan/uang saku Saudara dalam sebulan (Rp)?

1. < 500.000

2. 500.000 – 1.000.000

3. 1.000.000 – 1.500.000

4. 1.500.000 – 2.000.000

5. > 2.000.000

BAGIAN II

Petunjuk: Berilah penilaian Saudara/i terhadap pernyataan-pernyataan dibawah ini dengan **MENYILANG** atau **MELINGKARI** angka yang dianggap paling sesuai.

1 = **Sangat tidak setuju (STS)**   3 = **Netral (N)**   5 = **Sangat setuju (SS)**

2 = **Tidak setuju (TS)**   4 = **Setuju (S)**

1. **Kualitas Layanan** (*Service Quality*)

Pengukuran kualitas layanan perusahaan kartu seluler terhadap persepsi pelanggan Blackberry	Sangat Tidak Setuju			Sangat Setuju	
	STS	**TS**	**N**	**S**	**SS**
Dalam hal pelayanan kepada konsumen, penampilan fisik dari fasilitas perusahaan, karyawan , peralatan, serta teknologi yang ditawarkan dari perusahaan sudah baik	1	2	3	4	5
Penanganan keluhan, tanggapan, dan pelayanan sesuai jasa yang ditawarkan perusahaan sudah baik dan akurat	1	2	3	4	5
Kemampuan karyawan untuk melayani atau berkomunikasi dengan konsumen sudah baik	1	2	3	4	5
Pengetahuan dan kemampuan karyawan membuat saya percaya dan yakin akan produk yang saya pakai	1	2	3	4	5

Pelayanan yang diberikan perusahaan terhadap konsumen secara individu sudah baik					
	1	2	3	4	5

2. **Harga** *(Price)*

Pengukuran harga/tarif yang ditawarkan perusahaan kartu seluler terhadap persepsi pelanggan Blackberry	Sangat Tidak Setuju			Sangat Setuju	
	STS	TS	N	S	SS
Saya menggunakan kartu seluler ini karena harga/ tarif paket yang terjangkau	1	2	3	4	5
Harga/tarif paket yang dikenakan tidak memengaruhi saya dalam memilih kartu seluler	1	2	3	4	5
Servis atau pelayanan yang ditawarkan perusahaan lebih penting daripada harga	1	2	3	4	5
Harga/tarif paket yang dikenakan mempunyai peran penting dalam keputusan pembelian saya	1	2	3	4	5

3. **Kualitas Produk** *(Product Quality)*

Pengukuran kualitas produk yang ditawarkan perusahaan kartu seluler terhadap persepsi pelanggan Blackberry	Sangat Tidak Setuju			Sangat Setuju	
	STS	TS	N	S	SS
Kemudahan dalam menemukan graha atau *service center* dari kartu seluler adalah hal yang penting dalam keputusan pembelian saya	1	2	3	4	5
Saya akan mempertimbangkan pembelian kartu seluler saya jika graha atau *service center* dari kartu seluler sulit	1	2	3	4	5

ditemui					
Kartu seluler yang akan saya gunakan harus mempunyai solusi terbaik untuk kebutuhan komunikasi saya	1	2	3	4	5
Kartu seluler yang akan saya gunakan harus menawakan teknologi yang terbaik	1	2	3	4	5

4. **Promosi** *(Promotion)*

Pengukuran promosi yang ditawarkan perusahaan kartu seluler terhadap persepsi pelanggan Blackberry	Sangat Tidak Setuju			Sangat Setuju	
	STS	TS	N	S	SS
Saya menggunakan kartu seluler ini karena promosi yang menarik dari perusahaan	1	2	3	4	5
Kegiatan promosi yang ditawarkan oleh perusahaan tidak mempengaruhi saya dalam memilih kartu seluler	1	2	3	4	5
Saya menggunakan kartu seluler karena benar-benar kebutuhan saya daripada sekedar mempertimbangkan kegiatan promosi yang ditawarkan	1	2	3	4	5
Saya akan mempertimbangkan servis/pelayanan yang ditawarkan perusahaan kartu seluler bersamaan dengan promosi yang ditawarkan	1	2	3	4	5

5. **Persepsi Konsumen** *(Consumer Perception)*

Pengukuran persepsi konsumen yang ditawarkan	Sangat Tidak Setuju	Sangat Setuju

perusahaan kartu seluler terhadap persepsi pelanggan Blackberry	STS	TS	N	S	SS
Kualitas pelayanan *(service quality)* dari perusahaan penyedia mempengaruhi persepsi saya sebelum melakukan pembelian kartu seluler	1	2	3	4	5
Harga/tarif *(price)* yang ditawarkan perusahaan penyedia kartu seluler mempengaruhi persepsi saya sebelum melakukan pembelian kartu seluler	1	2	3	4	5
Kualitas produk *(product quality)* yang ditawarkan perusahaan penyedia kartu seluler mempengaruhi persepsi saya sebelum melakukan pembelian kartu seluler	1	2	3	4	5
Promosi *(promotion)* yang ditawarkan perusahaan penyedia kartu seluler mempengaruhi persepsi saya sebelum melakukan pembelian kartu seluler	1	2	3	4	5
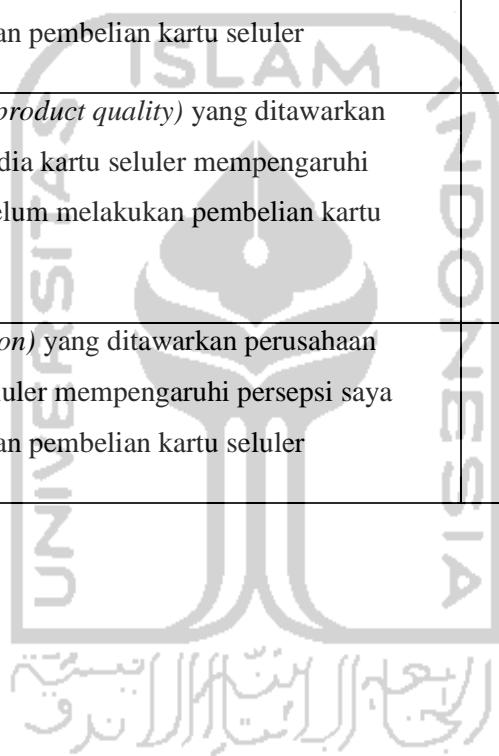
APPENDICES B:

