# A TRUST MODELLING ANALYSIS FOR DECREASING B2B MONITORING COSTS IN SUPPLY CHAIN AND ELECTRONIC CONTRACTING SETTINGS

By

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A thesis submitted to the University of Bedfordshire, in fulfilment of the requirements for the degree of Master of Science by research

December 2010

# ACKNOWLEDGMENT

# ABSTRACT

This research is proposed to examine the factor requirement for creating trust model to decrease costs in term of B2B supply chain and electronic contracting setting. Business to Business (B2B) is the electronic transactions between businesses over the internet. The business information propagated via B2B is cheaper and faster than traditional marketing such as advertisement and exhibitions and therefore is transmitted through the internet from local to global, from one place to another place and from business to business. However, business needs to monitor all of its products, services, customer, employee and suppliers for developing and improving its business framework to reach long-term profit. Consequently, there are high costs from products and services such as time, effort and customer's knowledge. Trust is important, because it decreases transaction costs between businesses. If trust of transactions is high, they will use less time for monitoring costs.

This thesis focuses on the perception of customers and employee and verified research hypotheses. The conceptual framework composes of factor that related to customer attitude, employee attitude, trust and monitoring cost. These factors will be undertaken by means of a survey of selected companies. The result of this study is essential to prove research hypotheses.

This survey was conducted within coffee chain, superstore, network provider and hotel in Thailand. In total, 50 questionnaires were sent to customers and 40 questionnaires were sent to employees. The questionnaires were sent as an attachment with electronic mail.

The results of this survey can be concluded that the method to decrease monitoring costs come from both customers and employees which include how long employees resolve customer problem as soon as possible, how employees decrease costs in their organisation and how they cut their marketing expenditure such as prevent unauthorised document, remove unauthorised document, monitor quality of products and keep records business transaction.

# DECLARATION

I declare that this thesis is my own unaided work. It is being submitted for the degree of Master of Science by Research at the University of Bedfordshire.

It has not been submitted before for any degree or examination in any other University.

Name of candidate: Pinthusorn Pasanajano

Signature:

Date:

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# Chapter 1: Introduction

## 1.1 Background

Business to Business (B2B) uses electronic means to buy and sell products and services through the internet. These are convenient ways that companies can use to support their clients. It can be said that companies can increase efficiency of transactions among companies that have business relations. However, there are many uncertainties and risks when businesses use online methods for their transaction activities of supply chain and electronic contracting. Risks can be come from customer, employee and the environment of company and they also might be influenced the whole business such as dissatisfied customer return their product and ask for money back. Furthermore, there are costs of switching and transaction. Monitoring costs are part of the transaction costs and are high, because they occur all the time when compared with the other costs (Robinson, 2003). B2B spends more time and cost to improve performance monitoring (Heijden et al., 2003). The company check on the whole process of working for business accomplishment. Monitoring costs refer to the provision of timely information and check of quality of products, schedule of delivery, frequency of information exchange, credit approval. Moreover, they can be assessed as the cost of business processing, the cost of market analysts and monitor the maintenance of business system. These all need to be addressed to ensure the process is cost-effective. It is necessary to solve these business problems and trust is one approach for decreasing monitoring costs.

Trust has a positive effect on performance and satisfaction because companies believe that business partners are honest. Trust has been established to reduce transaction costs by avoiding costly negotiations and contracts. In this context, trust is defined as business negotiations that are controlled and developed by trust. Most users are comfortable in using electronic contracting because they rely on the security, dependability and competence of these systems. They need to make confidence during transactions so trust will be concerned. Most businesses will use trust management in dealing with exchangeable information through the internet. Trust management defined as the symbol representations of system e.g. customer can use credit card to buy goods.

For this thesis, the study is adopted from several trust models in the literature such as Ani and Joobin (2009); Bijlsma-Frankema and Costa (2005); Ferrin et al. (2007); Heijden et al. (2003); Huang and Fox (2005); Reichheld and Schefter (2000) and Sun et al. (2006). Ani and Joobin (2009) stated that trust in electronic commerce is a part of interactive system, which requires awareness, and trustworthiness of user that achieve trust improvement where trust can minimise monitoring costs because trust can condense transaction distances (Bijlsma-Frankema and Costa, 2005). However, monitoring can increase trust in the electronic market (Ferrin et al., 2007). Reichheld and Schefter (2000) proposed that when customers trust online supplier they seem to be accountable for sharing information. Sun et al. (2006) presented trust is created between two parties for particular action. Meanwhile other literature such as Huang and Fox (2005)

described how trust models can be calculated and revised trust between two entities. The advantages of Sun et al. (2006) and Huang and Fox (2005) trust models have been used to calculate value in distributed network but not for business. On the other hand, Heijden et al. (2003) presented a conceptual trust model that is constructed from technological view (perceived ease-of-use and perceived usefulness) and trust view (trust in online store and perceived risk) but it is not appropriate for less experienced online purchaser and focus on perceived risk. This thesis is concentrated on study the area of trust in terms of supply chain and electronic contracting. As a result, it is essential to search the factor requirement for creating trust model in B2B context.

The research question addressed in this thesis can trust modelling decrease monitoring costs in terms of supply chain and electronic contracting. Trust in business expose some certificates such as one business can prove the other business through digital certificates. When businesses use trust, they need to understand about access control. It can be satisfied by a set of digital certificates (Li and Mitchell, 2003). For this research, the factor requirement will be taken from perception of customer and employee and verified research hypotheses. Thus, this thesis interest is to investigate whether models and technologies have the potential to decrease costs for B2B in supply chain and electronic contracting. In the next section, it is depicted the detail of research objectives.

## 1.2 Research Objective

The aim of this research is to create aware trust model to help assist in decreasing monitoring costs within the supply chain and electronic contracting settings. The approach is to create the model for evaluation. It will be described from these objectives:

- To investigate and understand problems of current trust models and Business to Business (B2B) with particular regard to monitoring costs in supply chain and electronic contracting. From this objective, the thesis will address the formation of trust and Business to Business (B2B) framework.
- To create a trust model for decreasing Business to Business (B2B) monitoring costs in supply chain and electronic contracting. From this objective, the thesis will solve the problem of costs by creating the trust model. Trust will help and clarify the iterative process. Trust has many dimensions; for instance, business, economic, marketing, management, social and information system. Moreover, trust model can be explained that how they can decrease the monitoring costs in Business to Business (B2B) context. This objective can be created trust by using selected criteria of trust based on some existing trust models such as those by Heijden et al. (2003), Hexmoore (2009), Huang and Fox (2005) and Sun et al. (2006).
- To undertake trust model evaluation and test it. From this objective, the thesis will refine the development of trust model.

From previous process, this process will test the rules of trust model. This will be undertaken by means of a survey of selected companies. Furthermore this thesis will assess previous and existing trust from survey methodology. Therefore, the trust model will consist of reliability, trustworthiness for decreasing monitoring costs in supply chain and electronic contracting.

## 1.3 Research Question

The research objectives and the problem definition explained from previous sections, the research question addressed in this study is as follows:

"How can trust modelling decrease monitoring costs in terms of supply chain and electronic contracting?"

## 1.4 Research Hypotheses

Based on the research question identified above, this research interest is to investigate whether models and technologies have the potential to decrease costs for Business to Business (B2B) in supply chain and electronic contracting. The hypotheses are created in this study and presented as follow:

H1a: Customer satisfaction influences customer attitude.

H1b: Perceived value influences customer attitude.

H1c: Service quality influences customer attitude.

H1d: Technology acceptance influences customer attitude.

H2a: Employee satisfaction influences employee attitude.

H2b: Attitude toward suppliers influences employee attitude.

H2c: Technology skill influences employee attitude.

H3: Customer attitude and employee attitude are positively associated with trust.

H4: The higher level of trust is positively related to the lower the level of monitoring costs.

## 1.5 Thesis Structure

This thesis responds the research question with the above objectives and hypotheses. Then it is organised in the following chapters:

In Chapter 2, state-of-the-art literature review of business and trust are presented. The researcher reviewed previous research related to business and trust. The

primary review studied several areas such as business, economic, marketing, management and information system. The review of trust relationship justified characteristic of trust model.

Chapter 3 presents the research hypotheses and research methodology. This chapter is identified the detail of hypotheses and conceptual framework of trust model. The proposed model is based on the relationship between Business to Business (B2B) and trust. The data involved the model was gathered and tested through the use of questionnaires.

Chapter 4 presents how to collect and analyse data. This chapter will discuss how to manage these data with research hypotheses. The researcher provided the appropriate statistic methods for analyse data.

Chapter 5 describes the results of structural trust model. After data are collected from the research process, they are analysed reliability and validity by using Cronbach's alpha, Pearson Correlation analyses and Regression analyses. Then, they will be report the results in term of structural trust model.

Chapter 6 provides the description of the ways that structural trust model can be used in the real world. Furthermore there are some discussions on contribution of this research and some recommendations in future research.

# Chapter 2: Literature Review and Research Hypotheses

This chapter provides a background review of Business to Business monitoring costs in terms of supply chain and electronic contracting settings. The varieties of trust are emphasised and identified criteria from advantages of the trust models are discussed in detail.

## 2.1 Background

Business to Business (B2B) is the exchange of products and services between two or more businesses and includes all transaction activities of one company to the other company. B2B, a business term for electronic transactions between businesses over the internet, plays a major role in the world economy. Many companies exchange business information using communication technology such as the internet (Alemayehu and Hepu, 2008). This business information is released into the market cheaper and faster than traditional marketing such as advertisement and exhibitions and therefore is transmitted through the internet from local to global, from one place to another place and from business to business.

Electronic transaction activities and electronic contracting in the supply chain require intensive checking, and Information Technology is an effective way to manage this transaction. The supply chain is the network of suppliers, manufacturers, retailers, and wholesalers involved in supply and distribution linkages by which products move from the production site to the site of final use (John, 2001; Hau, 2004).

The electronic contracting has led to contract management problems for companies due to the high costs and high time requirements caused by negotiation and monitoring of contract performance (Daskalopulu, 2000; Angelov and Gefen, 2004). Both the buyer and seller have to gain knowledge of using electronic transaction.

Some costs occur while exploiting supply chain and electronic contracting. These costs discourage customers from products or services that include time, effort and customer's knowledge. They are called switching costs. Switching costs are defined as the costs incurred when customers change from one supplier or marketplace to another (Klemperer, 2005). If these costs are high, it will be difficult for the business to make a profit.

There are switching costs in strategy, economics and marketing. For strategy, switching costs have competitive strategy and competitive advantage. When managers understand competitive strategy, they will attract business to achieve competitive advantage (Porter, 2000).

Most businesses seek to reach competitive advantage for their profit. Porter (2000) identified that the useful resources (e.g. patents, trademarks, reputation of business) and the capability of business (e.g. capability is ability to

use shortest time) are essential for creating competitive advantage. On the other hand, business accomplished competitive advantage via both technologies and new ways of doing things.

This thesis is also in agreement with the idea of Porter (2000). He stated that business created profit did not point out only the price but also the perceived value of products from customer.

For economics, switching costs mean unwillingness of customers to switch suppliers and keep away from the feature of business (Klemperer, 2005). For marketing, switching costs mean the relationship between businesses and customers. Relationship helps make businesses to be attractive and retain their customers (Kotler, 2000). Moreover, switching costs can be classified into three types in market consumers. From the first type of switching costs in market consumers, there are transaction costs that consist of the following: firstly, search costs include the costs of locating and evaluating trading partners; secondly, contracting costs include the costs of writing and negotiating for an acceptable agreement; thirdly, monitoring costs refer to the costs of monitoring the agreement of obligations and lastly, enforcement costs refer to take bargaining and empower trading partners.

From the papers cited above, businesses always use monitoring costs. Monitoring costs can be compared with the cost of modifying requirements and are greater than other costs in terms of transaction costs. Every business needs to monitor all of its products, services, customers, employees and suppliers for developing and improving its business framework to reach long-term profit. Similarly, companies are required to report outcomes truthfully and to run the business efficiently with profit. This is shown in Figure 2.1.

Business can decrease monitoring costs when the flow of information increases with its network collaborators (Hess and Ricart, 2002). Trust can solve the problem of monitoring costs and reach the benefits of market. According to Krishnan et al. (2006), trust relationship can improve the performance of information exchange. Trust relationship is described as trustworthiness, equality, and friendliness that make obligations between organisations. Thus, this information can be processed to improve management in the organisation. Furthermore, trust is defined as trustor counted on trustee. Thus trust decision is based on the trustor's relevant previous experience and information. As a result trust is derived from direct experience and it affects the continuing relationship.

On the other hand, trust can also be based on uncertainties and risks when the trustee can believe in the other parties in the relationship. Konrad et al. (1999) defined trust as the element of uncertainties and risks to consider that something will occur without complete knowledge and complete understanding of the situation. Risks can come from both technology and product. Technology risks relate to internet technology such as authentication, access information and security. Product risks concern time of delivery, loss of product and performance of product. In addition, trust is also not shown when the person is ignorant of their lack of knowledge.

Trust among humans is used widely in social life and is essential in social relationships. The advantage in business comes from trust relationships. It means that trust is relational. Trust is important but it is not enough to be representative such as A trust B but B is not allowed to be representative of A (Castelfranchi and Falcone, 2000). Trust is linked with social capital and cost-effective success (Kodish, 2006).

The objectives of the customer are realised when a strong relationship is motivated by both trust and network communication (i.e. computer and communication technologies). In economic transactions, the relationship of trust is between persons who are engaged in business. Trust is the actor in business activities that are applied with the exchange of goods and services and can be measured based on reliability. Trust is important as it decreases transaction costs between businesses. If trust transactions are high, they will use less time for monitoring costs. It means that they assure equal payoffs (Dore, 2006). The representation to depict trust in B2B is shown in Figure 2.1 (adapted from Porter (2000); Klemperer (2005); Kotler (2000) and Konrad et al. (1999).
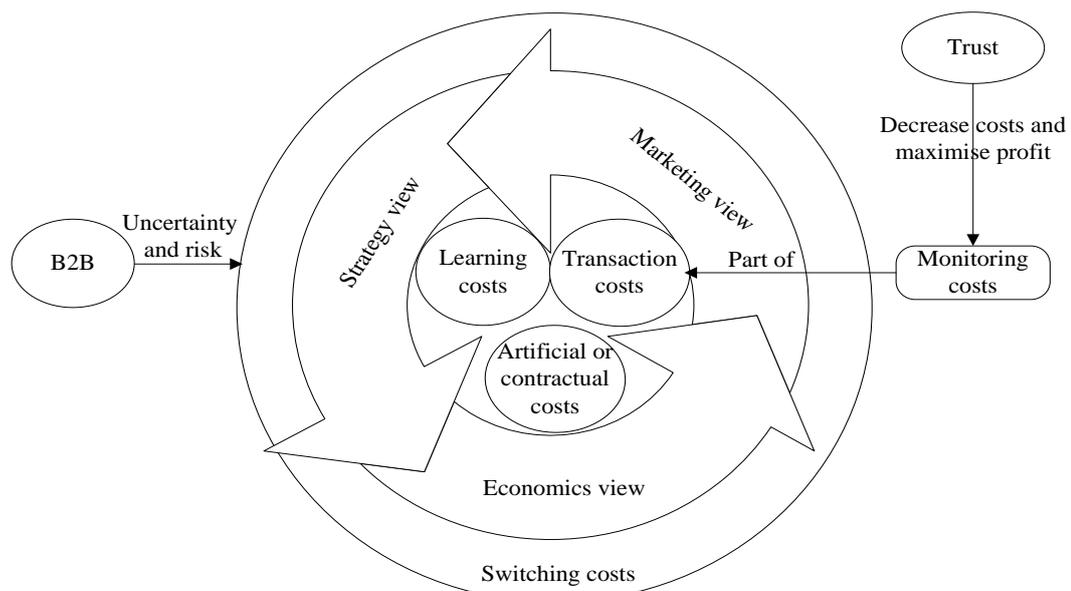


Figure 2.1: Diagram for Trust related Total costs (adapted from Porter, 2000; Klemperer, 2005; Kotler, 2000 and Konrad et al., 1999)

Use of a global system depends on trust such as the internet, electronic commerce and electronic marketing. Most users are not technically educated about using computer networks but willing to use these systems. Their trust is based on belief in the security, dependability and competence of these systems. Trust contracts the degree of belief between the buyer and seller. However, trust is a problem in the electronic market for example the seller cannot send the requirement to the buyer on time. Monitoring can increase trust in the electronic market (Ferrin et al., 2007).

