Structural Equation Model of Customer Perception of Service and Product Quality Factors that Affects Thai Information Technology Customer Loyalty

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ABSTRACT
This study was conducted to study the factors that how service quality affects customer loyalty in the Thai Information Technology (IT) business. The researcher wishes to use their position within academia to conduct further analysis with quantitative data being obtained from 294 customers using IT products and services in the Bangkok metropolitan area and qualitative research being conducted with 10 executives by the use of purposive sampling. Analysis was conducted while using Partial Least Square (PLS-Graph) software to apply Structural Equations Modeling (SEM). Results showed the hypotheses affecting customer satisfaction had a significance level of $p \leq 0.05$, having a significant and direct influence on customer loyalty, product quality and product service. Other variables include customer perceived value, customer trust and customer satisfaction of their clients. A fact recognized by the assumption $p \leq 0.01$, respectively. Significant findings from this study found that customers who use the Thai information technology product and/or service, must be satisfied with the products and services if it is sold in conjunction with information technology services. Thus, the customer’s perceived value and recognition of it is necessary to ensure customer satisfaction in the brand itself which translates into long-term customer retention and loyalty.

Key words: Customer loyalty, trust, customer perceived value, perceived product, service quality

INTRODUCTION
In Thailand, field software service and digital content over the past few decades are regarded as new branches for both the business sector and domestic consumption. Information Technology (IT) marketing consists of 3 components including the computer hardware market, data communication equipment market and software service. It was found these technology markets in 2011 had an overall value of 155,549 billion baht and was expected to grow in 2012 by 18.7% reaching a value of 182,327 billion baht.

In 2011, research showed that the computer hardware market share in the technology market had a 61% hold followed by communications and software/software services with 19.9 and 19.1%, respectively.

Computer hardware has a very high market share with much higher values due to smaller growth and share of competing technologies such as data communications transmission systems, wired (wireline/landline) and delivery systems and wireless (wireless) (NECTC, 2012).
A research survey of technology households in 2011 surveyed a total population of approximately 62.4 million users. Of this survey population, 19.9 million (32%) used the computers and 14.8 million or 23.7% used the Internet. In towns and cities, computer users were 9.5 million (44.3%) and Internet users, 7.7 million (36%).

However, outside the towns and cities in rural Thailand, there were 10.5 million computer users or 25.5% and 7.1 million Internet users making up 17.2%. Compared to the previous year 2010, the percentage of both Internet and computer users had increased in all groups (National Statistical, 2011).

From the survey mentioned above, it can be extrapolated that as the technology markets continue to grow steadily, IT companies need to be highly competitive in order to wrest an advantage and seize market share. Information technology executives also need to seek new strategies in order to attract consumers.

Customer loyalty is also an overriding factor in this strategy with influencing variables including customer satisfaction, trust and brand recognition of products and services. This study hopes to help guide the strategies and the use of marketing tools for marketing executives. Results of this study can hopefully be used to help make decisions on marketing solutions and reduce the risk of investing in new products and services that will be offered to the next consumer.

CONCEPTUAL DEVELOPMENT

Customer loyalty: Customer loyalty includes products and services in addition to business customer retention which hopefully keeps customers from changing to competitor services. It is also a way to expand the business via, word-of-mouth from satisfied customers which supports and promotes the knowledge of the products and services. This benefits the business in the long run, in particular the development of relationships with customers and the help with product and service branding as well as customer loyalty.

Caruana (1999) stated that service loyalty is one of the most important structures in service marketing, due to its final effect on customers’ repeated purchases and in fact, those loyal customers who purchase repeatedly are considered as the base of any business. Therefore, this research intends to study the relationship of these three concepts.

Additionally, a positive attitude will work in favor of the business and affects customer loyalty, customer satisfaction (Oliver, 1997; Chaudhuri and Holbrook, 2001), trust (Morgan and Hunt, 1994) and affects the relationship with customer loyalty.

The expected positive impact on customer satisfaction and the trust and loyalty of customer or consumers as a result from the evaluation after the consumption of goods or services. This can be explained by the concepts of consumer behavior which are the individual acts associated with the decision to purchase the goods or services to meet their needs (Solomon et al., 2009).