Respondents Data
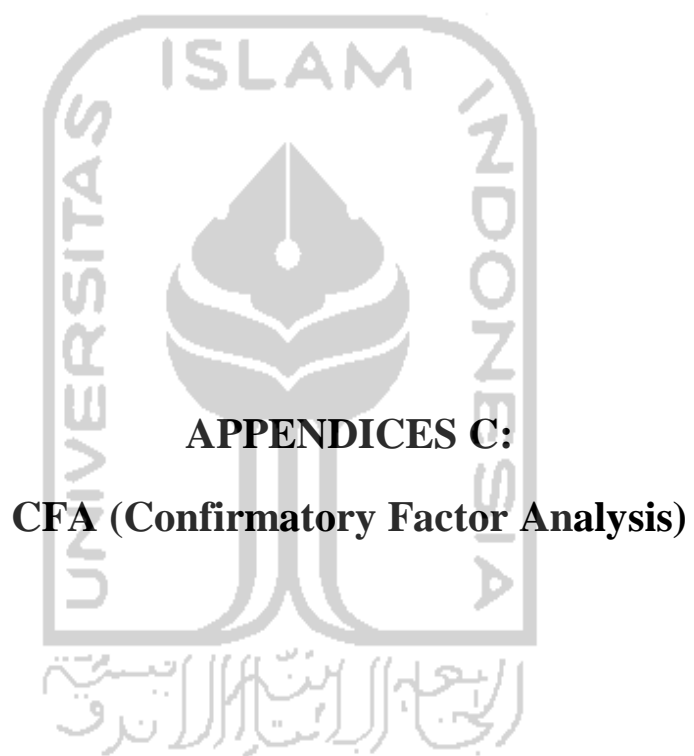
APPENDICES C:

CFA (Confirmatory Factor Analysis)

CFA Service Quality
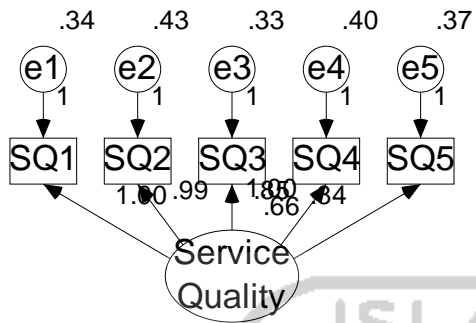
			Estimate	S.E.	C.R.	P	Label
SQ1	<---	Service_Quality	1.000				
SQ2	<---	Service_Quality	.991	.097	10.174	***	
SQ3	<---	Service_Quality	1.003	.092	10.887	***	
SQ4	<---	Service_Quality	.854	.089	9.573	***	
SQ5	<---	Service_Quality	.838	.086	9.707	***	

CFA Price
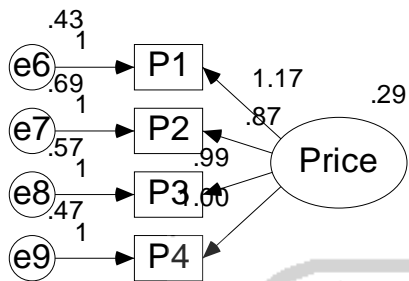
			Estimate	S.E.	C.R.	P	Label
P4	<---	Price	1.000				
P3	<---	Price	.990	.205	4.820	***	
P2	<---	Price	.867	.200	4.343	***	
P1	<---	Price	1.166	.231	5.038	***	

CFA Product Quality
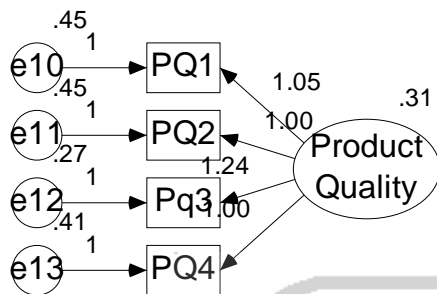
		Estimate	S.E.	C.R.	P	Label
PQ4 <---	Product_Quality	1.000				
PQ3 <---	Product_Quality	1.236	.181	6.836	***	
PQ2 <---	Product_Quality	.999	.163	6.140	***	
PQ1 <---	Product_Quality	1.051	.167	6.287	***	

CFA Promotion
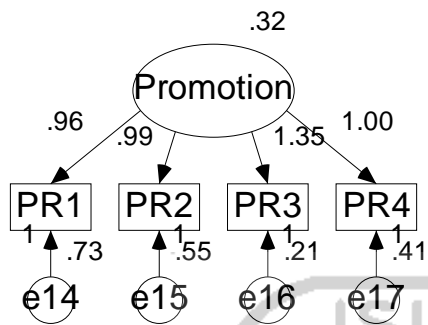
```
              .32
          ⟨Promotion⟩
    .96    /   |   \  1.35   1.00
        .99   |    \
   ┌───┐  ┌───┐  ┌───┐  ┌───┐
   │PR1│  │PR2│  │PR3│  │PR4│
   └───┘  └───┘  └───┘  └───┘
    1 ↑.73  1↑.55  1↑.21  1↑.41
   ⟨e14⟩ ⟨e15⟩ ⟨e16⟩ ⟨e17⟩
```

		Estimate	S.E.	C.R.	P	Label
PR4 <--- Promotion		1.000				
PR3 <--- Promotion		1.351	.197	6.860	***	
PR2 <--- Promotion		.993	.161	6.149	***	
PR1 <--- Promotion		.960	.173	5.560	***	

CFA Consumer Perception
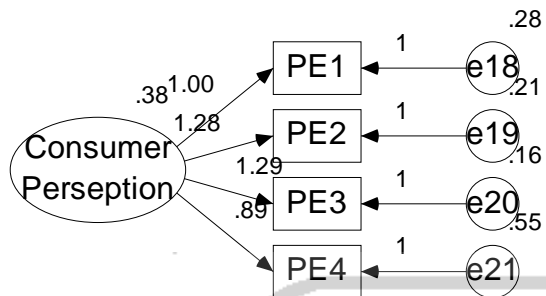
	Estimate	S.E.	C.R.	P	Label
PE1 <--- Consumer_Perception	1.000				
PE2 <--- Consumer_Perception	1.280	.121	10.557	***	
PE3 <--- Consumer_Perception	1.287	.120	10.754	***	
PE4 <--- Consumer_Perception	.889	.126	7.063	***	
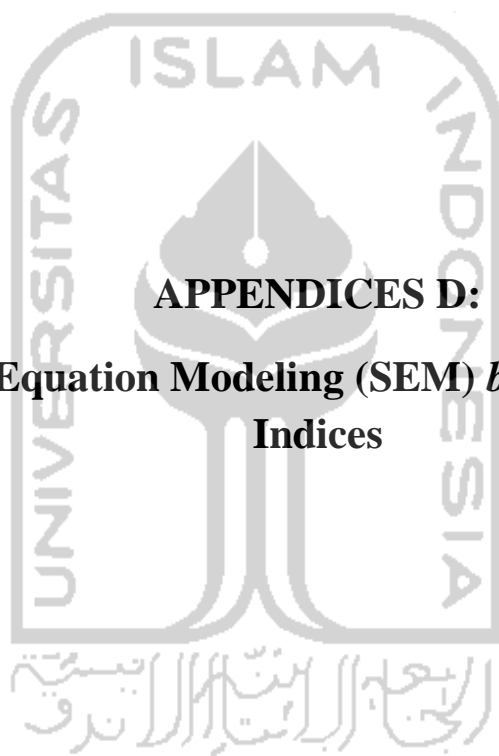
APPENDICES D:

Structural Equation Modeling (SEM) *before* Modification Indices

Goodness of Fit
Chi Square=334.377
Probability=.000
Dmin/DF=1.868
GFI=.826
AGFI=.775
TLI=.884
NFI=.812
CFI=.901
RMSEA=.076
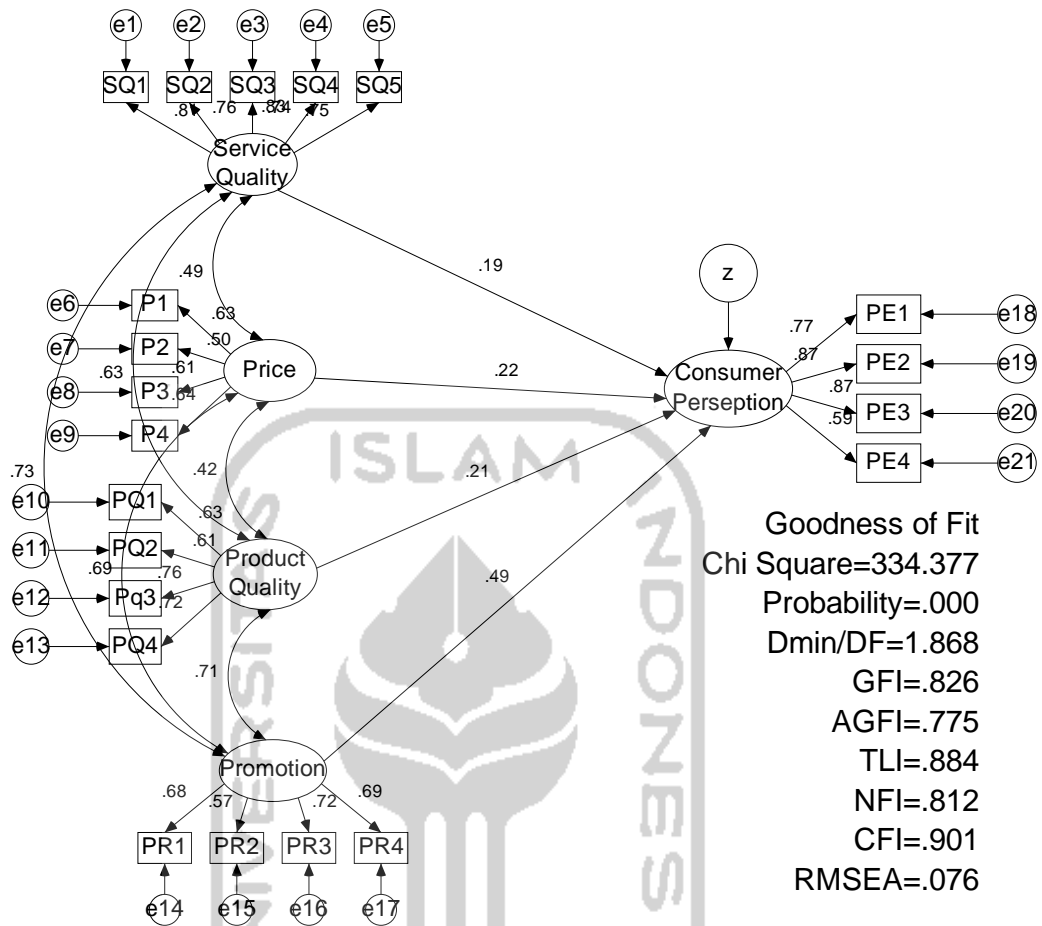
Analysis Summary

Date and Time

Date: Thursday, March 15, 2012

Time: 3:28:47 PM

Title

non modif: Thursday, March 15, 2012 03:28 PM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.

Sample size = 150

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables

SQ1

SQ2

SQ3

SQ4

SQ5

P4

P3

P2

P1

PR4

PR3

PR2

PR1

PE1

PE2

PE3

PE4

PQ4

Pq3

PQ2

PQ1

Unobserved, endogenous variables

Consumer_Perseption

Unobserved, exogenous variables

Service_Quality

e1

e2

e3

e4

e5

Price

e9

e8

e7

e6

Promotion

e17

e16

e15

e14

e18

e19

e20

e21

z

Product_Quality

e13

e12

e11

e10

Variable counts (Group number 1)

Number of variables in your model: 48

Number of observed variables: 21

Number of unobserved variables: 27

Number of exogenous variables: 26

Number of endogenous variables: 22

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	27	0	0	0	0	27
Labeled	0	0	0	0	0	0
Unlabeled	20	6	26	0	0	52
Total	47	6	26	0	0	79

Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
PQ1	1.000	5.000	-.870	-4.352	.821	2.052
PQ2	1.000	5.000	-.592	-2.958	.024	.060
Pq3	1.000	5.000	-.822	-4.112	.342	.855
PQ4	1.000	5.000	-.816	-4.079	.554	1.386
PE4	1.000	5.000	-.300	-1.502	-.164	-.411
PE3	1.000	5.000	-.662	-3.311	.125	.312
PE2	1.000	5.000	-.743	-3.716	.402	1.004
PE1	2.000	5.000	-.360	-1.800	-.325	-.813
PR1	1.000	5.000	-.338	-1.689	-.394	-.985
PR2	1.000	5.000	-.072	-.361	-.516	-1.291
PR3	2.000	5.000	-.522	-2.610	-.441	-1.104
PR4	1.000	5.000	-.627	-3.133	.476	1.190
P1	1.000	5.000	-.453	-2.265	-.268	-.669
P2	1.000	5.000	-.388	-1.940	-.494	-1.236

Variable	min	max	skew	c.r.	kurtosis	c.r.
P3	1.000	5.000	-.255	-1.273	-.342	-.854
P4	1.000	5.000	-.389	-1.943	-.196	-.491
SQ5	1.000	5.000	-.980	-4.902	.842	2.105
SQ4	1.000	5.000	-.181	-.903	-.311	-.777
SQ3	1.000	5.000	-.411	-2.055	-.177	-.442
SQ2	1.000	5.000	-.097	-.485	-.865	-2.163
SQ1	1.000	5.000	-.845	-4.223	.223	.559
Multivariate					45.649	8.994