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From previous literature, there are two categories of trust: trust is between people called interpersonal trust (Castelfranchi and Falcone, 2000) and trust is in organisation and business called institutional trust or interorganisational trust (Konrad et al., 1999). If businesses grow up and extend markets from local communities to globalisation, monitoring costs will be expanded too. Bijlsma-Frankema and Costa (2005) show that trust can minimise monitoring costs because trust can condense transaction distances. No previous studies were found that trust can reduce monitoring costs in term of supply chain and electronic contracting directly. Trust is required more in electronic transactions than in a traditional shop because trust can alleviate uncertainty conditions in the markets such as unknown shop owners and unknown quality of product (Tan and Theon, 2003).

Trust in electronic commerce is a part of interactive system, which requires awareness, and trustworthiness of user that achieve trust improvement (Ani and Joobin, 2009). In additional electronic commerce includes transfer information via communication technology. Whenever customers trust online suppliers they seem to be accountable for sharing information. Reichheld and Schefter (2000) propose that there are two ways for managing trust in business.

Firstly, policy-based trust management concerns distributed services architectures that explain the problem of license and access control in the system. Policy-based must be used with grid.

Secondly, reputation-based trust management involves electronic commerce system and it will manage trust in public key certificates. Reputation-based is used with boundary of information in network systems and must be used with peer-to-peer systems.

## 2.2 Trust Models

The methods for analysing through trust propagations are referred to as trust models. Trust models should satisfy all axioms according to the method developed by Sun et al. (2006). Trust is created between two parties for a particular action. One party relies on the other party to complete the actions. Thus, the first party means the subject and the second party is the agent. Trust relationship is represented as {subject: agent; action}:

- Subject - usually represents one entity; can be a group of entities
- Agent - one entity, a group of entities, or even the network
- Action - an action performed (or a property possessed) by the agent

According to Sun et al. (2006), they also presented three mathematical representations of axioms:

1. The mathematical representation of Axiom 1 is

$$\left|T_{AC}\right| \le \min\!\left(\left|R_{AB}\right|, \left|T_{BC}\right|\right),$$

where $T_{AC} = T\{A: C, \text{action}\}$, $R_{AB} = T\{A : B, \text{action}\}$ and $T_{BC} = T\{B : C, \text{action}\}$

The trust value of $\{A : B, \text{action}\}$ is represented T and making recommendation of performing action is represented by R. This axiom can be shown in Figure 2.2.
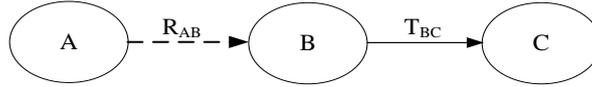


Figure 2.2: Trust transit along a chain (source: Sun et al., 2006)

2. The mathematical representation of Axiom 2 is

$$T_{AC} \ge T_{AC'} \ge 0 \text{, for } R_1 > 0 \text{ and } T_2 \ge 0;$$

$$T_{AC} \le T_{AC'} \le 0 \text{, for } R_1 > 0 \text{ and } T_2 < 0,$$

where $R_1 = T\{A: B, \text{making recommendation}\} = T\{A: D, \text{making recommendation}\}$ and $T_2 = T\{B: C, \text{action}\} = T\{D: C, \text{action}\}$

This axiom can be shown in Figure 2.3.



(A)



(B)
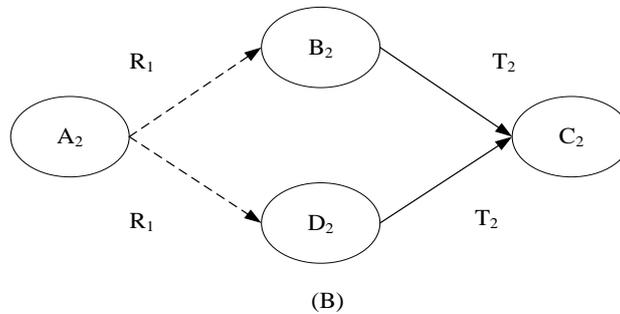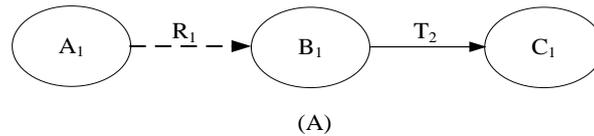
Figure 2.3: Combing trust recommendations (source: Sun et al., 2006)

3. The mathematical representation of Axiom 3 is

$$T_{AC} \geq T_{AC'} \geq 0, \text{ if } T_{AC'} \geq 0;$$

$$T_{AC} \leq T_{AC'} \leq 0, \text{ if } T_{AC'} < 0,$$

where $R_1$, $R_2$ and $R_3$ are all positive.

This axiom can be shown in Figure 2.4.



(A)



(B)
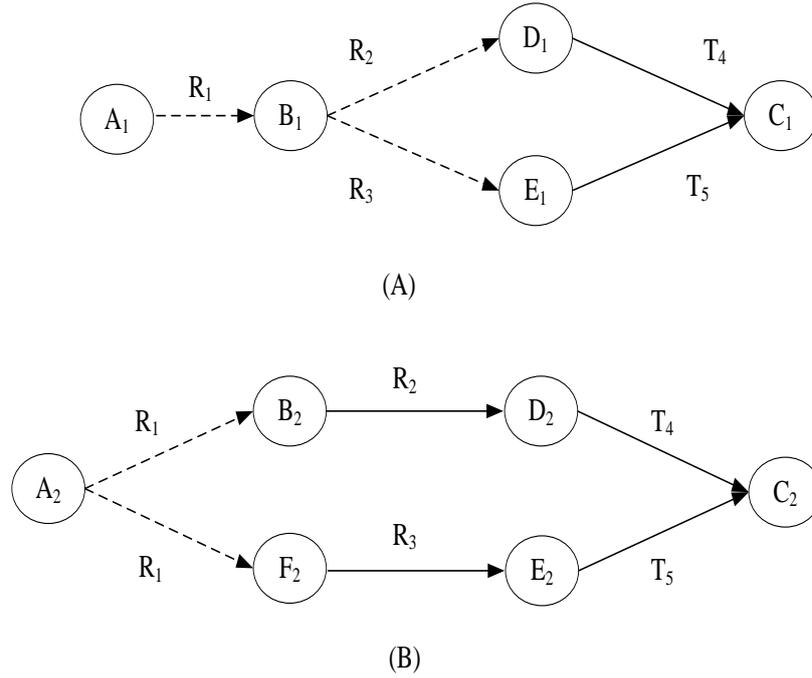
Figure 2.4: Sharing entities on transit paths (source: Sun et al., 2006)

The style of lines stand for the type of the action: dashed lines show making recommendations and solid lines show performing actions. From these axioms, Sun et al. (2006) referred to entropy-based (satisfy axiom 1) and probability-based (satisfy axioms 1, 2 and 3) trust models. Furthermore Reidt and Wolthusen (2007) presented ad hoc networks modelled as G = (V, E), where V is the set of vertices and E is the set of edges. According to Reidt and Wolthusen (2007), it is called belief set: Let V be the set of all nodes, then the relation

$$R(t): V \times V \rightarrow [0,1] \subset R$$

contains all quality factors of the networks at a certain time. R can be identified as

$$\text{matrix } R = \left( r_{ij} \right) \in M \left( n \times n; [0,1] \subset R \right)$$

The advantages of Sun et al. (2006) and Reidt and Wolthusen (2007) trust models have been used to calculate value in a distributed network but not for a business.

Huang and Fox (2005) described how trust models can be calculated and revised trust between two entities. In general, there are two types of trust: trust in belief and trust in performance. Trust in belief means the trustor believes everything believed by the trustee. Trust in performance means the trustor believes in the information created or believes in the actions performed by trustee. For example, if entity x trusts y on y's belief in other entities' performance, y trusts z in z's performance, then x indirectly trusts z concerning z's performance. According to Huang and Fox (2005), both of the two types of trust are presented in terms of axioms:

1. Axioms of trust in belief is

$$trust\_b(d,e,x,k) \equiv believe(e,k \supset x) \supset believe(d,k \supset x),$$

where trustor $d$ trusts trustee $e$ regarding $e$'s belief (represented by $x$) in context $k$ means that if information $x$ is believed by entity $e$, then entity $d$ believes $x$ in context $k$.

2. Axioms of trust in performance is

$$trust\_p(d,e,x,k) \equiv madeBy(x,e,k) \supset believe(d,k \supset x),$$

where trustor $d$ trusts trustee $e$ regarding $e$'s performance (represented by $x$) in context $k$ means that if information $x$ is made by entity $e$, then $d$ believes $x$ in context $k$.

Hexmoore (2009) explained trust models that can be separated as policies between customer and resource (shown in Figure 2.5).
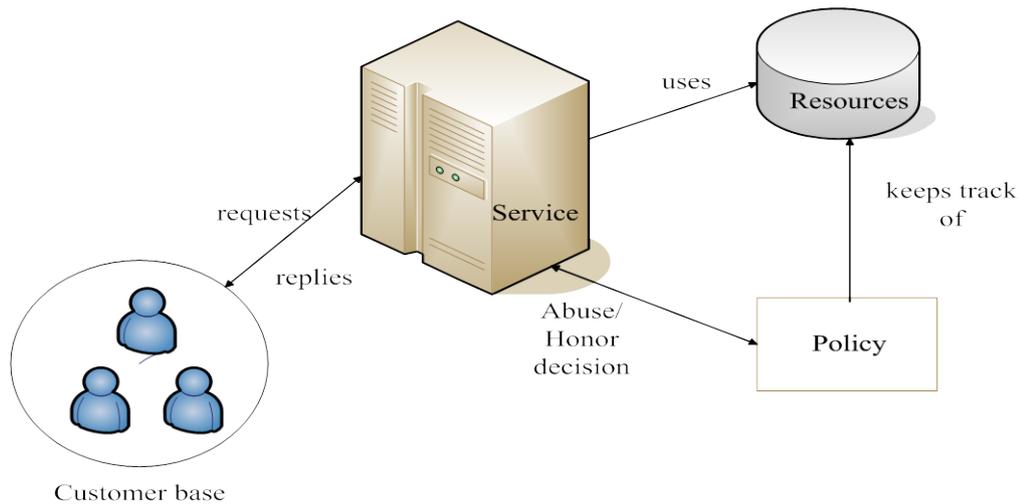
Figure 2.5: Trust-based service model architecture (source: Hexmoore, 2009)

According to Hexmoore (2009) firstly, resource-centric policies focus on resource management and occur when customer requests for service are honoured on a First Come First Serve basis. If resources are depleted the service requests will be abused.

If (resources>0)

  Honour the customer request

else

  Abuse the customer request

From above Pseudo-code, the resource management respects the earliest customer who requests for products or service. On the contrary, if resources are diminished, the resource management will neglect customer request.

For random policy, customer service requests are honoured or abused randomly until available resources are exhausted.

If (resources>0)

  Randomly honour or abuse the customer request

else

  Abuse the customer request

Lastly, customer-centric policies focus on the past of service with particular customers. This policy retain for old customers by providing more preference to them.

```
If (resources>0)

        If (customer request with long standing history)

          Honour the request

        else

          Honour the request with resource centric policy

    else

      Abuse customer request
```

From the above Pseudo-code, the resource management keeps the previous customer and treats them in priority person.

For new customers, this policy attracts new customers by giving more focus to them.

```
If (resources>0)

        If (new customer request)

          Honour the request

        else

          Honour the request with resource centric policy

    else

      Abuse customer request
```

This thesis is also in agreement with the idea of Hexmoore (2009). He stated that quality of service influences the previous customer to come back to buy products again.

Hexmoore's model can be used for business to assess customer satisfactions but there are some drawbacks i.e. it is limited for electronic customers and services, and it is suitable for reputation service.

Islam and Yang (2005) proposed that financial institutions use electronic Customer Relationship Management (e-CRM) services. They discovered that institutions created and increased levels of quality service satisfaction and information trust. There is a positive relationship between electronic and people-service quality, satisfaction with trust in e-CRM. Their research focused on representative banks and did not find statistic significance to support hypotheses.

Moreover Heijden et al. (2003) presented a conceptual trust model (shown in Figure 2.6) that is constructed from technological view (perceived ease-of-use and perceived usefulness) and trust view (trust in online store and perceived risk).
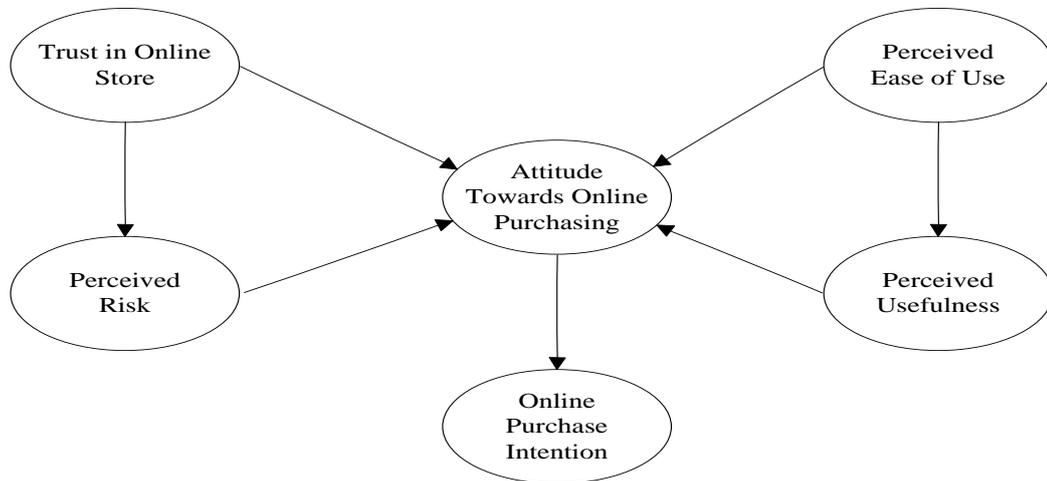


Figure 2.6: Conceptual trust model (source: Heijden et al., 2003)

Heijden's model is suitable for business but it is not appropriate for the less experienced online purchaser, and focuses on perceived risk.

## 2.3 Trust Criteria

In section 2.2, trust can be used to develop organisation and propagation in the network. From previous literature, this research identifies criteria from advantages and drawbacks of the trust models that are presented in Table 2.1.

| Criteria | Trust models | | | | |
|---|---|---|---|---|---|
| | Heijden et al. | Hexmoore | Huang and Fox | Islam and Yang | Sun et al. |
| Online purchasing | - | √ | - | √ | √ |
| Reduce uncertainty and risk | √ | - | √ | - | - |
| Resource sharing | - | √ | √ | √ | √ |
| Retain customer | √ | √ | √ | - | - |
| Suitable for business | √ | √ | - | √ | - |

Table 2.1: Comparison of trust models by using criteria

These selected criteria will be related to research hypotheses that based on B2B include features of supply chain and electronic contracting. Thus, this research will create a trust model for decreasing B2B monitoring costs in supply chain and electronic contracting.

## 2.4 Research Hypotheses

The aim of this thesis is to create an aware trust model to help assist in decreasing monitoring costs within the supply chain and electronic contracting settings. This section provides the link between hypotheses and literature which are discussed below.