The elements of psychological behavior include two types of external behavior or overt behavior which is an action that others can observe and measure while covert behavior are actions that occur within the individual such as feelings, attitudes, beliefs, perceptions, etc. (Sundel and Sundel, 2004).

Songsom and Trichun (2012) stated that customer loyalty is influenced by psychological factors or elements within the consumer and external factors outside the influence of the environment.
Customer satisfaction: In the global borderless world, information technology has changed the way information flows. Today, there is an enormous amount of news reflecting changes in social, cultural, political, technological and economic sectors. The demand for these sources and the resulting consumer behavioral changes require marketers to satisfy their customers.

Wallerstein (1995) said that customer satisfaction is a feeling that occurs with the achievement of the purpose and the psychological satisfaction is not visible but can be predicted in the presence or absence of observing the behavior of people.

There are many for the creation of customer satisfaction, these include the quality of products and services, reasonable price, product value, customer expectations and the accessibility of the facility.

Process satisfaction starts with concept development, market research and policy analysis, customer needs, planning and the unique needs of the goods and services market and sells products. Everything involved in the value chain should be a process to create high quality consistently, delivery and the communication channels direct to the customers. They must also provide customer service satisfaction and collect information and analyze it for use about customer satisfaction (Besterfield, 1994; Fecikova, 2004).

A study by Pinyakul et al. (2011) showed that customer satisfaction depended on corporate reputation and its affect on customer satisfaction in convenience stores and other retail outlets. Traditional larger stores had higher brand recognition due to their larger market share and influence and were recognized for their service quality, customer relationship management planning which resulted in higher customer satisfaction than traditional convenience stores and retailers around them.

Chang et al. (2010) investigated the relationship between service convenience and satisfaction. Results of the study revealed that service convenience have significantly high effect on customer satisfaction. Therefore, the higher the perception of access convenience, the more the customers are satisfied. Chang et al. (2010) also found that access convenience affects customer loyalty indirectly through perceived service value and satisfaction.

If customer satisfaction achieves the business goals (Anderson et al., 1994; Yi, 1990) it will influence the overall quality, price and customer expectations (Anderson et al., 1994; Fornell et al., 1996) and individuals involved (Spreng et al., 1996) as well as the survival of the organization. It is a positive relationship between expectations and satisfaction of the customer (Cadotte et al., 1987; Churchill, Jr. and Surprenant, 1982).

Customer trust: Building trust with an organization is paramount in paving the way to corporate success. Trust is the key factor for everything we do every day; communications, business operations, trading, marketing and advertising which includes the results of the action.

Gayuranon (2009) found that trust is the belief that one person has with another person. That person will be loyal and not hurt or exploit the fundamentals that the relationship is based on. Furthermore, trust is the intention to do good things for each other and to cooperate in doing things wholeheartedly and be loyal to each other.

In order to understand why relationship marketing is applicable to the travel industry, the nature of the industry must be looked at. The service sector which travel agencies are a part of, is particularly suitable for relationship marketing for the following reasons:
• First, the product and services are intangible, therefore the customer is likely to associate the service provider with the actual product, making the customers’ perception of their relationship with the company equal to the actual service (Claycomb and Martin, 2002)
• Secondly, it is difficult to evaluate services before making a purchase, meaning that the customer actually buys the offered promise of the service. If there is a good relationship between the two, leading to trust, the customer will be more inclined to buy that promise. Even more importantly, a good relationship will also allow the company to recover from eventual, unavoidable setbacks when it comes to living up to that promise (Claycomb and Martin, 2002)
• Next, there is a high level of interaction between the company and their customers and if that relationship is tense, it can adversely affect the quality and perception of the service received (Claycomb and Martin, 2002)
• Lastly, many services can actually be performed by the consumer and good customer relationships can make the consumer less likely to drop the service provider and do the actual work themselves (Claycomb and Martin, 2002)

The trust and the trust of our customers is a factor representing the relationship between the customer and the new generation of consumers, therefore trust is a major factor leading to competitive advantage and is what clients trust in an organization (Aqueveque and Ravasi, 2006).

Trust is the belief in the products and services that an organization provides as well as the client’s respect and love of the company’s product, brand and reputation (Carmeli and Cohen, 2001) which resulted in the CCB and towards the performance of the organization in the end. Lee et al. (2008) while trust in the organization was a result of direct impact on operations.