Observations farthest from the centroid (Mahalanobis distance) (Group number 1)

Observation number	Mahalanobis d-squared	p1	p2
74	63.348	.000	.001
33	42.197	.004	.120
75	40.942	.006	.055
83	40.001	.007	.026
47	38.374	.012	.032
117	38.142	.012	.011
12	36.416	.020	.029
112	36.416	.020	.010
93	35.870	.023	.007
20	35.712	.024	.003
23	35.256	.026	.002
73	34.784	.030	.002
113	34.655	.031	.001
70	34.394	.033	.000

Observation number	Mahalanobis d-squared	p1	p2
106	34.272	.034	.000
91	33.978	.036	.000
120	33.818	.038	.000
131	32.814	.048	.000
81	32.041	.058	.001
102	31.917	.060	.001
24	31.630	.064	.001
130	30.958	.074	.002
57	30.554	.081	.002
22	30.541	.082	.001
138	30.324	.086	.001
38	30.324	.086	.000
123	29.945	.093	.001
95	29.232	.109	.003
76	29.018	.114	.003
136	28.899	.116	.002
80	28.332	.131	.006
124	28.292	.132	.004
55	26.786	.178	.110
94	26.748	.179	.083
122	26.485	.189	.099
54	26.059	.204	.162
19	25.788	.215	.194
128	25.574	.223	.213
118	25.558	.224	.167

Observation number	Mahalanobis d-squared	p1	p2
148	25.554	.224	.125
46	25.528	.225	.095
36	25.524	.225	.068
5	25.179	.239	.106
68	25.053	.245	.101
71	24.757	.258	.139
51	24.757	.258	.103
18	24.741	.259	.077
63	23.867	.300	.320
42	23.867	.300	.260
144	23.820	.302	.225
121	23.594	.313	.265
134	23.293	.329	.347
10	23.293	.329	.286
85	22.901	.349	.421
107	22.899	.349	.357
142	22.668	.362	.415
119	22.325	.381	.541
53	22.148	.391	.574
105	22.085	.395	.544
21	22.027	.398	.511
146	21.939	.403	.495
17	21.671	.419	.584
108	21.536	.427	.596
116	21.249	.444	.692

Observation number	Mahalanobis d-squared	p1	p2
82	21.101	.453	.712
143	21.056	.456	.678
78	20.842	.469	.732
8	20.808	.471	.694
52	20.687	.478	.701
58	20.687	.478	.642
84	20.531	.488	.669
79	20.395	.496	.685
141	20.071	.517	.794
48	20.041	.519	.759
132	19.999	.521	.727
133	19.721	.539	.810
104	19.666	.542	.788
1	19.407	.559	.852
28	19.098	.579	.915
7	19.096	.579	.887
41	18.914	.591	.910
49	18.855	.594	.898
59	18.588	.612	.938
32	18.575	.612	.919
109	18.478	.619	.917
86	18.464	.619	.893
88	18.416	.623	.876
69	18.354	.626	.862
30	18.008	.649	.932

Observation number	Mahalanobis d-squared	p1	p2
64	17.981	.650	.914
31	17.729	.666	.947
110	17.535	.678	.962
89	17.084	.706	.991
34	17.029	.709	.989
27	16.829	.721	.993
44	16.677	.730	.994
145	16.525	.739	.995
45	16.525	.739	.992
98	16.438	.745	.992
11	16.421	.746	.988

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 231

Number of distinct parameters to be estimated: 52

Degrees of freedom (231 - 52): 179

Result (Default model)

Minimum was achieved

Chi-square = 334.377

Degrees of freedom = 179

Probability level = .000

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Consumer_Perseption	<---	Service_Quality	.143	.067	2.125	.034	
Consumer_Perseption	<---	Price	.250	.111	2.255	.024	
Consumer_Perseption	<---	Promotion	.518	.170	3.040	.002	
Consumer_Perseption	<---	Product_Quality	.212	.097	2.186	.029	
SQ1	<---	Service_Quality	1.000				
SQ2	<---	Service_Quality	.975	.097	10.063	***	
SQ3	<---	Service_Quality	1.023	.090	11.307	***	
SQ4	<---	Service_Quality	.859	.088	9.713	***	
SQ5	<---	Service_Quality	.848	.085	9.933	***	
P4	<---	Price	1.000				
P3	<---	Price	1.009	.177	5.704	***	
P2	<---	Price	.857	.174	4.913	***	
P1	<---	Price	1.028	.176	5.830	***	
PR4	<---	Promotion	1.000				
PR3	<---	Promotion	1.072	.136	7.872	***	
PR2	<---	Promotion	.890	.140	6.374	***	
PR1	<---	Promotion	1.155	.154	7.513	***	
PE1	<---	Consumer_Perseption	1.000				
PE2	<---	Consumer_Perseption	1.271	.109	11.637	***	
PE3	<---	Consumer_Perseption	1.233	.106	11.585	***	
PE4	<---	Consumer_Perseption	.868	.119	7.315	***	
PQ4	<---	Product_Quality	1.000				

			Estimate	S.E.	C.R.	P	Label
Pq3	<---	Product_Quality	1.079	.133	8.092	***	
PQ2	<---	Product_Quality	.876	.131	6.683	***	
PQ1	<---	Product_Quality	.922	.134	6.890	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Consumer_Perseption	<---	Service_Quality	.185
Consumer_Perseption	<---	Price	.225
Consumer_Perseption	<---	Promotion	.494
Consumer_Perseption	<---	Product_Quality	.207
SQ1	<---	Service_Quality	.807
SQ2	<---	Service_Quality	.760
SQ3	<---	Service_Quality	.832
SQ4	<---	Service_Quality	.739
SQ5	<---	Service_Quality	.752
P4	<---	Price	.642
P3	<---	Price	.611
P2	<---	Price	.503
P1	<---	Price	.631
PR4	<---	Promotion	.694
PR3	<---	Promotion	.716
PR2	<---	Promotion	.571
PR1	<---	Promotion	.680
PE1	<---	Consumer_Perseption	.770
PE2	<---	Consumer_Perseption	.874

			Estimate
PE3	<---	Consumer_Perseption	.871
PE4	<---	Consumer_Perseption	.589
PQ4	<---	Product_Quality	.721
Pq3	<---	Product_Quality	.763
PQ2	<---	Product_Quality	.613
PQ1	<---	Product_Quality	.633

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Service_Quality	<-->	Price	.222	.057	3.917	***	
Service_Quality	<-->	Promotion	.353	.066	5.384	***	
Price	<-->	Promotion	.231	.051	4.525	***	
Promotion	<-->	Product_Quality	.259	.052	4.967	***	
Price	<-->	Product_Quality	.145	.044	3.323	***	
Service_Quality	<-->	Product_Quality	.313	.062	5.014	***	