### 2.4.1 Customer Attitude

Customer attitude refers to consumers' emotions and believes about products and services. Customer attitude cannot be changed easily. It results from previous experience such as advertisements, images and quality of product. Moreover, this reflects the positive, neutral, or negative feelings of the consumer with the company. Thus, customer attitude includes customer satisfaction, perceived value, service quality and technology acceptance.

Customer satisfaction indicates that customers are happy with the quality of products or services, company relationship and the customers' expectations. The achievement of customer satisfaction leads to company loyalty and product repurchase.

Perceived value refers to transaction, in-use, redemption-based (Parasuraman, 2005) and other values that customer received from the company (Ratnasingam, 2002). Likewise, customers make purchase decisions and think about value of product that they pay. Customers buy products not only for their features or their functions but for their value too. Moreover, perceived value includes customers being proud of company reputation after they are treated as privilege member. Lloyd (2004) states that satisfaction and perceived value have positive influence on loyalty. In addition, Gremler (2003) presented that customer loyalty is not only the faith of customer but also attitudes and activities.

Chiou and Droge (2006) found that service quality (facility and interactive) affect satisfaction from a cosmetic company. Customers feel good after they consume products or services from company and they do not hesitate to buy more products and services too. In addition they are keen to reduce costs for retaining customers (Lloyd, 2004). Furthermore, the importance of reputation to a company raises motivation awareness of customers.

Technology acceptance is defined as how customers accept and are familiar with technology. Technology acceptance is applied to test user acceptance of information technology such as how often customer access internet. In this research, technology acceptance is used in questionnaires for searching and delivering information. In addition, technology acceptance can be come from

perceived usefulness and perceived ease of use (Davis, 2004). Perceived usefulness means the user think that they can get benefit after using information technology, at the same time as perceived ease of use refers how easy the user can take from technology. Thus:

H1a: Customer satisfaction influences customer attitude.

H1b: Perceived value influences customer attitude.

H1c: Service quality influences customer attitude.

H1d: Technology acceptance influences customer attitude.

## 2.4.2 Employee Attitude

Research work on trust in business relationships has shown that trust is an essential factor for relationship success. Specifically, relationship encompasses elements of the relation between buyer and seller, supplier performance (Zaheer et al., 2005), information technology towards business to business (Ratnasingam, 2002). Information technology in business means that customers can buy products and services at all times by using technology. Companies need not pay more for advertising and promoting via other media (Salam et al., 2005). The performance of information technology will diminish time and transaction process that includes information sharing, inventory management, logistics, mutual planning and transportation (Raluca, 2005). As a result, business can increase profit. Thus:

H2a: Employee satisfaction influences employee attitude.

H2b: Attitude toward suppliers influences employee attitude.

H2c: Technology skill influences employee attitude.

## 2.4.3 Customer Attitude, Employee Attitude and Trust

If buyers trust sellers based on past experience they will be happy with those sellers. Those sellers can persuade old buyers to be long term customers (Chiou and Droge, 2006). Furthermore, trustworthy customers intend to buy products and services from previous company, they don't hesitate to pay products from other company. The advantages of trust often results in efficient and effective performance of supply chain and electronic contracting. This hypothesis proposes that trust has a positive effect between customer and employee attitude. Thus:

H3: Customer attitude and employee attitude are positively associated with trust

## 2.4.4 Trust and Reduce Monitoring Costs

Trust means reliable, trustworthy and faithful and it is useful not only for old consumers but also for new customers. If customers think positively about products they will perceive value, loyalty and service quality. Thus, business can save advertising and other budgets such as attractive packaging (Stewart, 2003). However Gulati (2008) indicates that trust can achieve reduction in search costs and also increase profit (Dyer and Chu, 2003).

Hubbard (2000) found that monitoring costs increased with distance. Distance had also influenced business strategy in some frameworks. Distribution used longer distances when compared on-board monitoring equipment.
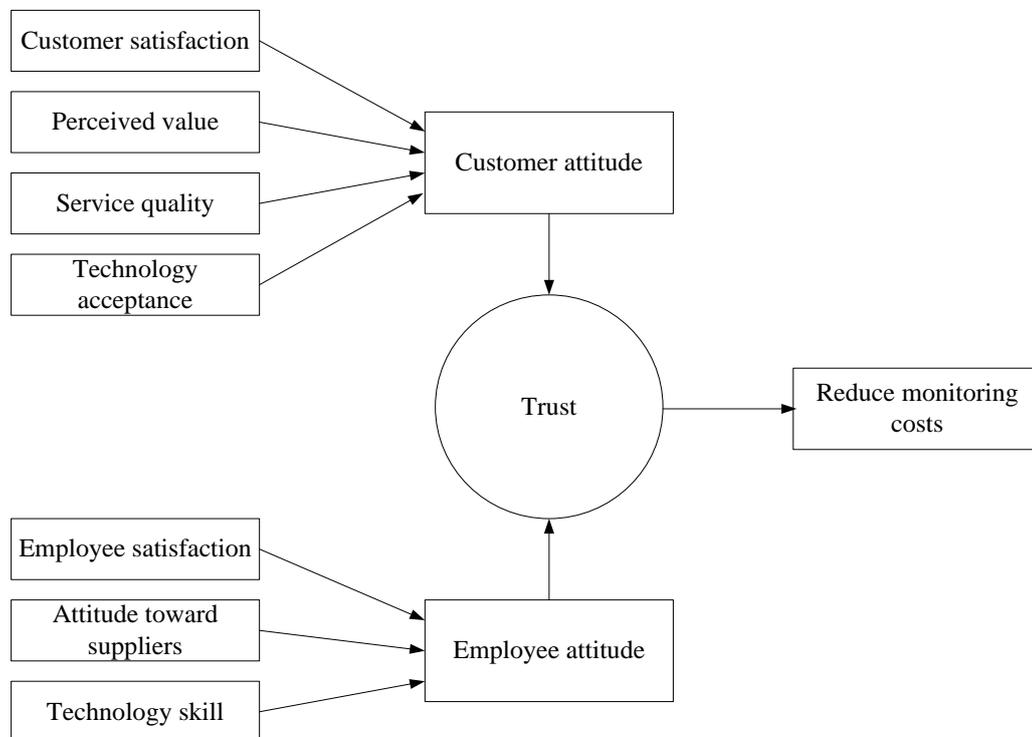


Figure 2.7: Conceptual Framework and Research Hypotheses

Monitoring also employed the degree of fixed costs. If monitoring costs are higher, it is more attractive for a foreign investor to form a joint venture with a local partner to help in managing the investment (Lin and Png, 2002). No literature has been found that addresses trust and how it may have a positive effect in reducing monitoring costs. Thus:

H4: The higher level of trust is positively related to the lower the level of monitoring costs.

## 2.5 Chapter Summary

This chapter presents the background of B2B monitoring costs in term of supply chain and electronic contracting settings. The literatures also relate to the different types of trust models include trust propagation, trust in belief, trust in performance and trust-based service but this thesis highlights on trust in Business to Business. This chapter has classified research hypotheses based on previous literature that presented strong evidence.

The detail of research methodology and instrument will be provided in Chapter 3. Data collection and analysis will be discussed in Chapter 4. The result of structural trust model will be presented in Chapter 5.

# Chapter 3: Research Methodology

In this chapter, discussion on the research methodology is discussed. This chapter will be discussed the terms of research process, development of the instrument, questionnaires design, survey management and response rate. The research methodology is presented by survey questionnaires related to the hypotheses.

## 3.1 Research Methodology

The research methodology and methods for this research were chosen in order to accomplish the research objectives. The development of the relevant instrument with the outline of problems in the survey will be discussed.

The survey studies used are related to attitudes of customers and employees from selected companies. This research was undertaken in a developing market (i.e. industrialisation) area in Thailand and disseminated purposive samplings (choose the region and the respondents for a specific purpose) was selected with businesses involving supply chain and electronic contracting that include the following businesses: coffee chain, superstore, network provider and hotel. These businesses were selected as they use internet technology.

Primary data collection focused on respondents that had internet experience. Information about these businesses was accessed by using a questionnaire sent as an attachment to an electronic mail (with letter to the questionnaire distributed) that was part of the internet questionnaire to customers and employees.

The questionnaires are flexible, with potential for good response rate, validity, standardised answers, speedy collation of data and easier to contact with respondents (Denscombe, 2007). Questionnaires are a popular way of gathering information and are convenient for respondents to answer questions. The questionnaires save cost and time when compared with face-to-face surveys. Respondent feel free to complete the questionnaires. The questionnaires are a simple way to collect data and analyse. The information on trust required from the questionnaires are credibility, emotional stability, information sharing, openness to experience and team management.

After the questionnaires were developed, the respondents were required to fill in the part of questionnaires and replied for positively closed questions. Questionnaire items of customer used a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Moreover questionnaire items of employee used a five-point Likert-type scale where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = frequently (Likert, 1932). The questionnaire items need to be clear and understandable. The final questionnaires are displayed in Appendix A.

This research used statistical analysis and SPSS software to investigate the research hypotheses. A survey methodology was employed to collect primary data in order to test hypotheses. In table 3.1 the relationship between the hypotheses and questions is presented.

| Name of Hypotheses | Questions |
|---|---|
| Hypothesis 1 | C_2.1,2.2,2.3,2.4,2.5,2.6,2.7 |
|  | C_3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8 |
|  | C_4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 |
|  | C_5.1,5.2,5.3,5.4,5.5,5.6,5.7 |
| Hypothesis 2 | E_2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8,2.9,2.10 |
|  | E_3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10,3.11,3.12 |
|  | E_3.13,3.14,3.15,3.16,3.17,3.18,3.19,3.20 |
|  | E_4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9,4.10 |
| Hypothesis 3 | C_3.1,3.2,3.5,3.7,3.8,4.4,4.5,5.5 |
|  | E_2.9,3.3,3.4,3.6,3.8,3.18,3.19,4.1,4.3,4.4,4.7,4.9 |
| Hypothesis 4 | E_2.10,3.1,3.2,3.3,3.8,3.9,3.10,3.14,3.15,4.2,4.4,4.10 |

C= question from customer, E= question from employee (see in Appendix A)

Table 3.1: Relationship between hypotheses and questions

## 3.2 Development of Instrument

In order to create the questionnaires to be as a research instrument to collect primary data, this research conducted preliminary information gathering by studying information from literature reviews.

Sekaran (2003) classified the three steps of design questionnaires: firstly, the wording of the questions; secondly, planning variables that they will be categorised, scaled, and coded after receipt of the responses; and lastly, the general appearance of the questionnaire.

The wording of the questions needs to be easy to understand and reply. This survey used closed multiple-choice questions and five-point Likert-scale. On the other hand, there was reduced time for answer and some confusion.

The planning variables are categorised, scaled, and coded after receipt of the responses. This step is required for analysis of the data by using SPSS. Every question were categorised and coded in variable name. This survey used many types of scale including interval, nominal, ordinal and ratio scales.

The general appearance of the questionnaire was presented in sections. The first section used simple questions such as gender, age, marital status and education level. The other sections focused on the opinion of respondents and their experiences.

From previous literature, the researcher got an idea for what was happening in the situation from both sides of customers and employees. The information from this step helped in designing the questionnaires and supported by information from literature review. Literature reviews were conducted in order to obtain more information.

Questions in the questionnaire were identified in order to obtain important information for this research associated with customers and employees. The questionnaires information fall into two parts: firstly, information of respondents included personal characteristics such as demographic profile, products or service that respondents liked or disliked. Opinion information of the respondents included attitudes, views of businesses and perceptions of business information.

Key variables from the literature review were separated in the sections of questions for developing an effective questionnaire to be used in this survey. The questionnaires variables were based on various theorised features. The aim of this research was hypotheses that explained the relationship between dependent variable and one or more independent variables. Thus, this was instrument research to collect data. The survey instrument should be increased response rate from participations.

The items used to measure in the questionnaires were developed from Parasuraman (2005), Ratnasingam (2002), Lloyd (2004), Gremler (2003), Davis (2004), Chiou and Droge (2006), Gulati (2008) and Hubbard (2000). Statistical analysis methods were then used to analyse data from the questionnaire survey.

Peer review is used to test questions and questionnaires. This method asked question from colleagues in Thailand. This is a cost effective method for testing questionnaires. Pilot survey was not used in this research because the range of population was small and time was limited.

## 3.3 Questionnaire Design

From several types of survey method, questionnaires are lists of structured questions which the researcher delivered over a short time to collect data from respondents. The previous literature and research hypotheses (in Chapter 2) informed the questionnaire design. The questionnaire design stage for this research took three months and was sent to the relevant population. This survey was conducted within coffee chain, superstore, network provider and hotel in Thailand. The questionnaire used in this research was divided into two parts for customers and employees that are discussed in next section.

### 3.3.1 Questionnaires for customer

The questionnaire for customers contained a total of 36 questions separated into 5 sections (see Appendix A). Some sections used closed multiple-choice questions to reduce the survey burden on respondents. In addition this survey used a five-point Likert-scale because it is the majority accepted for

measuring attitudes and this method is simple to manage the wording of questions. The aim of the questions will be described as follows.

**Section 1** focused on demographic data. It contained 5 questions all set up as nominal scales which included gender, age, marital status, education level and how long have customer used products or services.

**Section 2** focused on the opinion of customer to satisfy with price, location of store, opening time of store, environment of store and the purchase method. It contained 7 questions all set up as interval scales. This section related to hypothesis 1 and 2.

**Section 3** focused on the experience of customer towards the products such as quality of product, value of product, advertise of product and packaging of product. It contained 8 questions all set up as interval scales. This section related to hypothesis 1 and 3.

**Section 4** focused on the feeling of customer towards quality of service representative that included helpfulness, courteous, knowledgeable, friendly and calling response time. It contained 9 questions all set up as interval scales. This section related to hypothesis 1.

**Section 5** focused on internet usage such as how often do customer access internet. It contained 7 questions all used closed multiple-choice questions. This section related to hypothesis 1.

### 3.3.2 Questionnaires for employee

The questionnaire for employees contained a total of 47 questions separated into 4 sections (see Appendix A). Some sections used closed multiple-choice questions to reduce the survey burden on respondents. In addition this survey used a five-point Likert-scale because it is the majority accepted for measuring attitudes and this method is simple to manage the wording of questions. The purpose of the questions is as follows.

**Section 1** focused on demographic data. It contained 7 questions all set up as nominal scales which included gender, age, marital status, education level and how long have employee worked in their organisation.

**Section 2** focused on the opinion of employee to satisfy with organisation such as teamwork, job responsibilities. It contained 10 questions all set up as interval scales. This section is related to hypotheses 2 and 3.

**Section 3** focused on the attitude of employee towards the suppliers such as assess quality system, evaluate suppliers, report documents, relationship with suppliers and monitor supplier. It contained 20 questions all set up as interval scales. This section related to hypotheses 2, 3 and 4.

**Section 4** focused on technology skill such as update information, preventing unauthorised user, passwords changeable and record of business transactions. It contained 10 questions all set up as interval scales. This section related to hypotheses 2, 3 and 4.

### 3.4 Survey administration and Response rate

The survey was carried out by using personal relationship with employees of each business and asking them to distribute questionnaires to the respondents. The questionnaires were sent as an attachment with electronic mail. It was important to attach a covering letter to introduce respondents to the aim of survey.

In total, 50 questionnaires were sent to customers and 40 questionnaires were sent to employees. The questionnaires were distributed to customers and employees of Starbucks (coffee chain) 10 (for customers) and 8 (for employees) respectively, Central department store (superstore) 10 (for customers) and 8 (for employees) respectively, True Corporation (network provider) 10 (for customers) and 8 (for employees) respectively, Maruay Garden Hotel 10 (for customers) and 8 (for employees) respectively and Landmark Hotel Bangkok 10 (for customers) and 8 (for employees) respectively, in Thailand.