Customer perceived value: The competitive business environment today is filled with competitors and foreign those are competing in response to the demand of consumers to have better, faster and lower cost services and products.

Consumers today have the opportunity and the power to choose from a wide variety of competitors. Consumers have even higher expectations today about their product or service selection and want to feel satisfied about the benefits, value and the worth of the product or service which is referred to as Customer Value and Customer Satisfaction.

This results in modern businesses needing to focus on customer care regularly, regardless of whether the customer is small or big and keeping customers and building relationships with customers is priority in the relationship. Modern marketing principals thus emphasize profits through customer satisfaction (Farangthong, 2005).

Roig et al. (2006) stated that customer perceived value is considered or evaluated to compare between the interests of customers or received from the value of goods, services or relationships and perceived reduction in price and cost.

Customer perceived value enables organizations to improve and update their customer service (Sigala, 2006; Kang et al., 2007). The perceived value of the product is the view that customers use in the evaluation of products/services and the purchase process must be effective for the purchase to occur (Woodruff, 1997; Eggert et al., 2005).

The theory of ‘consumption value’ (Sheth et al., 1991a, b) states that the multifaceted consumer choice to buy or not to buy, to choose one type of product or service over another and to choose one brand over another entails a variety of forms of value. Functional value pertains to whether a product is able to perform its functional, utilitarian, or physical purposes. Social value refers to an
image that is congruent with the norms of a consumer's friends or associates and/or with the social image the consumer wishes to project. Emotional value is related to various affective states which can be positive (for example, confidence or excitement) or negative (for example, fear or anger). Epistemic value is concerned with a desire for knowledge, whether this be motivated by intellectual curiosity or the seeking of novelty. Finally, conditional value reflects the fact that some market choices are contingent on the situation or set of circumstances faced by the consumers. According to Sheth et al. (1991a), this theory rests on three fundamental propositions (i) That market choice is a function of multiple values, (ii) That these forms of value make differential contributions in any given choice situation and (iii) That the forms of value are independent.

However, Roig et al. (2006) designed a scale of measurement of value known as PERVAL. This definition of customer value is a difference between total customer value that customer get from a product or service in organization and total customer cost incurred from assessing and using that product or service. This value can be perceived only by customers who use the product or receive the service.

Chen et al. (2012), studied the impact of service quality, finance and justice on customer satisfaction and found that the customer’s perceived quality directly affects customer satisfaction through the perception of service quality and transparency and fairness of company service.

Product and service perception: Understanding brand quality does not have to come directly from knowledge about the brand but instead can come from understanding the properties of the product as a result of information perception or feeling towards the brand which has a direct influence on the loyalty to the brand. So, an understanding of the quality is different from satisfaction. The main goal of the service is to reduce the difference between what is expected and what is actually delivered, because a higher level of customer service management increases the burden on the provider while lower than the required level of service that may result in customer dissatisfaction.

Zeithaml et al. (1990) have given a definition that the perceived quality of the product/service is caused by the expectation of customers or clients using the service. Businesses using SERVQUAL to measure and manage service quality deploy a questionnaire that measures customer expectations of service quality in terms of these 5 dimensions and their perceptions of the service they receive. When customer expectations are greater than their perceptions of received delivery, service quality is deemed low. This is consistent with Gronroos (1988).

As a result of the evaluation process, customers compare their service expectations with the perception of the service actually received by the factors that indicate Service Quality. The researchers therefore took the concept of Parasuraman and applied it to assess and improve quality of service by using 22 questions to evaluate the service quality (SERVQUAL) instrument in all 5 main dimensions.

Early conceptualization of service quality was formed by Gronroos (1982, 1984), he defined service quality by technical or outcome (what consumer receive) and functional or process related (how consumer receive the service) dimensions (Fig. 1) (Gronroos, 1982, 1984, 1988). Image build up by technical and functional quality and effect of some other factors (marketing communication, word of mouth, tradition, ideology, customer needs and pricing). The Nordic model is based on disconfirmation paradigm by comparing perceived performance and expected service. This was the first attempt to measure quality of service. Grönroos model was general in nature and without offering any technique on measuring technical and functional quality.
Among general instruments, the most popular model used for evaluation of service quality is SERVQUAL, a well-known scale developed by Parasuraman et al. (1985, 1988). The attributes of Parasuraman et al. (1985), were: Tangibles, reliability, responsiveness, competency, courtesy, assurance, credibility, security, access and understanding. Parasuraman et al. (1988) later reduced these ten dimensions into five by using a factor analysis. These five dimensions are:

- **Tangibles**: Physical facilities, equipment and appearance of personnel
- **Reliability**: Ability to perform the promised service dependably and accurately
- **Responsiveness**: Willingness to help customers and provide prompt service
- **Assurance**: Knowledge and courtesy of employees and their ability to inspire trust and confidence. Including competence, courtesy, credibility and security
- **Empathy**: Caring and individualized attention that the firm provides to its customers. Including access, communication, understanding the customer

Service organizations are physical presences that can be seen and felt and are related to the delivery of services. Equipment providers must look beautiful, should provide modern equipment and technology, materials associated with the service have to be clean, service staff must have a professional personality and organizations should facilitate both service users and service providers (Parasuraman et al., 1988).

Aydin and Ozer (2005) conducted a study on the analysis of causal factors influencing customer loyalty with GSM mobile phones in Turkey. They studied the relationships between corporate image, perceived service quality, trust and customer switching costs which are the major antecedents of customer loyalty and loyal customers may buy more, accept higher prices and have a positive word-of-mouth effect. Also they concluded that the cost of selling to new customers is much higher than the cost of selling to existing customers. Although, this fact is apparent to everyone, many companies are still losing customers at a formidable rate. In this context the main aim of this study is to examine the relationships between these factors and customer loyalty and the relationships among these factors in the Turkish GSM sector. Data was obtained from 1,662 mobile phone users in Turkey via questionnaire. The data was analyzed by Structural Equation Modeling (SEM) in order to test all the relationships between variables in the model.
Fig. 2: Conceptual framework

Telecommunications technology is changing and highly competitive. Quality of service make customers feel confident and is important for entrepreneurs to build a loyal customer base. According to Chen et al. (2012), the perceived quality of the product/service has a direct influence on customer satisfaction (Fig. 2).

After a literature review and development of the above concepts, the following hypotheses were developed:

H1: Product and service perception influences customer satisfaction
H2: Product and service perception influences customer perceived value
H3: Customer perceived value influences customer satisfaction
H4: Customer perceived value influences customer trust
H5: Customer trust influences customer satisfaction
H6: Customer trust influences customer loyalty
H7: Customer satisfaction influences customer loyalty

METHODOLOGY

This study was conducted from a sample population of product and service users from the Thai IT sector using both quantitative and qualitative research.

Data collection: Thailand Information Technology service and product customers were queried using quantitative research methods of which 294 responded (Hair et al., 2006). Questionnaires were constructed as a tool to measure concept definition and practice. This research first conducted Confirmatory Factor Analysis (CFA) and subsequently reliability analysis to measure Cronbach’s alphas for this scale items to ensure internal consistency. Multi-item measures were developed based on Cronbach’s alpha >0.68. This study then calculated Cronbach’s alphas for each construct. The reliability measure ranged from 0.523-0.840. This is considered highly reliable. Items lower than 0.50 were cut off from the study.

The responses to the questions capturing focal constructs used a seven-point Likert scale (rating statements 1-7: 1 = Strongly disagree and 7 = Strongly agree). Qualitative research was conducted with in-depth interviews of 10 senior-level executives from both Thai IT product and service businesses.
Measurement

**Dependent variable:** Customer Loyalty analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert, 1970) which were developed and constructed from scales enabling the measurement of customer behavior and customer attitude (Broyles, 2009; Chang et al., 2010).

**Independent variables**

**Product and service perception (perserv):** Analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert, 1970) which were developed and constructed from scales enabling the measurement of dependability, ability to respond, confidence, care and physical (Zeithaml et al., 1990).

**Customer satisfaction (satisfaction):** Analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert, 1970) which were developed and constructed from scales enabling the measurement of organization, salesman and products (Piriyakul et al., 2011; Aldas-Manzano et al., 2011; Payan et al., 2010).

**Customer trust (trust):** Analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert, 1970) which were developed and constructed from scales enabling the measurement of brand and salesman (Guenzi et al., 2009; Homburg et al., 2002; Swan et al., 1999; Liu and Wu, 2008).