Correlations: (Group number 1 - Default model)

			Estimate
Service_Quality	<-->	Price	.489
Service_Quality	<-->	Promotion	.730
Price	<-->	Promotion	.692
Promotion	<-->	Product_Quality	.713
Price	<-->	Product_Quality	.423
Service_Quality	<-->	Product_Quality	.633

Variances: (Group number 1 - Default model)

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	Estimate	S.E.	C.R.	P	Label
Service_Quality	.658	.114	5.775	***	
Price	.314	.082	3.818	***	
Promotion	.355	.077	4.576	***	
Product_Quality	.371	.079	4.680	***	
z	.026	.015	1.813	.070	
e1	.352	.051	6.862	***	
e2	.458	.062	7.346	***	
e3	.306	.047	6.503	***	
e4	.404	.054	7.502	***	
e5	.363	.049	7.407	***	
e9	.447	.066	6.772	***	
e8	.536	.076	7.062	***	
e7	.681	.088	7.752	***	
e6	.502	.073	6.883	***	
e17	.381	.051	7.413	***	
e16	.387	.053	7.233	***	
e15	.581	.072	8.030	***	
e14	.548	.073	7.512	***	
e18	.268	.035	7.695	***	
e19	.195	.030	6.459	***	
e20	.189	.029	6.531	***	
e21	.555	.067	8.297	***	
e13	.342	.051	6.705	***	
e12	.310	.050	6.144	***	
e11	.474	.062	7.580	***	

	Estimate	S.E.	C.R.	P	Label
e10	.471	.063	7.458	***	

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

			M.I.	Par Change
e12	<-->	Service_Quality	4.964	-.075
e13	<-->	Service_Quality	10.563	.111
e13	<-->	e10	8.126	-.108
e19	<-->	e11	6.255	-.074
e19	<-->	e13	10.153	.084
e19	<-->	e21	5.997	.076
e18	<-->	Product_Quality	4.346	.051
e18	<-->	e10	10.625	.106
e18	<-->	e11	16.734	.133
e18	<-->	e13	13.043	-.104
e18	<-->	e21	4.125	-.069
e14	<-->	e12	4.315	-.084
e14	<-->	e21	11.787	.167
e14	<-->	e19	7.071	.085
e14	<-->	e18	7.217	-.094
e15	<-->	Product_Quality	4.486	-.074
e16	<-->	e12	9.888	.109
e16	<-->	e21	9.835	-.130
e16	<-->	e15	8.898	.127
e17	<-->	e18	4.946	.065

	M.I.	Par Change
e6 <--> e21	11.233	.160
e6 <--> e14	15.006	.191
e9 <--> e21	5.160	-.103
e4 <--> e21	5.344	.097
e3 <--> e7	4.007	-.088
e3 <--> e4	10.992	-.113
e2 <--> e4	9.768	.125
e1 <--> e10	6.621	.101
e1 <--> e11	5.827	-.094

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
PQ2 <--- PR3	4.232	-.137
Pq3 <--- PR3	4.267	.121
PQ4 <--- Service_Quality	5.870	.166
PQ4 <--- PQ1	4.446	-.126
PQ4 <--- PE2	4.874	.129
PQ4 <--- SQ4	4.361	.117
PQ4 <--- SQ3	5.500	.124
PQ4 <--- SQ2	7.429	.139
PQ4 <--- SQ1	4.310	.109
PE4 <--- PR1	5.405	.143
PE4 <--- PR3	4.439	-.147

	M.I.	Par Change
PE4 <--- P1	5.455	.159
PE1 <--- PQ1	9.416	.155
PE1 <--- PQ2	13.949	.192
PR1 <--- PE4	9.064	.209
PR1 <--- P1	11.786	.241
PR3 <--- Pq3	5.664	.151
PR3 <--- PE4	7.346	-.160
PR3 <--- PR2	5.699	.140
P1 <--- PE4	4.688	.148
P1 <--- PR1	4.625	.134
SQ4 <--- PE4	4.061	.121
SQ3 <--- SQ4	4.568	-.116

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	12		-.749	9999.000	1775.776	0	9999.000
1	e*	9		-.230	3.756	972.501	20	.282
2	e	3		-.297	.944	623.304	6	.932
3	e*	2		-.120	.952	439.383	5	.742
4	e	0	364.597		.780	356.298	6	.852
5	e	0	155.731		.711	340.116	2	.000
6	e	0	174.208		.286	334.556	1	1.082
7	e	0	199.342		.082	334.378	1	1.035
8	e	0	204.522		.006	334.377	1	1.005
9	e	0	204.517		.000	334.377	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	52	334.377	179	.000	1.868
Saturated model	231	.000	0		
Independence model	21	1775.312	210	.000	8.454

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.051	.826	.775	.640
Saturated model	.000	1.000		
Independence model	.319	.242	.167	.220

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.812	.779	.903	.884	.901
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.852	.692	.768
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90

Model	NCP	LO 90	HI 90
Default model	155.377	107.766	210.809
Saturated model	.000	.000	.000
Independence model	1565.312	1434.534	1703.518

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.244	1.043	.723	1.415
Saturated model	.000	.000	.000	.000
Independence model	11.915	10.505	9.628	11.433

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.076	.064	.089	.001
Independence model	.224	.214	.233	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	438.377	456.392	594.930	646.930
Saturated model	462.000	542.031	1157.457	1388.457
Independence model	1817.312	1824.588	1880.535	1901.535

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.942	2.623	3.314	3.063
Saturated model	3.101	3.101	3.101	3.638

Model	ECVI	LO 90	HI 90	MECVI
Independence model	12.197	11.319	13.124	12.246

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	95	101
Independence model	21	22