After the respondents answered the questions, they were returned back by electronic mail. From the total of 90 questionnaires, 90 were returned (50 questionnaires from customer and 40 questionnaires from employees). These activities were conducted within three weeks and followed up by electronic mail and telephone calls.

From the overall of questionnaires were returned 100 percent. It was no missing value (see detail in Table 3.2 and 3.3). The period of this survey was from 10 May 2010 to 14 June 2010.

| Company Names | Questionnaire Sent | Questionnaire Returned | Response Rate (%) |
|---|---|---|---|
| Starbucks | 10 | 10 | 100 |
| Central department store | 10 | 10 | 100 |
| True Corporation | 10 | 10 | 100 |
| Landmark Hotel | 10 | 10 | 100 |
| Maruay Garden Hotel | 10 | 10 | 100 |
| **Total** | 50 | 50 | 100 |

Table 3.2: Response Rate of Customer

Response was on the basis of voluntary participation. The response rate of customers was very high (100%). The researcher accomplished and followed up by electronic mail and telephone calls. In addition, respondents were focused small group in Bangkok.

| Company Names | Questionnaire Sent | Questionnaire Returned | Response Rate (%) |
|---|---|---|---|
| Starbucks | 8 | 8 | 100 |
| Central department store | 8 | 8 | 100 |
| True Corporation | 8 | 8 | 100 |
| Landmark Hotel | 8 | 8 | 100 |
| Maruay Garden Hotel | 8 | 8 | 100 |
| **Total** | 40 | 40 | 100 |

Table 3.3: Response Rate of Employee

The overall response rate of employees was also very high (100%). They pay more attention to this survey because questionnaires were related to their work. Moreover, they may come from their work experiences and are willingness to respond questionnaires.

**3.5 Chapter Summary**

This chapter described the research methodology and the development of the instrument. This chapter discusses why methodology was used. The details of sections point to specific reason involve questions and hypotheses. The research methodology used a survey method to collect data from respondents. The details of data analysis are presented in the next chapter.

# Chapter 4: Data Collection and Analyses

This chapter identifies the ways of collecting and analysing data. The formulation of gathering data using questionnaires survey that relate with the hypotheses. The data is analysed by using reliability of Cronbach's alpha and validity of Pearson Correlation analyses and Regression analyses.

## 4.1 Data Collection

This research used quantitative method (questionnaires) for evaluating/testing the model. In particular, questionnaires were measured by collecting data of customers and employees' perceptions, individual experiences and relationships in organisations.

The processes of collecting data are presented in two steps. The first step is to classify the type of information, then find out which organisations are able to give the suitable information. The second step is to send the aim of research to those organisations.

The selection of the target population was made in accordance with the accessibility of the research objective and was not easy to collect data from the full population in Thailand. The information for this research was collected from a B2B framework where respondents were concerned with the supply chain context. This context includes the following businesses: coffee chain (worldwide and well-known coffee chain), superstore (leading domestic superstore), network provider (leading domestic internet service provider) and hotel (leading domestic hotel and well-known hotel).

Worldwide businesses are not considering only the local market. This means that they know about bad business or good practise. Therefore, there is higher opportunity that their customers will get/receive a consistent service worldwide-standardised process/perception that is to the benefit of customers. These refer to the consistency of customer satisfaction levels and relationship between employees and the company.

These organisations were chosen because this research aims to collect data on both customer and employee perceptions about electronic contracting.

The questionnaires were developed and sent to customers and employees of Starbucks (coffee chain), Central department store (superstore), True Corporation (network provider), Maruay Garden Hotel and Landmark Hotel Bangkok in Thailand. These selected companies are the public perception of customer and employee attitudes. Questions were selected and modified from appropriateness of the condition to be measured.

The conditions chosen were two groups: Firstly, questionnaires for customer attitude (36 items) were demographic profile (5 items), customer satisfaction (7 items), perceived value (8 items), service quality (9 items) and

technology acceptance (7 items). Lastly, questionnaires for employee attitude (47 items) were demographic profile (7 items), employee satisfaction (10 items), attitude toward suppliers (20 items) and technology skill (10 items). They also included questionnaires for trust customer (8 items), trust employee (12 items) and reduce monitoring costs (12 items).

This information is analysed from measure of central tendency (mean, mode, and frequency), measure of variability (range, standard deviation) and Cronbach's alpha for developing trust model. These methods will generate the correct results to reduce costs and time from risks. In this research, the relationship will be extended in the business context by testing the trust model to evaluate the impact of trust under the condition of costs.

## 4.2 Demographic Data

The questionnaires were returned from two groups of respondents: customer and employee. The demographic profile of customers (n=50) and employees (n=40) are shown in Appendix B. Moreover, questionnaires were separated to Starbucks (10 for customer and 8 for employee), Central department store (10 for customer and 8 for employee), True Corporation (10 for customer and 8 for employee), Maruay Garden Hotel (10 for customer and 8 for employee) and Landmark Hotel Bangkok (10 for customer and 8 for employee) in Thailand. From customer respondents, 38 percent were male and 62 percent were female. The education levels of customers were 72 percent high school/undergraduate degree and 28 percent graduate degree. Some 70 percent of customers had previous used products/services more than one year (see section 4.2.1). From employee respondents, 15 percent were male and 85 percent were female. The employees with more two years of experiences were 95 percent that related to they preferred their job and teamwork (see section 4.2.2).

### 4.2.1 Demographic Data of Customer

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 2 | 20 |
| | Female | 8 | 80 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 4 | 40 |
| | 30 to 39 | 5 | 50 |
| | 40 plus | 1 | 10 |
| Marital Status | Single | 8 | 80 |
| | Married | 2 | 20 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 7 | 70 |
| | Graduate degree | 3 | 30 |
| | Postgraduate degree | 0 | 0 |
| Experience of product | Less than 1 month | 0 | 0 |
| | 1-6 months | 2 | 20 |
| | 6 months to 1 year | 3 | 30 |
| | More than 1 year | 5 | 50 |

Table 4.1: Demographic information of Customer of Starbucks

A number of customers of Starbucks were in the age range 30 to 39 (50%), 19 to 29 (40%) and 40 plus (10%). The majority of customers were single (80%). It can be seen that single people preferred to take their time in Starbucks. The highest percentage of customers graduated at undergraduate degree (70%) compared to graduate degree (30%). The percentage of experience of products was more than 1 year (50%), 6 months to 1 year (30%) and 1-6 months (20%). This result indicates Starbucks are well known and worldwide.

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 3 | 30 |
| | Female | 7 | 70 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 2 | 20 |
| | 30 to 39 | 6 | 60 |
| | 40 plus | 2 | 20 |
| Marital Status | Single | 5 | 50 |
| | Married | 4 | 40 |
| | Separated | 1 | 10 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 8 | 80 |
| | Graduate degree | 0 | 0 |
| | Postgraduate degree | 2 | 20 |
| Experience of product | Less than 1 month | 2 | 20 |
| | 1-6 months | 3 | 30 |
| | 6 months to 1 year | 0 | 0 |
| | More than 1 year | 5 | 50 |

Table 4.2: Demographic information of Customer of Central department store

A number of customers of Central department store were in the age range 30 to 39 (60%), 19 to 29 (20%) and 40 plus (20%). The majority of customers were female and single (50%) compared to married (40%) and separated (10%). The highest percentage of customers graduated at undergraduate degree (80%) compared to postgraduate degree (20%). The percentage of experience of products was more than 1 year (50%), 1-6 months (30%) and less than 1 month (20%). It can be seen that Central department store was a leading domestic superstore compared to the other superstores.

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 5 | 50 |
| | Female | 5 | 50 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 5 | 50 |
| | 30 to 39 | 3 | 30 |
| | 40 plus | 2 | 20 |
| Marital Status | Single | 5 | 50 |
| | Married | 5 | 50 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 2 | 20 |
| | Undergraduate degree | 7 | 70 |
| | Graduate degree | 1 | 10 |
| | Postgraduate degree | 0 | 0 |
| Experience of product | Less than 1 month | 0 | 0 |
| | 1-6 months | 2 | 20 |
| | 6 months to 1 year | 2 | 20 |
| | More than 1 year | 6 | 60 |

Table 4.3: Demographic information of Customer of True Corporation

A number of customers of True Corporation were in the age range 19 to 29 (50%), 30 to 39 (30%) and 40 plus (20%). The marital status of customers were single (50%) and married (50%). The highest percentage of customers graduated at undergraduate degree (70%) compared to high school (20%) and graduate degree (10%). The percentage of experience of products was more than 1 year (60%), 6 months to 1 year (20%) and 1-6 months (20%). This result indicates that it was a leading domestic internet service provider.

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 3 | 30 |
| | Female | 7 | 70 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 5 | 50 |
| | 30 to 39 | 3 | 30 |
| | 40 plus | 2 | 20 |
| Marital Status | Single | 6 | 60 |
| | Married | 4 | 40 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 6 | 60 |
| | Graduate degree | 3 | 30 |
| | Postgraduate degree | 1 | 10 |
| Experience of product | Less than 1 month | 0 | 0 |
| | 1-6 months | 0 | 0 |
| | 6 months to 1 year | 0 | 0 |
| | More than 1 year | 10 | 100 |

Table 4.4: Demographic information of Customer of Landmark Hotel

A number of customers of Landmark Hotel were in the age range 19 to 29 (50%), 30 to 39 (30%) and 40 plus (20%). The majority of customers were single (60%) compared to married (40%). The highest percentage of customers graduated at undergraduate degree (60%) compared to graduate degree (30%) and postgraduate degree (10%). The percentage of experience of products was more than 1 year (100%). This result indicates Landmark Hotel has a good relationship with customers.

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 6 | 60 |
| | Female | 4 | 40 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 2 | 20 |
| | 30 to 39 | 4 | 40 |
| | 40 plus | 4 | 40 |
| Marital Status | Single | 6 | 60 |
| | Married | 2 | 20 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 2 | 20 |
| Education Level | High school | 2 | 20 |
| | Undergraduate degree | 4 | 40 |
| | Graduate degree | 4 | 40 |
| | Postgraduate degree | 0 | 0 |
| Experience of product | Less than 1 month | 0 | 0 |
| | 1-6 months | 0 | 0 |
| | 6 months to 1 year | 0 | 0 |
| | More than 1 year | 10 | 100 |

Table 4.5: Demographic information of Customer of Maruay Garden Hotel

A number of customers of Maruay Garden Hotel were in the age range 30 to 39 (40%), 40 plus (40%) and 19 to 29 (20%) The majority of customers were single (60%) compared to married (20%) and divorced/windowed (20%). The highest percentage of customers graduated at undergraduate degree (40%) compared to graduate degree (40%) and high school (20%). The percentage of experience of products was more than 1 year (100%). This result indicates Landmark and Maruay Garden Hotel have good relationship with customers.

**4.2.2 Demographic Data of Employee**

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 1 | 12.5 |
| | Female | 7 | 87.5 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 4 | 50 |
| | 30 to 39 | 3 | 37.5 |
| | 40 plus | 1 | 12.5 |
| Marital Status | Single | 6 | 75 |
| | Married | 2 | 25 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 6 | 75 |
| | Graduate degree | 0 | 0 |
| | Postgraduate degree | 2 | 25 |
| Work Experience | Less than 1 year | 1 | 12.5 |
| | 2 to 9 | 4 | 50 |
| | 10 to 19 | 3 | 37.5 |
| | More than 20 years | 0 | 0 |
| Number of Employee | 1-100 | 0 | 0 |
| | 101-250 | 0 | 0 |
| | 251-500 | 0 | 0 |
| | More than 500 | 8 | 100 |
| Department | Accounting | 1 | 12.5 |
| | Customer service | 2 | 25 |
| | Finance | 2 | 25 |
| | Marketing | 1 | 12.5 |
| | Sale | 2 | 25 |

Table 4.6: Demographic information of Employee of Starbuck

A number of employees of Starbucks were in the age range 19 to 29 (50%), 30 to 39 (37.5%) and 40 plus (12.5%) The majority of employees were single (75%) compared to married (25%). The highest percentage of employees graduated at undergraduate degree (75%) compared to postgraduate degree (25%). The percentage of work experience were 2 to 9 (50%), 10 to 19 (37.5%) and less than 1 year (12.5%). The larger percentages of employees work in customer service department (25%), finance department (25%) and sale department (25%).

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 1 | 12.5 |
| | Female | 7 | 87.5 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 0 | 0 |
| | 30 to 39 | 2 | 25 |
| | 40 plus | 6 | 75 |
| Marital Status | Single | 3 | 37.5 |
| | Married | 5 | 62.5 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 6 | 75 |
| | Graduate degree | 2 | 25 |
| | Postgraduate degree | 0 | 0 |
| Work Experience | Less than 1 year | 0 | 0 |
| | 2 to 9 | 2 | 25 |
| | 10 to 19 | 6 | 75 |
| | More than 20 years | 0 | 0 |
| Number of Employee | 1-100 | 0 | 0 |
| | 101-250 | 0 | 0 |
| | 251-500 | 8 | 100 |
| | More than 500 | 0 | 0 |
| Department | Accounting | 0 | 0 |
| | Customer service | 1 | 12.5 |
| | Finance | 2 | 25 |
| | Marketing | 1 | 12.5 |
| | Sale | 4 | 50 |

Table 4.7: Demographic information of Employee of Central department store

A number of employees of Central department store were in the age range 40 plus (75%) and 30 to 39 (25%). The majority of employees were married (62.5%) compared to single (37.5%). The highest percentage of employees graduated at undergraduate degree (75%) compared to graduate degree (25%). The percentage of work experience were 10 to 19 (75%) and 2 to 9 (25%). The larger percentages of employees work in sale department (50%), finance department (25%) customer service department (12.5%) and marketing department (12.5%).

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 4 | 50 |
| | Female | 4 | 50 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 4 | 50 |
| | 30 to 39 | 4 | 50 |
| | 40 plus | 0 | 0 |
| Marital Status | Single | 5 | 62.5 |
| | Married | 3 | 37.5 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 6 | 75 |
| | Graduate degree | 2 | 25 |
| | Postgraduate degree | 0 | 0 |
| Work Experience | Less than 1 year | 0 | 0 |
| | 2 to 9 | 8 | 100 |
| | 10 to 19 | 0 | 0 |
| | More than 20 years | 0 | 0 |
| Number of Employee | 1-100 | 0 | 0 |
| | 101-250 | 0 | 0 |
| | 251-500 | 0 | 0 |
| | More than 500 | 8 | 100 |
| Department | Accounting | 0 | 0 |
| | Customer service | 0 | 0 |
| | Finance | 0 | 0 |
| | Marketing | 0 | 0 |
| | Sale | 8 | 100 |

Table 4.8: Demographic information of Employee of True Corporation

A number of employees of True Corporation were in the age range 19 to 29 (50%) and 30 to 39 (50%). The majority of employees were single (62.5%) compared to married (37.5%). The highest percentage of employees graduated at undergraduate degree (75%) compared to graduate degree (25%). The percentage of work experience was 2 to 9 (100%). The percentages of employees work in sale department (100%).