**Customer perceived value (pvalue):** Analysis used a measurement instrument or questionnaires utilizing a 7-point likert scale (Likert, 1970) which were developed and constructed from scales enabling the measurement of social values, emotional values and functional values.

RESULTS

Partial Least Squares has been applied for analysis of quantitative data by the researcher. It is data analysis for Confirmatory Factor Analysis (CFA) relating to the determination of manifest variable and latent variable and testing of research hypothesis exhibiting in structural model analyzed by using the applications of PLS-Graph (Chin, 2001):

- According to the analysis results of scale validity and reliability, scale investigation has been conducted using internal consistency measurement coefficient alpha. (α-coefficient) of Akron BAC (Cronbach) to calculate the average value of the correlation coefficient was found that alpha coefficients ranged from 0.523-0.840 which is considered to have high reliability.
- In case of measure variables with reflective analysis, convergent validity has been conducted. Loading is used as consideration criteria and must be positive quantity and indicator loading has been more than 0.707 and all values have been statistically significant (|t|>1.96) representing convergent validity of scales (Lauro and Vinzi, 2004; Henseler et al., 2009; Piriyakul et al., 2011) and analysis results as shown in Table 1.

Table 1 shows that product and service perception which included dependability, ability to respond, confidence, care and physical variables found that the loading is equal to 0.934, 0.930, 0.902, 0.905 and 0.872, respectively. The data showed a significant level of confidence percentage of 0.95 (t-stat>1.96) which validates high reliability which affects customer loyalty.
Table 1: Convergent validity statistics in latent variable measurements in the reflective model

<table>
<thead>
<tr>
<th>Construct/Item</th>
<th>Loading</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perserv: Product and service perception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perserv:C: Dependability</td>
<td>0.934</td>
<td>43.174</td>
</tr>
<tr>
<td>Perserv:R: Ability to respond</td>
<td>0.930</td>
<td>38.162</td>
</tr>
<tr>
<td>Perserv:R: Confidence</td>
<td>0.902</td>
<td>27.009</td>
</tr>
<tr>
<td>Perserv:M: Care</td>
<td>0.905</td>
<td>39.167</td>
</tr>
<tr>
<td>Perserv:S: Physical</td>
<td>0.872</td>
<td>36.655</td>
</tr>
<tr>
<td>Pervalue: Customer perceived value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived:S: Social</td>
<td>0.917</td>
<td>42.896</td>
</tr>
<tr>
<td>Perceived:S: Emotional</td>
<td>0.936</td>
<td>47.832</td>
</tr>
<tr>
<td>Perceived:F: Functional</td>
<td>0.889</td>
<td>48.868</td>
</tr>
<tr>
<td>Satisfaction: Customer satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction:S: Products</td>
<td>0.917</td>
<td>57.288</td>
</tr>
<tr>
<td>Satisfaction:P: Salesman</td>
<td>0.922</td>
<td>46.712</td>
</tr>
<tr>
<td>Satisfaction:O: Organization</td>
<td>0.888</td>
<td>51.920</td>
</tr>
<tr>
<td>Trust: Customer trust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust:S: Brand</td>
<td>0.914</td>
<td>39.064</td>
</tr>
<tr>
<td>Trust:S: Branding</td>
<td>0.936</td>
<td>57.607</td>
</tr>
<tr>
<td>Trust:P: Salesman</td>
<td>0.937</td>
<td>66.135</td>
</tr>
<tr>
<td>Loyalty: Customer loyalty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty:S: Behavior</td>
<td>0.938</td>
<td>51.399</td>
</tr>
<tr>
<td>Loyalty:S: Attitude</td>
<td>0.956</td>
<td>39.704</td>
</tr>
</tbody>
</table>

Table 1 shows that customer perceived value which included, social values, emotional values and functional values variables found that the loading is equal to 0.917, 0.936 and 0.889, respectively. The data showed a significant level of confidence percentage of 0.95 (t-stat>1.96) which validates high reliability which affects customer satisfaction and customer trust.

Table 1 shows that customer satisfaction which included products, salesman and organizations variables found that the loading is equal to 0.917, 0.922 and 0.898, respectively. The data showed a significant level of confidence percentage of 0.95 (t-stat>1.96) which validates high reliability which affects customer trust and customer loyalty.