Execution time summary

Minimization: .039

Miscellaneous: .121

Bootstrap: .000

Total: .160
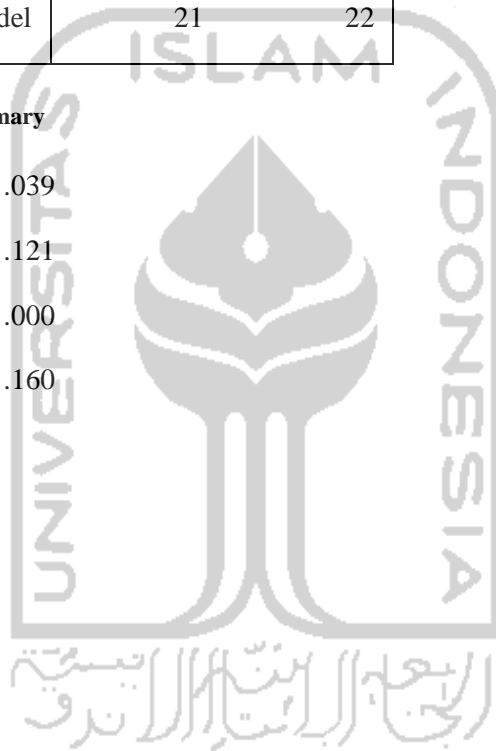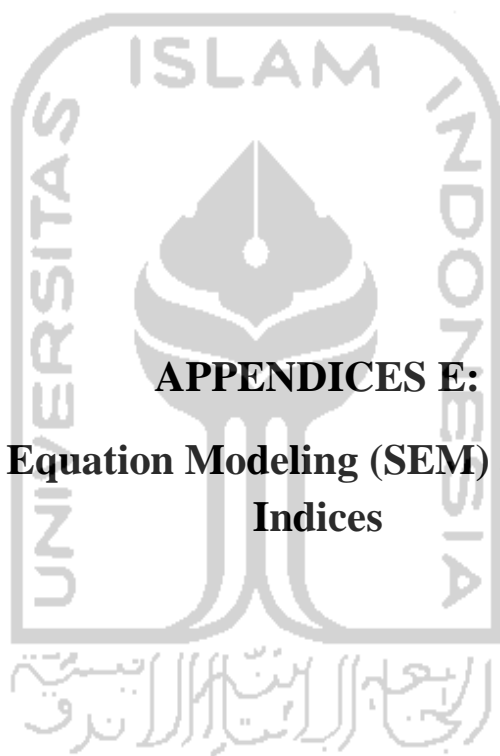
APPENDICES E:

Structural Equation Modeling (SEM) *after* Modification Indices
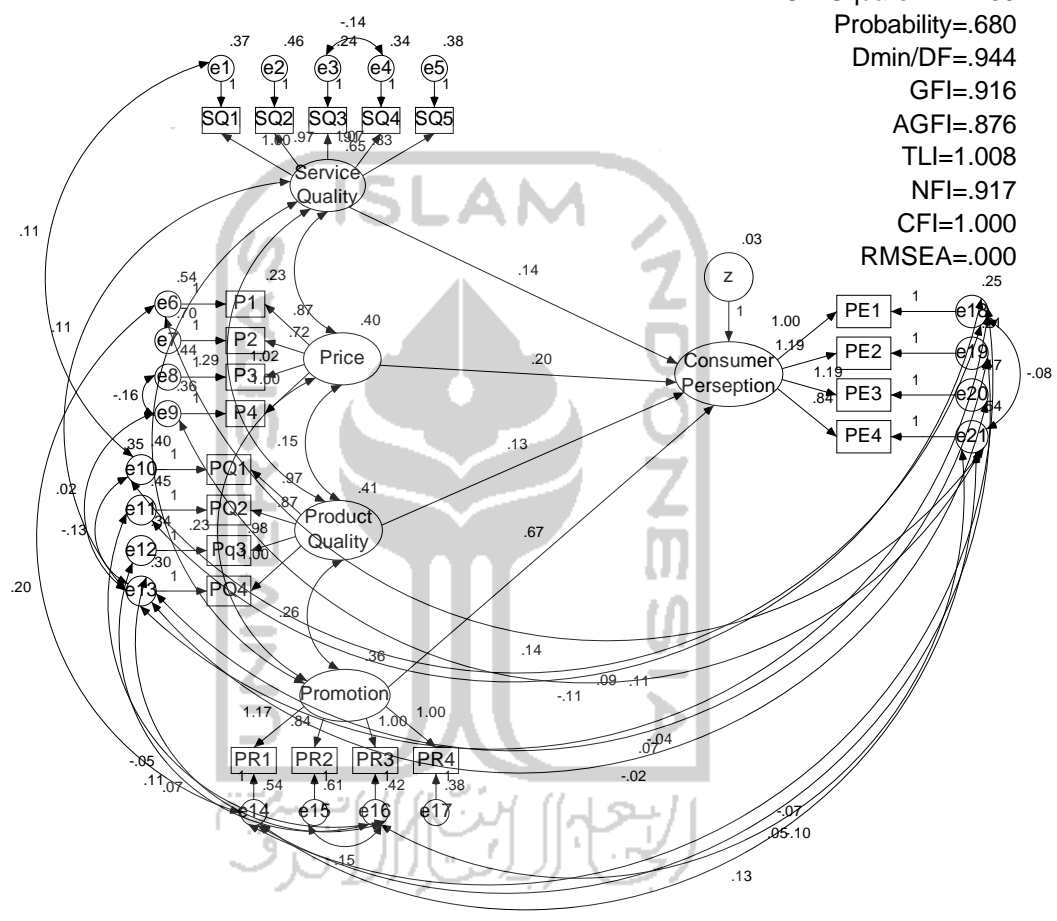
Analysis Summary

Date and Time

Date: Wednesday, March 21, 2012

Time: 11:32:18 AM

Title

amos: Wednesday, March 21, 2012 11:32 AM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.

Sample size = 150

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables

      SQ1

      SQ2

      SQ3

      SQ4

      SQ5

      P4

      P3

      P2

      P1

      PR4

      PR3

      PR2

      PR1

      PE1

      PE2

PE3

PE4

PQ4

Pq3

PQ2

PQ1

Unobserved, endogenous variables

Consumer_Perseption

Unobserved, exogenous variables

Service_Quality

e1

e2

e3

e4

e5

Price

e9

e8

e7

e6

Promotion

e17

e16

e15

e14

e18

e19

e20

e21

z

Product_Quality

e13

e12

e11

e10

Variable counts (Group number 1)

Number of variables in your model: 48

Number of observed variables: 21

Number of unobserved variables: 27

Number of exogenous variables: 26

Number of endogenous variables: 22

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	27	0	0	0	0	27
Labeled	0	0	0	0	0	0
Unlabeled	20	29	26	0	0	75
Total	47	29	26	0	0	102

Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
PQ1	1.000	5.000	-.870	-4.352	.821	2.052
PQ2	1.000	5.000	-.592	-2.958	.024	.060
Pq3	1.000	5.000	-.822	-4.112	.342	.855
PQ4	1.000	5.000	-.816	-4.079	.554	1.386
PE4	1.000	5.000	-.300	-1.502	-.164	-.411
PE3	1.000	5.000	-.662	-3.311	.125	.312
PE2	1.000	5.000	-.743	-3.716	.402	1.004