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 0 | 0 |
| | Female | 8 | 100 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 2 | 25 |
| | 30 to 39 | 6 | 75 |
| | 40 plus | 0 | 0 |
| Marital Status | Single | 7 | 87.5 |
| | Married | 1 | 12.5 |
| | Separated | 0 | 0 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 5 | 62.5 |
| | Undergraduate degree | 3 | 37.5 |
| | Graduate degree | 0 | 0 |
| | Postgraduate degree | 0 | 0 |
| Work Experience | Less than 1 year | 1 | 12.5 |
| | 2 to 9 | 5 | 62.5 |
| | 10 to 19 | 2 | 25 |
| | More than 20 years | 0 | 0 |
| Number of Employee | 1-100 | 0 | 0 |
| | 101-250 | 0 | 0 |
| | 251-500 | 0 | 0 |
| | More than 500 | 8 | 100 |
| Department | Accounting | 0 | 0 |
| | Customer service | 6 | 75 |
| | Finance | 0 | 0 |
| | Marketing | 2 | 25 |
| | Sale | 0 | 0 |

Table 4.9: Demographic information of Employee of Landmark Hotel

A number of employees of Landmark Hotel were in the age range 30 to 39 (75%) and 19 to 29 (25%). The majority of employees were single (87.5%) compared to married (12.5%). The highest percentage of employees graduated at high school (62.5%) compared to undergraduate degree (37.5%). The percentage of work experience were 2 to 9 (62.5%), 10 to 19 (25%) and less than 1 year (12.5%). The percentage of employees work in customer service department is (75%) and marketing department (25%).

| Question Items | Category | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 0 | 0 |
| | Female | 8 | 100 |
| Age | Less than 18 | 0 | 0 |
| | 19 to 29 | 2 | 25 |
| | 30 to 39 | 6 | 75 |
| | 40 plus | 0 | 0 |
| Marital Status | Single | 5 | 62.5 |
| | Married | 2 | 25 |
| | Separated | 1 | 12.5 |
| | Divorced/Windowed | 0 | 0 |
| Education Level | High school | 0 | 0 |
| | Undergraduate degree | 5 | 62.5 |
| | Graduate degree | 3 | 37.5 |
| | Postgraduate degree | 0 | 0 |
| Work Experience | Less than 1 year | 0 | 0 |
| | 2 to 9 | 8 | 100 |
| | 10 to 19 | 0 | 0 |
| | More than 20 years | 0 | 0 |
| Number of Employee | 1-100 | 0 | 0 |
| | 101-250 | 0 | 0 |
| | 251-500 | 0 | 0 |
| | More than 500 | 8 | 100 |
| Department | Accounting | 0 | 0 |
| | Customer service | 1 | 12.5 |
| | Finance | 2 | 25 |
| | Marketing | 2 | 25 |
| | Sale | 3 | 37.5 |

Table 4.10: Demographic information of Employee of Maruay Garden Hotel

A number of employees of Maruay Garden Hotel were in the age range 30 to 39 (75%) and 19 to 29 (25%). The majority of employees were single (62.5%) compared to married (25%) and separated (12.5%). The highest percentage of employees graduated at undergraduate degree (62.5%) compared graduate degree (37.5%). The percentage of work experience was 2 to 9 (100%). The larger percentages of employees work in sale department (37.5%), finance department (25%), marketing department (25%) and customer service department (12.5%).

**4.3 Factor Requirement**

The questionnaires were designed for customer questions (36 items) and employee questions (47 items). These items were adapted from the literature and they were modified in line with the context of this research. All items were divided factor of measurement and shown in the next section (see detail in Table 4.11).

| Factor Name | No. of Items | Measurement Scales |
|:---|:---:|:---|
| Customer Attitude | 31 | Five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree and closed questions |
| Employee Attitude | 40 | Five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree and Five-point Likert-type scale where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = frequently |
| Trust | 20 | Five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree, Five-point Likert-type scale where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = frequently and closed questions |
| Monitoring Costs | 12 | Five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree and Five-point Likert-type scale where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = frequently |

Table 4.11: Relation among Factor Name, No. of Items and Measurement Scales

**4.3.1 Measure of Customer Attitude**

Customer attitude was measured in four factors. The first measure consists of responses to the customer satisfaction questions. Responses for the customer satisfaction questions were made on a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Customer satisfaction is the result of customer's perception of the product that they received. Moreover customer loyalty, brand recognition and outstanding organisation are also important dimensions of customer satisfaction. The questions ask about how customers satisfy with price of products, location of store, hour of store, atmosphere of store and purchase method.

The second measure consists of responses to the perceived value questions. Responses for the perceived value questions were made on a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Perceived value means customers prefer the features of cost, quality and reputation of product. Previous customers are proud of products and recommend them to others. These questionnaires ask about the degree of customers perceived quality, value, package and reputation of products.

The third measure consists of responses to the service quality questions. Responses for the service quality questions were made on a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. The essences of service quality involve the relationship with customer. Good service quality can bring the customer back. Customers want to know how representative can meet the needs of their requirement. These questions ask about customers' opinion regarding the service provided by the representative such as courteous, friendly, helpful and knowledgeable.

The fourth measure consists of responses to the technology acceptance questions. Responses for the technology acceptance questions were made on a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. These questions ask how familiar customers are with information technology such as how often customers gather product information or how customers rate company website. Customers also interact with company and order product online.

### 4.3.2 Measure of Employee Attitude

Employee attitude was measured in three factors. The first measure consists of responses to the employee satisfaction questions. Responses for the employee satisfaction questions were made on a five-point Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Employee satisfaction is the measure of their opinion towards their job and the working environment. These questions ask about employees satisfaction with their work, co-workers, manager and workplace.

The second measure consists of responses to the attitude regarding suppliers questions. Responses for the attitude toward suppliers questions were made on a five-point Likert-type scale where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = frequently. Attitude toward suppliers refer how employees treat and observe their suppliers for example employees evaluate new suppliers. These questions ask about how often employees manage and access documents from suppliers.

The third measure consists of responses to the technology skill questions. Responses for the technology skill questions were made on a five-point Likert-type scale where 1 = never, 2 = seldom, 3 = sometimes, 4 = often and 5 = frequently. These questionnaires ask how well employees are familiar information technology such as how often employees update information or change passwords.

### 4.3.3 Measure of Trust

The measurements of trust come from customer and employee attitude. From a customer view, trust is defined as a customer's level of belief in the quality of product and service. These questions ask about how much confidence customers have with the product, packing and service. From employee view,

trusts mean employees are willing to do their business transaction for example they resolve customer problem as soon as possible. These questions ask how often employees make their response.

### 4.3.4 Measure of Monitoring Costs

In this study, the measurement of monitoring costs comes from trust. Trusts are supported to reduce search cost in a strong relationship with co-workers (Gulati, 2008). Trusts between co-workers become the fundamental to make business achievement and also decrease costs. Thus, these questions ask about how employees decrease costs in their organisation and they cut their marketing expenditure.

### 4.4 Data Analyses

The quantitative data from questionnaires were collected. These data helped to make the result of research framework and to partly answer the research questions by using reliability of Cronbach's alpha and validity of Pearson Correlation analyses and Regression analyses. There are many different types of data analysis such as Factor analysis, Pearson Correlation analyses and Regression analyses. In this research, Pearson Correlation analyses and Regression analyses are appropriate for interval and ratio scales.

Factor analysis is one of the good tools used to verify the construct validation for a model (Sekaran, 2003). Factor analyses used for data reduction including: firstly, to get a small set of variables from a large set of variables; secondly, to create indexes with variables that measure similar things. From the results of this research the range of population was very small. The number of results was not suitable using for factor analysis.

### 4.4.1 Cronbach's alpha

This research tests the reliability of instrument by using Cronbach's alpha to measure the appropriateness between the question items. The reliability of measure demonstrates that the scopes of question items are not biased. It helps to evaluate the goodness of measure and precision of instrument (Sekaran, 2003). The acceptable value of reliability should be 0.7 or greater (Goodhue et al., 2000). According to Goodhue et al. (2000), reliabilities less than 0.6 are poor, the range 0.7 are acceptable and greater than 0.8 are good (see detail in Table 5.1).

### 4.4.2 Pearson Correlation Analyses

A cross-tabulation using Pearson Correlation analyses (or correlation coefficient) test for significant differences between groups such as the relationship between customers satisfied with price and location of store. Furthermore this research tests all the multi-item scales for their measurement reliability, by calculating Cronbach's alpha. Cronbach's alpha is a measure of internal consistency between the items of a multiple-item scale. Some items are not strong

( less than 0.60) and positive correlation then those items were removed and were not used to form a composite score for the variable in question. Thus, overall questions are internally consistent (reliability).

Correlation coefficient assesses the relation between two variables that takes on values between -1 and +1. Values near +1 indicate a strong positive linear relationship; values near -1 indicates a strong negative linear relationship; and values near zero indicate the lack of a linear relationship (the two numbers are not related). Pearson correlation value greater than 0.60 is indicated as strong while a correlation less than 0.60 is weak (Goodhue et al., 2000).

### 4.4.3 Regression Analyses

The regression analyses show how well the data support the hypotheses. Regression analyses consist of techniques for analysing and modelling several variables and focus on the relationship between dependent variable and one or more independent variables (Goodhue et al., 2000).

R is the correlation between the predicted and observed values. The values of R range from -1 to +1. The sign of R indicates the direction of the relationship (positive or negative). The absolute value of R indicates the strength, with larger absolute values indicating stronger relationships.

R Square is the proportion variation in the dependent variable explained by the regression model. The values of R Square range from 0 to 1. Small values indicate that the model does not fit the data well. Thus, R Square helps to determine which model is best. R Square is also the squared multiple correlation coefficient. It is called the Coefficient of Determination. R Square is the regression sum of squares divided by the total sum of square.

More specifically, regression analyse also relates significance level. If the significance level of the p-value is small (smaller than 0.05) then the independent variables make a good job explaining the variation in the dependent variable. If the significance level of the p-value is larger than 0.05 then the independent variables do not explain the variation in the dependent variable, and the null hypothesis that all the population values of the regression coefficients are 0 is accepted. In regression with multiple independent variables, the coefficient tells how much the dependent variable is expected to increase when that independent variable increases by one, holding all the other independent variables constant.

### 4.5 Chapter Summary

This chapter shows that how the questionnaire survey can be conducted both with customers and employees. This research deliberates factor requirement for hypotheses. These factors are important for creating trust model. After questionnaires are collected, they are analysed by using reliability of Cronbach's alpha and validity of Pearson Correlation analyses and Regression analyses. The results of analysed data are discussed in the next chapter.

# Chapter 5: Results of Structural Trust Model

This chapter presents the output of the questionnaires (both of customer and employee questions), analyses reliability and validity by using Cronbach's alpha, Pearson Correlation analyses and Regression analyses. All of the statistical technique used in this research were analysed and subjected to test for interpreter reliability before they were included in the analyses.

## 5.1 Cronbach's alpha

Cronbach's alpha was used to test for reliability of each construct. The reliabilities of all constructs exceeded the minimum acceptable Cronbach's alpha level of 0.70 (Nunnally, 1978; Goodhue et al., 2000), indicating internally consistency. The item scales had coefficient alphas of 0.71 (customer satisfaction), 0.79 (perceived value), 0.83 (service quality), 0.72 (technology acceptance), 0.95 (employee satisfaction), 0.95 (attitude toward suppliers), 0.90 (technology skill), 0.76 (trust customer), 0.91 (trust employee), and 0.88 (reduce monitoring costs), respectively. All resulting scales are sufficiently reliable. Thus, overall questions are internally consistent (reliability) and shown in table 5.1

| Variable Name | Question Items | No.of Items | Cronbach's Alpha |
|---|---|---|---|
| Customer satisfaction | C_2.1,2.2,2.3,2.4,2.5,2.6,2.7 | 7 | 0.71 |
| Perceived value | C_3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8 | 8 | 0.79 |
| Service quality | C_4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 | 9 | 0.83 |
| Technology acceptance | C_5.1,5.2,5.3,5.4,5.5,5.6,5.7 | 7 | 0.72 |
| Employee satisfaction | E_2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8,2.9,2.10 | 10 | 0.95 |
| Attitude toward suppliers | E_3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10,3.11,3.12 3.13,3.14,3.15,3.16,3.17,3.18,3.19,3.20 | 20 | 0.95 |
| Technology skill | E_4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9,4.10 | 10 | 0.90 |
| Trust customer | C_3.1,3.2,3.5,3.7,3.8,4.4,4.5,5.5 | 8 | 0.76 |
| Trust employee | E_2.9,3.3,3.4,3.6,3.8,3.18,3.19,4.1,4.3,4.4,4.7,4.9 | 12 | 0.91 |
| Reduce monitoring costs | E_2.10,3.1,3.2,3.3,3.8,3.9,3.10,3.14,3.15,4.2,4.4,4.10 | 12 | 0.88 |

C= question from customer, E= question from employee (see in Appendix A)

Table 5.1: Relation among variables name, No.of Items and Cronbach's Alpha

**5.2 Pearson Correlation Analyses**

Pearson Correlation measures the strength and direction of the linear relationship between the two variables. The correlation coefficient can range from -1 to +1, with -1 indicating a perfect negative correlation, +1 indicating a perfect positive correlation, and 0 indicating no correlation at all. The diagonal of a correlation matrix (i.e., the numbers that go from the upper left corner to the lower right) always consists of ones. That is because there are the correlations between each variable and itself (and a variable is always perfectly correlated with itself).

When the Pearson correlation is positive (+), this means that as one variable increases in value, the second variable also increases in value. Similarly, as one variable decreases in value, the second variable also decreases in value. This is called a positive correlation. When the Pearson correlation is negative (-), this means that as one variable increases in value, the second variable decreases in value. This is called a negative correlation.

**5.2.1 Pearson Correlation of Customer Satisfaction Variables**

In table 5.2 lists the variable names (satisfied price you paid, store located, store hour, store atmosphere, purchase from another and purchase method) down the first column and across the first row (see the detailed in Appendix D).

| | Satisfied price you paid | Store located | Store hour | Store atmosphere | Purchase from another | Purchase method |
|---|---|---|---|---|---|---|
| Satisfied price you paid | | | | | | |
| Store located | 0.458 | | | | | |
| Store hour | 0.486 | **0.827** | | | | |
| Store atmosphere | 0.392 | **0.726** | **0.729** | | | |
| Purchase from another | 0.457 | 0.014 | 0.057 | 0.156 | | |
| Purchase method | 0.086 | -0.063 | -0.023 | -0.860 | 0.385 | |

Table 5.2: Pearson Correlation of Customer satisfaction variables

From this table, Pearson correlation value of 0.458 was positive. It can be concluded that when the amount of store located (first variable) increases, the participant satisfied price you paid (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between store hour and store located variables (0.827), store atmosphere and store hour variables (0.729), store atmosphere and store located variables (0.726).

For this reason, it can be concluded that location of store, atmosphere of store and time to spend money are convenient for customer shopping. Customer satisfaction is the result of location of store, atmosphere of store and hours of opening of store.

## 5.2.2 Pearson Correlation of Perceived Value Variables

In table 5.3 lists the variable names (product highest quality, product value, advertised product in stock, packing attractive, product are better than other, return or cancel product, use product again and recommend products to other) down the first column and across the first row (see the detailed in Appendix D).

| | Product highest quality | Product value | Advertised product in stock | Packing attractive | Product are better than other | Return or cancel product | Use product again | Recommend products to other |
|---|---|---|---|---|---|---|---|---|
| Product highest quality | | | | | | | | |
| Product value | **0.778** | | | | | | | |
| Advertised product in stock | **0.639** | **0.610** | | | | | | |
| Packing attractive | **0.642** | 0.492 | **0.698** | | | | | |
| Product are better than other | **0.713** | 0.571 | **0.653** | **0.618** | | | | |
| Return or cancel product | 0.322 | 0.359 | 0.150 | 0.004 | 0.194 | | | |
| Use product again | -0.018 | -0.304 | 0.056 | 0.145 | -0.047 | -0.283 | | |
| Recommend products to other | -0.066 | -0.258 | 0.104 | 0.193 | 0.014 | -0.407 | **0.823** | |

Table 5.3: Pearson Correlation of Perceived value variables

From this table, Pearson correlation value of 0.322 was positive. It can be concluded that when the amount of return or cancel product (first variable) increases, the participant product highest quality (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between recommend products to other and use product again variables (0.823), product value and product highest quality variables (0.778), product is better than other and product highest quality variables (0.713), packing attractive and advertised product in stock variables (0.698), products is better than other and advertised product in stock variables (0.653), packing attractive and product highest quality variables (0.642), advertised product in stock and product highest quality variables (0.639), products is better than other and packing attractive variables (0.618), advertised product in stock and product value variables (0.610).