Table 1 shows that customer trust which included brand, branding and salesman variables found that the loading is equal to 0.917, 0.922 and 0.898, respectively. The data showed a significant level of confidence percentage of 0.95 (t-stat>1.96) which validates high reliability which affects customer satisfaction.

Classification accuracy verification: Discriminant validity has been tested on scale reliability, including Composite Reliability (CR) which should not be lower than 0.707, Average Variance Extract (AVE) should not be lower than 0.50, $R^2$ should not be lower than 0.20 (Table 2) and $\sqrt{AVE}$ in the diagonal data should have a value higher than cross construct correlation of all values in the same column. The data validates that there was discriminant validity for each construct, without exception. (Lauro and Vinzi, 2004; Henseler et al., 2009; Wingworn and Priyakul, 2010). Testing results of discriminate validity of this research was in accordance with all conditions shown in Table 2 and 3, the analysis of confirmatory factors is shown in Fig. 3. Therefore the scales of this research have been the scales with discriminant validity and reliability.
Table 2: Confirmatory Factor Analysis (CFA) of the independent variables of service quality and E-CRM and their affects on the dependent variable on customer satisfaction

<table>
<thead>
<tr>
<th>Construct</th>
<th>CR</th>
<th>R²</th>
<th>AVE</th>
<th>PERSERV</th>
<th>PERSERV</th>
<th>PERSERV</th>
<th>PERSERV</th>
<th>SATISFACTION</th>
<th>SATISFACTION</th>
<th>SATISFACTION</th>
<th>TRUST</th>
<th>TRUST</th>
<th>TRUST</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERSERV</td>
<td>0.960</td>
<td>-</td>
<td>0.825</td>
<td>0.908</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERSERV</td>
<td>0.939</td>
<td>0.822</td>
<td>0.836</td>
<td>0.903</td>
<td>0.944</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SATISFACTION</td>
<td>0.937</td>
<td>0.816</td>
<td>0.833</td>
<td>0.809</td>
<td>0.850</td>
<td>0.913</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRUST</td>
<td>0.950</td>
<td>0.769</td>
<td>0.864</td>
<td>0.903</td>
<td>0.877</td>
<td>0.898</td>
<td>0.950</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOYALTY</td>
<td>0.946</td>
<td>0.660</td>
<td>0.897</td>
<td>0.670</td>
<td>0.725</td>
<td>0.812</td>
<td>0.722</td>
<td>0.947</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Statistically significant at 0.05 and diagonal figures mean $\sqrt{AVE}$. CR: Composite reliability, R²: Square of the correlation, AVE: Average variance extracted.

Table 3: Hypothesis testing result of hypothetical research

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Coefficient</th>
<th>t-stat</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Product and service perception influences customer satisfaction</td>
<td>-0.048</td>
<td>0.659</td>
<td>Not supported</td>
</tr>
<tr>
<td>H2: Product and service perception influences customer perceived value</td>
<td>0.904</td>
<td>67.709</td>
<td>Supported</td>
</tr>
<tr>
<td>H3: Customer perceived value influences customer satisfaction</td>
<td>0.300</td>
<td>3.686</td>
<td>Supported</td>
</tr>
<tr>
<td>H4: Customer perceived value influences customer trust</td>
<td>0.879</td>
<td>55.400</td>
<td>Supported</td>
</tr>
<tr>
<td>H5: Customer trust influences customer satisfaction</td>
<td>0.675</td>
<td>9.388</td>
<td>Supported</td>
</tr>
<tr>
<td>H6: Customer trust influences customer loyalty</td>
<td>-0.029</td>
<td>0.441</td>
<td>Not supported</td>
</tr>
<tr>
<td>H7: Customer satisfaction influences customer loyalty</td>
<td>0.839</td>
<td>10.622</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Fig. 3: Final model

DISCUSSION

The results of the research are from the "Structural equation model of customer perception of service and product quality factors that affects Thai information technology customer loyalty".
Factors were perceived quality of products and services, factors that indicate reliable service quality, responsibility, confidence, care and physical presence (Parasuraman et al., 1988).

Quality is caused by the service expectation of customers or clients or the comparison between the expectations of customers in the product or service. A definition of this service quality is the perceived quality of the product/service is caused by the expectation of customers or clients using the service (Zeithaml et al., 1990).