Variable	min	max	skew	c.r.	kurtosis	c.r.
PE1	2.000	5.000	-.360	-1.800	-.325	-.813
PR1	1.000	5.000	-.338	-1.689	-.394	-.985
PR2	1.000	5.000	-.072	-.361	-.516	-1.291
PR3	2.000	5.000	-.522	-2.610	-.441	-1.104
PR4	1.000	5.000	-.627	-3.133	.476	1.190
P1	1.000	5.000	-.453	-2.265	-.268	-.669
P2	1.000	5.000	-.388	-1.940	-.494	-1.236
P3	1.000	5.000	-.255	-1.273	-.342	-.854
P4	1.000	5.000	-.389	-1.943	-.196	-.491
SQ5	1.000	5.000	-.980	-4.902	.842	2.105
SQ4	1.000	5.000	-.181	-.903	-.311	-.777
SQ3	1.000	5.000	-.411	-2.055	-.177	-.442
SQ2	1.000	5.000	-.097	-.485	-.865	-2.163
SQ1	1.000	5.000	-.845	-4.223	.223	.559
Multivariate					45.649	8.994

Observations farthest from the centroid (Mahalanobis distance) (Group number 1)

Observation number	Mahalanobis d-squared	p1	p2
74	63.348	.000	.001
33	42.197	.004	.120
75	40.942	.006	.055
83	40.001	.007	.026
47	38.374	.012	.032
117	38.142	.012	.011
12	36.416	.020	.029
112	36.416	.020	.010
93	35.870	.023	.007

Observation number	Mahalanobis d-squared	p1	p2
20	35.712	.024	.003
23	35.256	.026	.002
73	34.784	.030	.002
113	34.655	.031	.001
70	34.394	.033	.000
106	34.272	.034	.000
91	33.978	.036	.000
120	33.818	.038	.000
131	32.814	.048	.000
81	32.041	.058	.001
102	31.917	.060	.001
24	31.630	.064	.001
130	30.958	.074	.002
57	30.554	.081	.002
22	30.541	.082	.001
138	30.324	.086	.001
38	30.324	.086	.000
123	29.945	.093	.001
95	29.232	.109	.003
76	29.018	.114	.003
136	28.899	.116	.002
80	28.332	.131	.006
124	28.292	.132	.004
55	26.786	.178	.110
94	26.748	.179	.083
122	26.485	.189	.099

Observation number	Mahalanobis d-squared	p1	p2
54	26.059	.204	.162
19	25.788	.215	.194
128	25.574	.223	.213
118	25.558	.224	.167
148	25.554	.224	.125
46	25.528	.225	.095
36	25.524	.225	.068
5	25.179	.239	.106
68	25.053	.245	.101
71	24.757	.258	.139
51	24.757	.258	.103
18	24.741	.259	.077
63	23.867	.300	.320
42	23.867	.300	.260
144	23.820	.302	.225
121	23.594	.313	.265
134	23.293	.329	.347
10	23.293	.329	.286
85	22.901	.349	.421
107	22.899	.349	.357
142	22.668	.362	.415
119	22.325	.381	.541
53	22.148	.391	.574
105	22.085	.395	.544
21	22.027	.398	.511
146	21.939	.403	.495

Observation number	Mahalanobis d-squared	p1	p2
17	21.671	.419	.584
108	21.536	.427	.596
116	21.249	.444	.692
82	21.101	.453	.712
143	21.056	.456	.678
78	20.842	.469	.732
8	20.808	.471	.694
52	20.687	.478	.701
58	20.687	.478	.642
84	20.531	.488	.669
79	20.395	.496	.685
141	20.071	.517	.794
48	20.041	.519	.759
132	19.999	.521	.727
133	19.721	.539	.810
104	19.666	.542	.788
1	19.407	.559	.852
28	19.098	.579	.915
7	19.096	.579	.887
41	18.914	.591	.910
49	18.855	.594	.898
59	18.588	.612	.938
32	18.575	.612	.919
109	18.478	.619	.917
86	18.464	.619	.893
88	18.416	.623	.876

Observation number	Mahalanobis d-squared	p1	p2
69	18.354	.626	.862
30	18.008	.649	.932
64	17.981	.650	.914
31	17.729	.666	.947
110	17.535	.678	.962
89	17.084	.706	.991
34	17.029	.709	.989
27	16.829	.721	.993
44	16.677	.730	.994
145	16.525	.739	.995
45	16.525	.739	.992
98	16.438	.745	.992
11	16.421	.746	.988

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 231

Number of distinct parameters to be estimated: 75

Degrees of freedom (231 - 75):   156

Result (Default model)

Minimum was achieved

Chi-square = 147.239

Degrees of freedom = 156

Probability level = .680

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Consumer_Perseption	<---	Service_Quality	.140	.070	1.997	.046	
Consumer_Perseption	<---	Price	.200	.087	2.301	.021	
Consumer_Perseption	<---	Promotion	.672	.175	3.852	***	
Consumer_Perseption	<---	Product_Quality	.126	.092	1.364	.173	
SQ1	<---	Service_Quality	1.000				
SQ2	<---	Service_Quality	.975	.094	10.333	***	
SQ3	<---	Service_Quality	1.070	.090	11.948	***	
SQ4	<---	Service_Quality	.911	.089	10.288	***	
SQ5	<---	Service_Quality	.829	.084	9.909	***	
P4	<---	Price	1.000				
P3	<---	Price	1.020	.174	5.856	***	
P2	<---	Price	.721	.149	4.839	***	
P1	<---	Price	.873	.152	5.758	***	
PR4	<---	Promotion	1.000				
PR3	<---	Promotion	1.003	.132	7.599	***	
PR2	<---	Promotion	.837	.138	6.042	***	
PR1	<---	Promotion	1.171	.153	7.631	***	
PE1	<---	Consumer_Perseption	1.000				
PE2	<---	Consumer_Perseption	1.192	.096	12.352	***	
PE3	<---	Consumer_Perseption	1.187	.095	12.553	***	
PE4	<---	Consumer_Perseption	.842	.118	7.118	***	
PQ4	<---	Product_Quality	1.000				

			Estimate	S.E.	C.R.	P	Label
Pq3	<---	Product_Quality	.975	.128	7.635	***	
PQ2	<---	Product_Quality	.866	.124	6.985	***	
PQ1	<---	Product_Quality	.965	.144	6.704	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Consumer_Perseption	<---	Service_Quality	.172
Consumer_Perseption	<---	Price	.192
Consumer_Perseption	<---	Promotion	.614
Consumer_Perseption	<---	Product_Quality	.122
SQ1	<---	Service_Quality	.801
SQ2	<---	Service_Quality	.758
SQ3	<---	Service_Quality	.869
SQ4	<---	Service_Quality	.782
SQ5	<---	Service_Quality	.734
P4	<---	Price	.725
P3	<---	Price	.697
P2	<---	Price	.477
P1	<---	Price	.602
PR4	<---	Promotion	.699
PR3	<---	Promotion	.680
PR2	<---	Promotion	.540
PR1	<---	Promotion	.691
PE1	<---	Consumer_Perseption	.795
PE2	<---	Consumer_Perseption	.864
PE3	<---	Consumer_Perseption	.881
PE4	<---	Consumer_Perseption	.601