For this reason, it can be concluded that customers perceive product value by doing some actions such as recommend products to other persons, use the same product again. In addition, they believe that the advertised product and packing attractive can also make customer feel that product are the highest quality.

Thus, the results of perceived value mean customers prefer the features of cost, quality and reputation of product. Previous customers are proud of products and recommend them to other persons.

### 5.2.3 Pearson Correlation of Service Quality Variables

In table 5.4 lists the variable names (representative helpfulness, representative courteous, representative knowledge, representative friendly, representative presented products information, representative handled call, automated phone satisfy, representative improve and time problem resolved) down the first column and across the first row (see the detailed in Appendix D).

| | Representative helpfulness | Representative courteous | Representative knowledge | Representative friendly | Representative presented information | Representative handled call | Automated phone satisfy | Representative improve | Time problem resolved |
|---|---|---|---|---|---|---|---|---|---|
| Representative helpfulness | | | | | | | | | |
| Representative courteous | **0.879** | | | | | | | | |
| Representative knowledge | **0.712** | **0.821** | | | | | | | |
| Representative friendly | **0.732** | **0.878** | **0.838** | | | | | | |
| Representative presented products information | **0.719** | **0.723** | **0.844** | **0.777** | | | | | |
| Representative handled call | 0.176 | 0.158 | 0.292 | 0.215 | 0.280 | | | | |
| Automated phone satisfy | 0.544 | 0.522 | 0.584 | 0.470 | 0.593 | 0.553 | | | |
| Representative improve | 0.552 | 0.429 | 0.418 | 0.362 | 0.542 | 0.139 | 0.413 | | |
| Time problem resolved | -0.507 | -0.479 | -0.382 | -0.502 | -0.252 | -0.041 | -0.229 | -0.165 | |

Table 5.4: Pearson Correlation of Service quality variables

From this table, Pearson correlation value of 0.176 was positive. It can be concluded that when the amount of representative handled call (first variable) increases, the participant representative helpfulness (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between representative courteous and representative helpfulness variables (0.879), representative friendly and representative courteous variables (0.878), representatives presented products information and representative knowledge variables (0.844), representative friendly and representative knowledge variables (0.838), representative knowledge and representative courteous variables (0.821), representatives presented products information and representative friendly variables (0.777), representative friendly and representative helpfulness variables (0.732), representatives presented products information and representative courteous variables (0.723), representatives presented products information and representative helpfulness variables (0.719), representative knowledge and representative helpfulness variables (0.712).

For this reason, it can be concluded that customers satisfy with service quality from representative courteous, friendly, helpful, knowledgeable and technique to present products information. Good service quality can bring the customer back. Customers want to know how representative can meet the needs of their requirement.

## 5.2.4 Pearson Correlation of Technology Acceptance Variables

In table 5.5 lists the variable names (frequently access internet, place access internet, purchase product three months, when began shopping, rate quality website, where hear website and often used web information) down the first column and across the first row (see the detailed in Appendix D).

| | Frequently access internet | Place access internet | Purchase product three months | When began shopping | Rate quality website | Where hear website | Often used web information |
|---|---|---|---|---|---|---|---|
| Frequently access internet | | | | | | | |
| Place access internet | 0.469 | | | | | | |
| Purchase product three months | 0.071 | 0.209 | | | | | |
| When began shopping | 0.065 | 0.224 | 0.410 | | | | |
| Rate quality website | -0.089 | -0.001 | 0.245 | 0.200 | | | |
| Where hear website | -0.152 | -0.129 | 0.053 | -0.072 | 0.111 | | |
| Often used web information | 0.310 | 0.158 | 0.186 | -0.175 | 0.247 | 0.058 | |

Table 5.5: Pearson Correlation of Technology acceptance variables

From this table, Pearson correlation value of 0.469 was positive. It can be concluded that when the amount of place access internet (first variable) increases, the participant frequently access internet (second variable) also increases (see the detailed of Pearson correlation value in Appendix C). There are not strong relationships between two variables.

## 5.2.5 Pearson Correlation of Employee Satisfaction Variables

In table 5.6 lists the variable names (support and teamwork, define responsibilities, reduce fear, relationship in department, communicates, achievement, professionalism, good job, resolve problem and project on time) down the first column and across the first row (see the detailed in Appendix D).

| | Support and teamwork | Define responsibilities | Reduce fear | Relationship in department | Communicates | Achievement | Professionalism | Good job | Resolve problem | Project on time |
|---|---|---|---|---|---|---|---|---|---|---|
| Support and teamwork | | | | | | | | | | |
| Define responsibilities | 0.544 | | | | | | | | | |
| Reduce fear | 0.567 | **0.717** | | | | | | | | |
| Relationship in department | **0.643** | **0.784** | **0.871** | | | | | | | |
| Communicates | **0.695** | **0.666** | **0.745** | **0.850** | | | | | | |
| Achievement | **0.671** | **0.751** | **0.628** | **0.711** | **0.776** | | | | | |
| Professionalism | **0.615** | **0.781** | **0.741** | **0.813** | **0.842** | **0.814** | | | | |
| Good job | **0.702** | **0.633** | 0.584 | **0.710** | **0.633** | **0.627** | **0.675** | | | |
| Resolve problem | **0.768** | **0.609** | **0.671** | **0.701** | **0.759** | **0.736** | **0.736** | **0.832** | | |
| Project on time | 0.577 | 0.390 | 0.390 | 0.451 | 0.491 | **0.630** | 0.473 | **0.701** | **0.766** | |

Table 5.6: Pearson Correlation of Employee satisfaction variables

From this table, Pearson correlation value of 0.544 was positive. It can be concluded that when the amount of define responsibilities (first variable) increases, the participant support and teamwork (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The results showed that there are strong relationships between relationships in department and reduce fear variables (0.871), communicates and relationship in department variables (0.850), professionalism and communicates variables (0.842), resolve problem and good job variables (0.832), professionalism and achievement variables (0.814), professionalism and relationship in department variables (0.813), relationship in department and define responsibilities variables (0.784), professionalism and define responsibilities variables (0.781), achievement and communicates variables (0.776), resolve problem and support and teamwork variables (0.768), project on time and resolve problem variables (0.766), resolve problem and communicates variables (0.759), achievement and define responsibilities variables (0.751), communicates and reduce fear variables (0.745), professionalism and reduce fear variables (0.741), resolve problem and achievement variables (0.736), reduce fear and define responsibilities variables (0.717), achievement and relationship in department variables (0.711), good job and relationship in department variables (0.710), good job and support and teamwork variables (0.702), resolve problem and relationship in department variables (0.701), communicates and support and teamwork variables (0.695), good job and professionalism variables (0.675), achievement and support and teamwork variables (0.671), communicates and define responsibilities variables (0.666), relationship in department and support and teamwork variables (0.643), good job and define responsibilities variables (0.633), project on time and achievement variables (0.630), achievement and reduce fear variables (0.628), good job and achievement variables (0.627), professionalism and support and teamwork variables (0.615), resolve problem and define responsibilities variables (0.609),

For this reason, it can be concluded that employees satisfy with their jobs in good condition which include the relationship between co-workers, professionalism of manager, the relationship between departments, define clearly responsibilities. Thus, these conditions support teamwork and make them to achieve business goal.

**5.2.6 Pearson Correlation of Attitude toward Suppliers Variables**

In table 5.7 lists the variable names (assess quality, evaluate supplier, handled goods, preventive action, receive products, report unauthorised, identification visitors, remove unauthorised, finished product, monitor quality, assess suppliers, formal subcontracts, good relationship, decrease expense, cut marketing, record transaction, quality control, monitor suppliers, quality purchase and suppliers document) down the first column and across the first row (see the detailed in Appendix D).

| | Assess quality | Evaluate supplier | Handled goods | Preventive action | Receive products | Report unauthorised | Identification visitors | Remove unauthorised | Finished product | Monitor quality | Assess suppliers | Formal subcontracts | Good relationship | Decrease expense | Cut marketing | Record transaction | Quality control, | Monitor suppliers | Quality purchase | Suppliers document |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assess quality | | | | | | | | | | | | | | | | | | | | |
| Evaluate supplier | 0.384 | | | | | | | | | | | | | | | | | | | |
| Handled goods | 0.284 | 0.465 | | | | | | | | | | | | | | | | | | |
| Preventive action | 0.575 | 0.513 | **0.717** | | | | | | | | | | | | | | | | | |
| Receive products | 0.465 | 0.415 | 0.521 | **0.765** | | | | | | | | | | | | | | | | |
| Report unauthorised | 0.311 | 0.376 | **0.630** | **0.614** | **0.605** | | | | | | | | | | | | | | | |
| Identification visitors | 0.465 | 0.300 | **0.678** | **0.665** | 0.513 | **0.696** | | | | | | | | | | | | | | |
| Remove unauthorised | 0.568 | 0.375 | **0.600** | **0.600** | 0.428 | 0.560 | **0.621** | | | | | | | | | | | | | |
| Finished product | 0.166 | 0.205 | 0.316 | 0.534 | 0.552 | 0.493 | 0.552 | 0.163 | | | | | | | | | | | | |
| Monitor quality | 0.108 | 0.329 | 0.395 | 0.597 | **0.687** | 0.544 | 0.444 | 0.203 | **0.772** | | | | | | | | | | | |
| Assess suppliers | 0.052 | 0.273 | 0.509 | 0.516 | 0.439 | 0.357 | 0.565 | 0.207 | **0.652** | 0.628 | | | | | | | | | | |
| Formal subcontracts | 0.259 | 0.294 | 0.512 | 0.593 | 0.463 | 0.288 | 0.554 | 0.384 | 0.512 | 0.584 | **0.840** | | | | | | | | | |
| Good relationship | 0.007 | 0.070 | 0.429 | 0.488 | 0.438 | 0.437 | **0.605** | 0.307 | **0.702** | 0.639 | **0.821** | 0.731 | | | | | | | | |
| Decrease expense | 0.043 | 0.275 | 0.397 | 0.558 | 0.577 | 0.330 | 0.324 | 0.249 | 0.473 | **0.745** | 0.531 | 0.591 | **0.613** | | | | | | | |
| Cut marketing | 0.125 | 0.199 | 0.563 | 0.559 | 0.542 | 0.402 | 0.435 | 0.362 | 0.370 | 0.435 | **0.605** | 0.431 | 0.557 | 0.560 | | | | | | |
| Record transaction | 0.095 | 0.144 | **0.661** | 0.581 | 0.475 | **0.631** | 0.570 | 0.493 | 0.318 | 0.412 | 0.430 | 0.415 | 0.485 | 0.424 | 0.588 | | | | | |
| Quality control, | 0.068 | 0.151 | **0.629** | 0.495 | 0.366 | 0.541 | **0.695** | 0.474 | 0.364 | 0.366 | **0.630** | **0.633** | **0.740** | 0.487 | 0.449 | 0.597 | | | | |
| Monitor suppliers | -0.003 | 0.155 | 0.352 | 0.415 | 0.370 | 0.408 | **0.605** | 0.176 | **0.618** | 0.605 | **0.795** | 0.686 | **0.795** | 0.515 | 0.503 | 0.402 | **0.648** | | | |
| Quality purchase | 0.065 | 0.125 | 0.556 | 0.519 | 0.438 | 0.456 | 0.504 | 0.379 | 0.438 | **0.668** | 0.598 | **0.681** | **0.691** | **0.774** | 0.545 | 0.531 | **0.724** | 0.598 | | |
| Suppliers document | 0.293 | 0.277 | 0.523 | 0.589 | 0.493 | 0.532 | **0.668** | 0.542 | 0.392 | 0.551 | **0.633** | **0.726** | **0.674** | 0.596 | 0.529 | 0.503 | **0.674** | **0.710** | **0.745** | |

Table 5.7: Pearson Correlation of Attitude toward suppliers variables

From this table, Pearson correlation value of 0.384 was positive. It can be concluded that when the amount of evaluate supplier (first variable) increases, the participant assess quality (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between formal subcontracts and assess supplier variables (0.840), good relationship and assess suppliers variables (0.821), monitor suppliers and assess suppliers variables (0.795), quality purchase and decrease expense variables (0.774), monitor quality and finished product variables (0.772), receive products and preventive action variables (0.765), decrease expense and monitor quality variables (0.745), quality control and good relationship variables (0.740), good relationship and formal subcontracts variables (0.731), supplier document and formal subcontracts variables (0.726), quality purchase and quality control variables (0.724), preventive action and handled goods variables (0.717), suppliers document and monitor suppliers variables (0.710), good relationship and finished product variables (0.702)

For this reason, it can be concluded that employee respond and observe their suppliers that include assess suppliers, monitor suppliers, make good relationship with suppliers, make formal subcontracts with suppliers, record transaction with suppliers, report unauthorised documents and control quality documents.

### 5.2.7 Pearson Correlation of Technology Skill Variables

In table 5.8 lists the variable names (computer require account, update employee information, firewalls, prevent unauthorised document, security awareness program, security training, document control name, change passwords regularly, grant outside access and keep records business transaction) down the first column and across the first row (see the detailed in Appendix D).

| | Computer require account | Update employee information | Firewalls | Prevent unauthorised document | Security awareness program | Security training | Document control name | Change passwords regularly | Grant outside access | Keep records business transaction |
|---|---|---|---|---|---|---|---|---|---|---|
| Computer require account | | | | | | | | | | |
| Update employee information | **0.674** | | | | | | | | | |
| Firewalls | **0.799** | **0.752** | | | | | | | | |
| Prevent unauthorised document | **0.715** | **0.730** | **0.771** | | | | | | | |
| Security awareness program | 0.558 | 0.451 | **0.606** | **0.613** | | | | | | |
| Security training | 0.173 | 0.326 | 0.319 | 0.416 | 0.561 | | | | | |
| Document control name | 0.592 | 0.476 | **0.682** | **0.705** | **0.835** | 0.512 | | | | |
| Change passwords regularly | 0.089 | 0.169 | 0.243 | 0.435 | 0.398 | 0.477 | 0.380 | | | |
| Grant outside access | 0.301 | 0.432 | 0.389 | **0.625** | 0.308 | 0.408 | 0.302 | **0.675** | | |
| Keep records business transaction | 0.488 | 0.410 | 0.552 | **0.609** | 0.455 | 0.365 | 0.482 | 0.441 | **0.685** | |

Table 5.8: Pearson Correlation of Technology skill variables

From this table, Pearson correlation value of 0.558 was positive. It can be concluded that when the amounts of security awareness program (first variable) increases, the participant computer require account (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between document control name and security awareness program variables (0.835), firewalls and computers require account variables (0.799), prevent unauthorised document and firewalls variables (0.771), firewalls and update employee information variables (0.752), prevent unauthorised document and update employee information variables (0.730), prevent unauthorised document and computers require account variables (0.715), document control name and prevent unauthorised document variables (0.705), keep records business transaction and grant outside access variables (0.685), document control name and firewalls variables (0.682), grant outside access and change passwords regularly variables (0.675), update employee information and computers require account variables (0.674), grant outside access and prevent unauthorised document variables (0.625), security awareness program and prevent unauthorised document variables (0.613), keep records business transaction and prevent unauthorised document variables (0.609), security awareness program and firewalls variables (0.606),

For this reason, it can be concluded that employees are familiar information technology such as how often employees update information or change passwords. Furthermore, they include security program, firewalls system, prevent unauthorised document, require account user and keep records of business transaction.