This is consistent with Aydin and Ozer (2005) analysis of causal factors influencing customer loyalty with GSM mobile phones in Turkey. They studied the relationships between corporate image, perceived service quality, trust and customer switching costs which are the major antecedents of customer loyalty and loyal customers may buy more, accept higher prices and have a positive word-of-mouth effect. Also they concluded that the cost of selling to new customers is much higher than the cost of selling to existing customers. Although, this fact is apparent to everyone, many companies are still losing customers at a formidable rate. In this context the main aim of this study is to examine the relationships between these factors and customer loyalty and the relationships among these factors in the Turkish GSM sector. Data was obtained from 1,662 mobile phone users in Turkey via questionnaire.

The data was analyzed by Structural Equation Modeling (SEM) in order to test all the relationships between variables in the model.

Telecommunications technology is changing and highly competitive. Quality of service makes customers feel confident and is important for entrepreneurs to build a loyal customer base. According to Chen et al. (2012), they found that the perceived quality of the product/service has a direct influence on customer satisfaction.

This results in modern businesses needing to focus on customer care regularly, regardless of whether the customer is small or big and keeping customers and building relationships with customers is priority in the relationship. Modern marketing principals thus emphasize profits through customer satisfaction (Parangthong, 2005).

The perceived value of the product is the view that customers use in the evaluation of products/services and the purchase process must be effective for the purchase to occur (Woodruff, 1997; Eggert et al., 2006).

Studies by Chen et al. (2012), studied the impact of service quality, finance and justice on customer satisfaction and found that the customer's perceived quality directly affects customer satisfaction through the perception of service quality and transparency and fairness of company service.

Eggert and Ulaga (2002) found that perceived customer value has a direct positive influence on customer satisfaction which influences the 0.83 significance level of 1%, consistent with the findings of Kumar et al. (2003) and Lages et al. (2008) found that perceived value affects customer trust.

A study by Piriakul et al. (2011) showed that customer satisfaction depended on corporate reputation and its impact on customer satisfaction in convenience stores and other retail outlets. Traditional larger stores had higher brand recognition due to their larger market share and influence and were recognized for their service quality, customer relationship management planning which resulted in higher customer satisfaction than traditional convenience stores and retailers around them.
Chang et al. (2010) studied the relationship between service convenience and customer satisfaction in home delivery and found that customer satisfaction is positively correlated with different types of service convenience. It also suggests that the customers with different gender have significantly different views to quality elements of home delivery service.

If customer satisfaction is good, the resultant is organizations achieve their business goals by (Anderson et al., 1994) influencing the overall quality, price and customer expectations (Anderson et al., 1994; Fornell et al., 1996).

Chang et al. (2010) investigated the relationship between service convenience and satisfaction. Results of the study revealed that service convenience have significantly high effect on customer satisfaction. Therefore, the higher the perception of access convenience, the more the customers are satisfied. Chang et al. (2010) also found that access convenience affects customer loyalty indirectly through perceived service value and satisfaction.

Both for individuals involved (Spreng et al., 1996) as well as the survival of the organization, there must be a positive relationship between expectations and satisfaction of the customer (Cadotte et al., 1987; Churchill, Jr. and Surprenant, 1982).

Customer trust is a factor that represents the relationship between the organization and the customer, emotional relationship, trust will occur when there is confidence, trust reduces uncertainty, risks and careful thought process in response to the brand. The trust of the customer will contribute to customer satisfaction or dissatisfaction.

This is consistent with the research of Raimondo, Miceli and Costabile, (nd) which found that customer satisfaction has an immediate and positive impact on customer loyalty in the long run which consisted of a loyal attitude and loyalty arising from customer behavior (Morgan and Hunt, 1994).

Songsom and Trichun (2012) stated that customer loyalty is influenced by psychological factors or elements within the consumer and external factors outside the influence of the environment.

CONCLUSION

Customer loyalty affects products and services in addition to the retention of business due the unwillingness of customers to change to another service or competitor. It is also useful in word-of-mouth marketing and additionally expands a customer base. When customers are loyal, they will support the business and encourage others that they know to use the products and services. Customer loyalty is beneficial to the business in the long run and every organization should try to discover the factors that keep customers loyal by implementing marketing strategies such as customer relationship management, building relationships using social media tool and retaining customers in the long run to maintain the existing customer base as long as possible.

REFERENCES