			Estimate
PQ4	<---	Product_Quality	.756
Pq3	<---	Product_Quality	.728
PQ2	<---	Product_Quality	.635
PQ1	<---	Product_Quality	.696

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Service_Quality	<-->	Price	.233	.057	4.108	***	
Service_Quality	<-->	Promotion	.346	.065	5.358	***	
Price	<-->	Promotion	.235	.052	4.552	***	
Promotion	<-->	Product_Quality	.261	.053	4.972	***	
Price	<-->	Product_Quality	.155	.046	3.388	***	
Service_Quality	<-->	Product_Quality	.287	.067	4.307	***	
e6	<-->	e14	.203	.051	4.006	***	
e3	<-->	e4	-.142	.034	-4.193	***	
e9	<-->	e13	.023	.035	.667	.505	
e18	<-->	e11	.111	.032	3.445	***	
e18	<-->	e13	-.035	.030	-1.161	.246	
e14	<-->	e21	.131	.049	2.658	.008	
e6	<-->	e21	.141	.050	2.785	.005	
e18	<-->	e10	.093	.030	3.071	.002	
e13	<-->	e10	-.133	.039	-3.434	***	
e14	<-->	e19	.047	.032	1.458	.145	
e14	<-->	e18	-.073	.031	-2.333	.020	
e16	<-->	e12	.113	.037	3.067	.002	
e16	<-->	e21	-.101	.036	-2.805	.005	
e16	<-->	e15	.154	.046	3.324	***	

			Estimate	S.E.	C.R.	P	Label
e1	<-->	e10	.106	.037	2.831	.005	
e18	<-->	e21	-.077	.029	-2.680	.007	
e13	<-->	Service_Quality	.109	.039	2.766	.006	
e20	<-->	e13	-.019	.028	-.682	.496	
e19	<-->	e13	.068	.031	2.214	.027	
e16	<-->	e11	-.050	.037	-1.338	.181	
e16	<-->	e13	.075	.034	2.185	.029	
e9	<-->	e8	-.164	.056	-2.935	.003	
e9	<-->	e21	-.109	.044	-2.465	.014	

Correlations: (Group number 1 - Default model)

			Estimate
Service_Quality	<-->	Price	.456
Service_Quality	<-->	Promotion	.713
Price	<-->	Promotion	.618
Promotion	<-->	Product_Quality	.684
Price	<-->	Product_Quality	.384
Service_Quality	<-->	Product_Quality	.556
e6	<-->	e14	.377
e3	<-->	e4	-.492
e9	<-->	e13	.071
e18	<-->	e11	.331
e18	<-->	e13	-.128
e14	<-->	e21	.242
e6	<-->	e21	.261
e18	<-->	e10	.293
e13	<-->	e10	-.380

			Estimate
e14	<-->	e19	.141
e14	<-->	e18	-.199
e16	<-->	e12	.299
e16	<-->	e21	-.211
e16	<-->	e15	.304
e1	<-->	e10	.275
e18	<-->	e21	-.208
e13	<-->	Service_Quality	.244
e20	<-->	e13	-.084
e19	<-->	e13	.271
e16	<-->	e11	-.114
e16	<-->	e13	.209
e9	<-->	e8	-.413
e9	<-->	e21	-.246

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Service_Quality	.654	.112	5.817	***	
Price	.400	.097	4.120	***	
Promotion	.360	.078	4.600	***	
Product_Quality	.406	.085	4.775	***	
z	.030	.018	1.665	.096	
e1	.366	.049	7.408	***	
e2	.460	.059	7.752	***	
e3	.243	.044	5.542	***	
e4	.345	.051	6.752	***	
e5	.385	.049	7.881	***	

	Estimate	S.E.	C.R.	P	Label
e9	.360	.072	4.997	***	
e8	.440	.082	5.362	***	
e7	.704	.087	8.095	***	
e6	.536	.072	7.403	***	
e17	.376	.051	7.302	***	
e16	.421	.055	7.599	***	
e15	.611	.076	8.046	***	
e14	.541	.074	7.313	***	
e18	.251	.033	7.505	***	
e19	.208	.031	6.750	***	
e20	.175	.027	6.362	***	
e21	.542	.066	8.221	***	
e13	.304	.056	5.448	***	
e12	.342	.051	6.735	***	
e11	.451	.059	7.637	***	
e10	.402	.064	6.328	***	

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e14 <--> e12	4.100	-.070
e15 <--> Service_Quality	5.521	.085
e17 <--> e16	4.135	.063
e4 <--> e11	4.720	.075
e1 <--> z	4.815	.038
e1 <--> e11	6.935	-.087

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
PQ2 <--- P1	4.079	-.117

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	25		-1.039	9999.000	1775.776	0	9999.000
1	e*	18		-.390	2.810	1015.378	20	.368
2	e*	4		-.243	.954	607.807	5	.907
3	e*	0	44612.622		1.280	360.324	5	.581
4	e	0	1082.959		.457	318.515	10	.000
5	e	1		-.114	.928	222.959	2	.000
6	e	0	231.287		.438	162.447	9	1.117
7	e	0	176.975		.400	148.580	1	1.121
8	e	0	201.282		.065	147.262	1	1.075
9	e	0	199.578		.007	147.239	1	1.016
10	e	0	200.721		.000	147.239	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	75	147.239	156	.680	.944
Saturated model	231	.000	0		
Independence model	21	1775.312	210	.000	8.454

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.040	.916	.876	.619
Saturated model	.000	1.000		
Independence model	.319	.242	.167	.220

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.917	.888	1.005	1.008	1.000
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.743	.681	.743
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	.000	.000	22.983
Saturated model	.000	.000	.000
Independence model	1565.312	1434.534	1703.518

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.988	.000	.000	.154

Model	FMIN	F0	LO 90	HI 90
Saturated model	.000	.000	.000	.000
Independence model	11.915	10.505	9.628	11.433

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.000	.000	.031	.999
Independence model	.224	.214	.233	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	297.239	323.223	523.037	598.037
Saturated model	462.000	542.031	1157.457	1388.457
Independence model	1817.312	1824.588	1880.535	1901.535

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.995	2.054	2.208	2.169
Saturated model	3.101	3.101	3.101	3.638
Independence model	12.197	11.319	13.124	12.246

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	189	203
Independence model	21	22

Execution time summary

Minimization: .064

Miscellaneous: .136

Bootstrap: .000

Total: .200