**5.2.8 Pearson Correlation of Trust Customer Variables**

In table 5.9 lists the variable names (product highest quality, product value, product are better than other, use product again, recommend products to other, representative friendly, representative presented products information and rate quality website) down the first column and across the first row (see the detailed in Appendix D).

| | Product highest quality | Product value | Product are better than other | Use product again | Recommend products to other | Representative friendly | Representative presented products information | Rate quality website |
|---|---|---|---|---|---|---|---|---|
| Product highest quality | | | | | | | | |
| Product value | **0.778** | | | | | | | |
| Product are better than other | **0.713** | 0.571 | | | | | | |
| Use product again | -0.018 | -0.304 | -0.047 | | | | | |
| Recommend products to other | -0.066 | -0.258 | 0.014 | **0.823** | | | | |
| Representative friendly | **0.683** | 0.529 | 0.578 | 0.009 | -0.015 | | | |
| Representative presented products information | **0.730** | **0.716** | 0.527 | -0.219 | -0.208 | **0.777** | | |
| Rate quality website | 0.155 | 0.165 | -0.085 | 0.134 | 0.120 | 0.142 | -0.011 | |

Table 5.9: Pearson Correlation of Trust customer variables

From this table, Pearson correlation value of -0.018 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product highest quality (second variable) also decreases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between recommend products to other and use product again variables (0.823), product value and product highest quality variables (0.778), representatives presented products information and representative friendly variables (0.777), representatives presented products information and product highest quality variables (0.730), representatives presented products information and product value variables (0.716), product are better than other and product highest quality variables (0.713), representative friendly and product highest quality variables (0.683).

For this reason, it can be concluded that trust is defined as a customer's level of belief in the quality of product and service. Customers use the highest quality product and recommend these products to other persons. They prefer the method representatives presented products information.

**5.2.9 Pearson Correlation of Trust Employee Variables**

In table 5.10 lists the variable names (resolve problem, handled goods, preventive action, report unauthorised, remove unauthorised, monitor suppliers, quality purchase, computer require account, firewalls, prevent unauthorised document, document control name and grant outside access) down the first column and across the first row (see the detailed in Appendix D).

|  | Resolve problem | Handled goods | Preventive action | Report unauthorised | Remove unauthorised | Monitor suppliers | Quality purchase | Computer require account | Firewalls | Prevent unauthorised document | Document control name | Grant outside access |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resolve problem |  |  |  |  |  |  |  |  |  |  |  |  |
| Handled goods | 0.321 |  |  |  |  |  |  |  |  |  |  |  |
| Preventive action | 0.505 | **0.717** |  |  |  |  |  |  |  |  |  |  |
| Report unauthorised | 0.251 | **0.630** | **0.614** |  |  |  |  |  |  |  |  |  |
| Remove unauthorised | 0.261 | **0.600** | **0.600** | 0.560 |  |  |  |  |  |  |  |  |
| Monitor suppliers | 0.346 | 0.352 | 0.415 | 0.408 | 0.176 |  |  |  |  |  |  |  |
| Quality purchase | 0.455 | 0.556 | 0.519 | 0.456 | 0.379 | 0.598 |  |  |  |  |  |  |
| Computer require account | 0.190 | 0.546 | 0.484 | 0.519 | 0.480 | 0.279 | 0.550 |  |  |  |  |  |
| Firewalls | 0.549 | **0.726** | **0.705** | **0.644** | 0.542 | 0.448 | **0.655** | **0.799** |  |  |  |  |
| Prevent unauthorised document | 0.247 | 0.567 | 0.509 | **0.608** | **0.748** | 0.346 | 0.530 | **0.715** | **0.771** |  |  |  |
| Document control name | 0.095 | 0.417 | 0.501 | 0.451 | 0.346 | 0.316 | 0.461 | 0.592 | **0.682** | **0.705** |  |  |
| Grant outside access | 0.188 | 0.305 | 0.301 | 0.431 | 0.541 | 0.204 | 0.264 | 0.301 | 0.389 | **0.625** | 0.302 |  |

Table 5.10: Pearson Correlation of Trust employee variables

From this table, Pearson correlation value of 0.321 was positive. It can be concluded that when the amount of handled goods (first variable) increases, the participant resolve problem (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between firewalls and computer require account variables (0.799), prevent unauthorised document and firewalls variables (0.771), prevent unauthorised document and remove unauthorised variables (0.748), firewalls and handled goods variables (0.726), preventive action and handled goods variables (0.717), prevent unauthorised document and computer require account variables (0.715), firewalls and preventive action variables (0.705), document control name and firewalls variables (0.682), firewalls and quality purchase variables (0.655), firewalls and report unauthorised variables (0.644), reports unauthorised and handled goods variables (0.630), grant outside access and prevent unauthorised document variables (0.625), report unauthorised and preventive action variables (0.614), prevent unauthorised document and report unauthorised variables (0.608), remove unauthorised and handled goods variables (0.600).

For this reason, it can be concluded that employees are willing to do their business transaction for example control document name, prevent unauthorised document, require account user, prevent unauthorised document, reports unauthorised user, set up firewalls and purchase quality of products.

## 5.2.10 Pearson Correlation of Reduce Monitoring Costs Variables

In table 5.11 lists the variable names (project on time, assess quality, evaluate supplier, handled goods, remove unauthorised, finished product, monitor quality, decrease expense, cut marketing, update employee information, prevent unauthorised document and keep records business transaction) down the first column and across the first row (see the detailed in Appendix D).

| | Project on time | Assess quality | Evaluate supplier | Handled goods | Remove unauthorised | Finished product | Monitor quality | Decrease expense | Cut marketing | Update employee information | Prevent unauthorised document | Keep records business transaction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project on time | | | | | | | | | | | | |
| Assess quality | 0.425 | | | | | | | | | | | |
| Evaluate supplier | 0.285 | 0.384 | | | | | | | | | | |
| Handled goods | 0.356 | 0.284 | 0.465 | | | | | | | | | |
| Remove unauthorised | 0.218 | 0.568 | 0.375 | **0.600** | | | | | | | | |
| Finished product | 0.410 | 0.166 | 0.205 | 0.316 | 0.163 | | | | | | | |
| Monitor quality | 0.420 | 0.108 | 0.329 | 0.395 | 0.203 | **0.772** | | | | | | |
| Decrease expense | 0.365 | 0.043 | 0.275 | 0.397 | 0.249 | 0.473 | **0.745** | | | | | |
| Cut marketing | 0.283 | 0.125 | 0.199 | 0.563 | 0.362 | 0.370 | 0.435 | 0.560 | | | | |
| Update employee information | 0.247 | 0.215 | 0.238 | **0.729** | 0.586 | 0.339 | 0.431 | 0.383 | 0.530 | | | |
| Prevent unauthorised document | 0.259 | 0.310 | 0.330 | 0.567 | **0.748** | 0.319 | 0.344 | 0.383 | 0.373 | **0.730** | | |
| Keep records business transaction | 0.200 | 0.197 | 0.278 | 0.399 | 0.294 | 0.241 | 0.352 | 0.427 | 0.276 | 0.410 | **0.609** | |

Table 5.11: Pearson Correlation of Reduce monitoring costs variables

From this table, Pearson correlation value of 0.425 was positive. It can be concluded that when the amount of assess quality (first variable) increases, the participant project on time (second variable) also increases (see the detailed of Pearson correlation value in Appendix C).

There are strong relationships between two variables. These mean that changes in one variable are strongly correlated with changes in the second variable. Some number is very close to 1. The result showed that there are strong relationships between monitor quality and finished product variables (0.772), prevent unauthorised document and remove unauthorised variables (0.748), decrease expense and monitor quality variables (0.745), prevent unauthorised document and update employee information variables (0.730), update employee information and handled goods variables (0.729), keep records business transaction and prevent unauthorised document variables (0.609), remove unauthorised and handled goods variables (0.600).

For this reason, it can be concluded that the method to decrease monitoring costs come from how long employees resolve customer problem as soon as possible, how employees decrease costs in their organisation and how they cut their marketing expenditure such as prevent unauthorised document, remove unauthorised document, monitor quality of products and keep records business transaction.

## 5.3 Regression Analyses

The R Square of the regression is the fraction of the variation in dependent variable that is accounted for independent variables.

The p-value indicates how confident each individual variable has some correlation with the dependent variable. The p-value (level of significance) is the probability of obtaining a difference at least as large as that observed due to sampling variation. The p-value is a measure of how much evidence we have against the null hypothesis.

The null hypothesis, traditionally represented by the symbol H0, represents the hypothesis of no change or no effect. The size of the p-value for a coefficient says nothing about the size of the effect that variable is having on dependent variable. It is possible to have a highly significant result. The 5% value is called the significant level of the test (Sellke et al., 2001). The 95% confidence interval for coefficient is shown by regression analysis, so if the interval did not contain 0, the p-value will be 0.05 (5%) or less.

The test of the structural model indicates the strengths of the relationships between the dependent and independent variables, and the regression analyses which represent the amount of variance explained by the independent variables. The regression analyses show how well the data support the hypotheses model.

### 5.3.1 Customer Attitude and Customer Satisfaction

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.917 | 0.840 | 0.818 | 37.655 | 0.0000000000000145 |
| a. Predictors: (Customer satisfaction), satisfied price you paid, store located, store hour, store atmosphere, purchase from another and purchase method | | | | |
| b. Dependent Variable: Customer attitude | | | | |

Table 5.12: Model summary between Customer attitude and Customer satisfaction

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between customer attitude and customer satisfaction (satisfied price you paid, store located, store hour, store atmosphere, purchase from another and purchase method) is, 0.917.

R Square is the proportion of variance in the dependent variable (customer attitude) which can be explained by the independent variables (customer satisfaction). This value indicates that 84% of the variance in customer attitude scores can be predicted from the variables customer satisfaction. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Square for the population. The value of R Square was 0.840, while the value of adjusted R Square was 0.818.

The F value is the Mean Square Regression (1.378) divided by the Mean Square Residual (0.037), yielding F=37.655. The p-value associated with this F value is very small (0.0000000000000145). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables customer satisfaction (the independent variable) show a statistically significant relationship with customer attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

### 5.3.2 Customer Attitude and Perceived Value

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.923 | 0.852 | 0.824 | 29.612 | 0.0000000000000110 |
| a. Predictors: (Perceived value), product highest quality, product value, advertised product in stock, packing attractive, product are better than other, return or cancel product, use product again and recommend products to other | | | | |
| b. Dependent Variable: Customer attitude | | | | |

Table 5.13: Model summary between Customer attitude and Perceived value

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between customer attitude and perceived value (product highest quality, product value, advertised product in stock, packing attractive, product are better than other, return or cancel product, use product again and recommend products to other) is, 0.923.

R Square is the proportion of variance in the dependent variable (customer attitude) which can be explained by the independent variables (perceived value). This value indicates that 85% of the variance in customer attitude scores can be predicted from the variables perceived value. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.852, while the value of adjusted R Square was 0.824.

The F value is the Mean Square Regression (1.048) divided by the Mean Square Residual (0.035), yielding F=29.61. The p-value associated with this F value is very small (0.0000000000000110). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables perceived value (the independent variable) show a statistically significant relationship with customer attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

### 5.3.3 Customer Attitude and Service Quality

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.931 | 0.867 | 0.838 | 29.076 | 0.00000000000000783 |
| a. Predictors: (Service quality), representative helpfulness, representative courteous, representative knowledge, representative friendly, representative presented products information, representative handled call, automated phone satisfy, representative improve and time problem resolved | | | | |
| b. Dependent Variable: Customer attitude | | | | |

Table 5.14: Model summary between Customer attitude and Service quality

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between customer attitude and service quality (representative helpfulness, representative courteous, representative knowledge, representative friendly, representative presented products information, representative handled call, automated phone satisfy, representative improve and time problem resolved) is, 0.931.

R Square is the proportion of variance in the dependent variable (customer attitude) which can be explained by the independent variables (service quality). This value indicates that 87% of the variance in customer attitude scores can be predicted from the variables service quality. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.867, while the value of adjusted R Square was 0.838.

The F value is the Mean Square Regression (0.948) divided by the Mean Square Residual (0.033), yielding F=29.076. The p-value associated with this F value is very small (0.00000000000000783). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables service quality (the independent variable) show a statistically significant relationship with customer attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

## 5.3.4 Customer Attitude and Technology Acceptance

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.523 | 0.273 | 0.152 | 2.256 | 0.048 |
| a. Predictors: (Technology acceptance), frequently access internet, place access internet, purchase product three months, when began shopping, rate quality website, where hear website and often used web information | | | | |
| b. Dependent Variable: Customer attitude | | | | |

Table 5.15: Model summary between Customer attitude and Technology acceptance

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between customer attitude and technology acceptance (frequently access internet, place access internet, purchase product three months, when began shopping, rate quality website, where hear website and often used web information) is, 0.523.

R Square is the proportion of variance in the dependent variable (customer attitude) which can be explained by the independent variables (technology acceptance). This value indicates that 27% of the variance in customer attitude scores can be predicted from the variables technology acceptance. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.273, while the value of adjusted R Square was 0.152.

The F value is the Mean Square Regression (0.384) divided by the Mean Square Residual (0.170), yielding F=2.256. The p-value associated with this F value is very small (0.048). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables technology acceptance (the independent variable) show a statistically significant relationship with customer attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

### 5.3.5 Employee Attitude and Employee Satisfaction

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.845 | 0.714 | 0.616 | 7.257 | 0.0000128 |
| a. Predictors: (Employee satisfaction), support and teamwork, define responsibilities, reduce fear, relationship in department, communicates, achievement, professionalism, good job, resolve problem and project on time | | | | |
| b. Dependent Variable: Employee attitude | | | | |

Table 5.16: Model summary between Employee attitude and Employee satisfaction

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between employee attitude and employee satisfaction (support and teamwork, define responsibilities, reduce fear, relationship in department, communicates, achievement, professionalism, good job, resolve problem and project on time) is, 0.845.

R Square is the proportion of variance in the dependent variable (employee attitude) which can be explained by the independent variables (employee satisfaction). This value indicates that 71% of the variance in employee attitude scores can be predicted from the variables employee satisfaction. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.714, while the value of adjusted R Square was 0.616.

The F value is the Mean Square Regression (0.995) divided by the Mean Square Residual (0.137), yielding F=7.257. The p-value associated with this F value is very small (0.0000128). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables employee satisfaction (the independent variable) show a statistically significant relationship with employee attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

## 5.3.6 Employee Attitude and Attitude toward Suppliers

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.960 | 0.922 | 0.839 | 11.176 | 0.00000109 |
| a. Predictors: (Attitude toward suppliers), assess quality, evaluate supplier, handled goods, preventive action, receive products, report unauthorised, identification visitors, remove unauthorised, finished product, monitor quality, assess suppliers, formal subcontracts, good relationship, decrease expense, cut marketing, record transaction, quality control, monitor suppliers, quality purchase and suppliers document | | | | |
| b. Dependent Variable: Employee attitude | | | | |

Table 5.17: Model summary between Employee attitude and Attitude toward suppliers

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between employee attitude and attitude toward suppliers (assess quality, evaluate supplier, handled goods, preventive action, receive products, report unauthorised, identification visitors, remove unauthorised, finished product, monitor quality, assess suppliers, formal subcontracts, good relationship, decrease expense, cut marketing, record transaction, quality control, monitor suppliers, quality purchase and suppliers document) is, 0.960.

R Square is the proportion of variance in the dependent variable (employee attitude) which can be explained by the independent variables (attitude toward suppliers). This value indicates that 92% of the variance in employee attitude scores can be predicted from the variables attitude toward suppliers. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.922, while the value of adjusted R Square was 0.839.

The F value is the Mean Square Regression (0.642) divided by the Mean Square Residual (0.057), yielding F=11.176. The p-value associated with this F value is very small (0.00000109). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables attitude toward suppliers (the independent variable) show a statistically significant relationship with employee attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

### 5.3.7 Employee Attitude and Technology Skill

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.956 | 0.914 | 0.884 | 30.807 | 0.000000000000881 |
| a. Predictors: (Technology skill), computer require account, update employee information, firewalls, prevent unauthorised document, security awareness program, security training, document control name, change passwords regularly, grant outside access and keep records business transaction | | | | |
| b. Dependent Variable: Employee attitude | | | | |

Table 5.18: Model summary between Employee attitude and Technology skill

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between employee attitude and technology skill (computer require account, update employee information, firewalls, prevent unauthorised document, security awareness program, security training, document control name, change passwords regularly, grant outside access and keep records business transaction) is, 0.956.

R Square is the proportion of variance in the dependent variable (employee attitude) which can be explained by the independent variables (technology skill). This value indicates that 91% of the variance in employee attitude scores can be predicted from the variables technology skill. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.914, while the value of adjusted R Square was 0.884.

The F value is the Mean Square Regression (1.273) divided by the Mean Square Residual (0.041), yielding F=30.807. The p-value associated with this F value is very small (0.000000000000881). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables technology skill (the independent variable) show a statistically significant relationship with employee attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

## 5.3.8 Customer Attitude and Trust

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.949 | 0.900 | 0.880 | 46.012 | 0.0000000000000000464 |
| a. Predictors: (Trust), product highest quality, product value, product are better than other, use product again, recommend products to other, representative friendly, representative presented products information and rate quality website | | | | |
| b. Dependent Variable: Customer attitude | | | | |

Table 5.19: Model summary between Customer attitude and Trust

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between customer attitude and trust (product highest quality, product value, product are better than other, use product again, recommend products to other, representative friendly, representative presented products information and rate quality website) is, 0.949.

R Square is the proportion of variance in the dependent variable (customer attitude) which can be explained by the independent variables (trust). This value indicates that 90% of the variance in customer attitude scores can be predicted from the variables trust. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.900, while the value of adjusted R Square was 0.880.

The F value is the Mean Square Regression (1.107) divided by the Mean Square Residual (0.024), yielding F=46.012. The p-value associated with this F value is very small (0.0000000000000000464). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables trust (the independent variable) show a statistically significant relationship with customer attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

### 5.3.9 Employee Attitude and Trust

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.984 | 0.969 | 0.955 | 70.601 | 0.000000000000000354 |
| a. Predictors: (Trust), resolve problem, handled goods, preventive action, report unauthorised, remove unauthorised, monitor suppliers, quality purchase, computer require account, firewalls, prevent unauthorised document, document control name and grant outside access | | | | |
| b. Dependent Variable: Employee attitude | | | | |

Table 5.20: Model summary between Employee attitude and Trust

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between employee attitude and trust (resolve problem, handled goods, preventive action, report unauthorised, remove unauthorised, monitor suppliers, quality purchase, computer require account, firewalls, prevent unauthorised document, document control name and grant outside access) is, 0.984.

R Square is the proportion of variance in the dependent variable (employee attitude) which can be explained by the independent variables (trust). This value indicates that 97% of the variance in employee attitude scores can be predicted from the variables trust. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.969, while the value of adjusted R Square was 0.955.

The F value is the Mean Square Regression (1.125) divided by the Mean Square Residual (0.016), yielding F=70.601. The p-value associated with this F value is very small (0.000000000000000354). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables trust (the independent variable) show a statistically significant relationship with employee attitude (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

## 5.3.10 Trust and Monitoring Costs

| Model summary | | | | |
|---|---|---|---|---|
| R | R Square | Adjusted R Square | F value | Significance |
| 0.977 | 0.955 | 0.935 | 47.403 | 0.0000000000000583 |
| a. Predictors: (Monitoring costs), project on time, assess quality, evaluate supplier, handled goods, remove unauthorised, finished product, monitor quality, decrease expense, cut marketing, update employee information,  prevent unauthorised document and keep records business transaction | | | | |
| b. Dependent Variable: Trust | | | | |

Table 5.21: Model summary between Trust and Monitoring costs

From the table show the relation between the dependent variables and independent variables. R stands for the correlation and the relation between trust and monitoring costs (project on time, assess quality, evaluate supplier, handled goods, remove unauthorised, finished product, monitor quality, decrease expense, cut marketing, update employee information,  prevent unauthorised document and keep records business transaction) is, 0.977.

R Square is the proportion of variance in the dependent variable (trust) which can be explained by the independent variables (monitoring costs). This value indicates that 96% of the variance in trust scores can be predicted from the variables monitoring costs. This is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The adjusted R Square gives better calculation for the whole population. As predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. The adjusted R Square attempts to yield a more honest value to estimate the R Squared for the population. The value of R Square was 0.955, while the value of adjusted R Square was 0.935.

The F value is the Mean Square Regression (1.849) divided by the Mean Square Residual (0.039), yielding F=47.403.  The p-value associated with this F value is very small (0.0000000000000583). The p-value is compared to alpha level (typically 0.05). Thus, it present that the group of variables monitoring costs (the independent variable) show a statistically significant relationship with trust (the dependent variable). This result is an overall significance test assessing whether the group of independent variables when used together reliably predict the dependent variable, and does not address the ability of any of the particular independent variables to predict the dependent variable.

## 5.4 Development of Trust Model

The test of the structural model indicates the strengths of the relationships between the dependent and independent variables, and the regression analyses ($R^2$ values), which represent the amount of variance explained by the independent variables. The regression analyses show how well the data support the hypotheses.

The paths of them are all significant with the direct and indirect effects of trust (0.00000000000000583), customer attitude (0.00000000000000000464) and employee attitude (0.0000000000000000354) accounting for 96% ($R^2 = 0.96$) of the variance in reduce monitoring costs. As predicted, customer attitude (0.00000000000000000464) had significant influence on trust and accounting for 90% of the variance in trust. Employee attitude (0.0000000000000000354) had significant influence on trust and accounting for 97% of its variance.

As expected, customer satisfaction (0.00000000000000145), perceived value (0.0000000000000110), service quality (0.00000000000000783) and technology acceptance (0.048) were all significantly related to customer attitude and accounted for 84%, 85%, 87% and 27% of the variance in customer attitude. Employee satisfaction (0.0000128), attitude toward suppliers (0.00000109) and technology skill (0.000000000000881) were all significant related to employee attitude and accounted for 71%, 92% and 91% of the variance in employee attitude. The results of the test of the hypotheses structural model are shown in Figure 5.1.
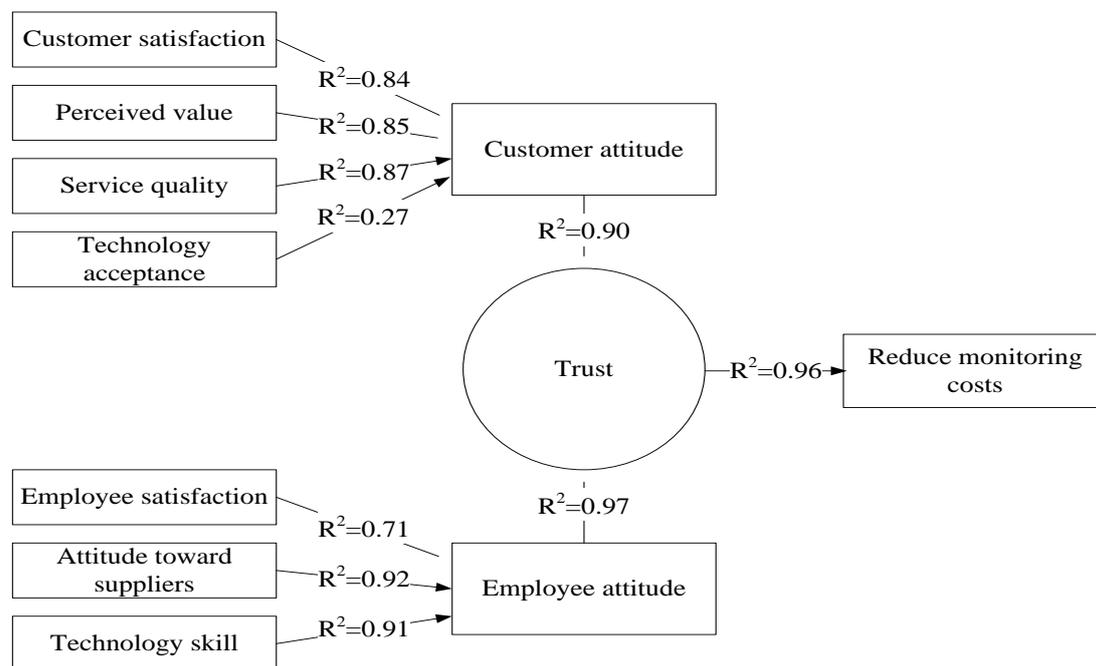


Figure 5.1: Result of structural model

The results of regression analyses measure the relationship of variables from Hypothesis 1 to Hypothesis 4. The significance of regression analyses values for each variables are lower than 0.05, which is significant at 0.05. The less significant (the p-

value), the stronger the evidences against the H0 (null Hypothesis). It also means that there are the differences between variables.

The significant values of regression analyses show that variables support these Hypotheses.

H1a: Customer satisfaction influences customer attitude.

H1b: Perceived value influences customer attitude.

H1c: Service quality influences customer attitude.

H1d: Technology acceptance influences customer attitude.

There are significant evidences to support that customer satisfaction is positively associated with customer attitude. These variables are significantly in terms of respondents' location of store (0.047), hour of store (0.00042), atmosphere of store (0.001) and purchased products from another company (0.036).

There are significant evidences to support that perceived value is positively associated with customer attitude. These variables are significantly in terms of respondents' highest quality of product (0.00021), advertised products were in stock (0.033) and recommend products to others (0.028).

There are significant evidences to support that service quality is positively associated with customer attitude. These variables are significantly in terms of respondents' representative have helpfulness (0.040), representative have knowledge (0.00028), representative handled call (0.003) and time problem resolved (0.003).

There are significant evidences to support that technology acceptance are positively associated with customer attitude. These variables are significantly in terms of respondents' often used web information (0.038).

H2a: Employee satisfaction influences employee attitude.

H2b: Attitude toward suppliers influences employee attitude.

H2c: Technology skill influences employee attitude.

There are significant evidences to support that employee satisfaction is positively associated with employee attitude. This variable is significantly in terms of respondent's do good job (0.004).

There are significant evidences to support that attitude toward suppliers are positively associated with employee attitude. These variables are significantly in terms of respondents' handled goods (0.019), assessed new suppliers (0.019), good relationship with suppliers (0.012), quality control (0.035) and monitor suppliers for performance (0.031).

There are significant evidences to support that technology skill are positively associated with employee attitude. These variables are significantly in terms of respondents' firewalls system (0.0000000025), grant outside access (0.005) and keep records business transaction (0.011).

H3: Customer attitude and employee attitude are positively associated with trust.

There are significant evidences to support that customer attitude are positively associated with trust. These variables are significantly in terms of respondents' product highest quality (0.005), recommend products to other (0.006) and representative presented products information (0.000024).

There are significant evidences to support that employee attitude are positively associated with trust. These variables are significantly in terms of respondents' resolve problem (0.0000034), handled goods (0.10), monitor suppliers for performance (0.012), document control name (0.020) and grant outside access (0.007).

H4: The higher level of trust is positively related to the lower the level of monitoring costs.

There are significant evidences to support that trust are positively associated with reduce monitoring costs. These variables are significantly in terms of respondents' project on time (0.023), handled goods (0.002) and prevent unauthorised document (0.000030).

## 5.5 Chapter Summary

In conclusion, there are evidences of strong significant of the Pearson correlation variables to support Hypotheses. The questionnaires also are the relationship between Hypothesis 1 and location of store, hour of store, atmosphere of store, purchased products from another company, highest quality of product, advertised products were in stock, recommend products to others, representative have helpfulness, representative have knowledge, representative handled call, time problem resolved and often used web information. The questionnaires also are the relationship between Hypothesis 2 and do good job, handled goods, assessed new suppliers, good relationship with suppliers, quality control, monitor suppliers for performance, firewalls system, grant outside access and keep records business transaction. The questionnaires also are the relationship between Hypothesis 3 and product highest quality, recommend products to other, representative presented products information, resolve problem, handled goods, monitor suppliers for performance, document control name and grant outside access. The questionnaires also are the relationship between Hypothesis 4 and project on time, handled goods and prevent unauthorised document.

# Chapter 6: Conclusion, Limitations and Further Work

This chapter summarises the results of the study and the conclusion of this research. The limitations of the study are also discussed. The involvement of this research will be revealed and the future work of this research will be provided.

## 6.1 Conclusion

The results of this research led to the conclusion that the data does support the research hypotheses. Results are presented characteristic of Business to Business, types of costs, trust definitions and trust models. This thesis investigates whether models and technologies have the potential to decrease costs for B2B in supply chain and electronic contracting. The survey methodology was used to collect data from selected companies in Thailand. The questionnaires were sent to customers and employees for assessing their perception. This information was analysed by using reliability of Cronbach's alpha and validity of Pearson Correlation analyses and Regression analyses. From the customer view, the results showed that there are four factors that influence customer attitude: customer satisfaction, perceived value, service quality and technology acceptance. The significant evidence that supports this statement is location of store, opening hours of store, atmosphere of store, quality of product, advertised products, customer recommend products to other person, representatives are helpful, have knowledge and resolved problems and customers frequently use web information. From the employee view, the results showed there are three factors that influence employee attitude: employee satisfaction, attitude toward suppliers and technology skill. The significant evidence that supports this statement is employees satisfy to do good job, they always assess new suppliers, have good relationship with supplier, monitor suppliers' performance, use firewall systems, and keep records business transaction. In conclusion, the purpose of this research is trust can reduce monitoring costs when customers and employees have confidence. The results presented that data maintained these following hypotheses:

H1a: Customer satisfaction influences customer attitude.

Customer satisfaction: there is significant evidence to support that customer satisfaction is positively associated with customer attitude. These variables are significant in terms of location of store, hours of opening of store, atmosphere of store and purchased products from another company.

H1b: Perceived value influences customer attitude.

Perceived value: there is significant evidence to support that perceived value is positively associated with customer attitude. These variables are significant in terms of respondents' highest quality of product, advertised products were in stock and recommend products to others.

H1c: Service quality influences customer attitude.

Service quality: there is significant evidence to support that service quality is positively associated with customer attitude. These variables are significant in terms

of helpfulness of representatives, representatives have knowledge handled calls and resolved time problems.

H1d: Technology acceptance influences customer attitude.

Technology acceptance: there is significant evidence to support that technology acceptance is positively associated with customer attitude. This variable is significant in terms of respondent's frequent usage of web information.

As mentioned in section 2.4.1, the result of the research demonstrated that customer satisfaction, perceived value, service quality and technology acceptance have had an effect on customer attitude.

H2a: Employee satisfaction influences employee attitude.

Employee satisfaction: there is significant evidence to support that employee satisfaction is positively associated with employee attitude. This variable is significantly in terms of respondent's doing a good job.

H2b: Attitude toward suppliers influences employee attitude.

Attitude toward suppliers: there is significant evidence to support that attitude toward suppliers is positively associated with employee attitude. These variables are significant in terms of respondents' handled goods, assessed new suppliers, good relationship with suppliers, quality control and monitor suppliers for performance.

H2c: Technology skill influences employee attitude.

Technology skill: there is significant evidence to support that technology skill are positively associated with employee attitude. These variables are significant in terms of respondents' firewalls system, granting outside access and keeping records of business transaction.

As mentioned in section 2.4.2, the result of the research demonstrated that employee satisfaction, attitude toward suppliers and technology skill had an effect on employee attitude.

H3: Customer attitude and employee attitude are positively associated with trust.

Trust with customer: there is significant evidence to support that customer attitude is positively associated with trust. These variables are significant in terms of respondents' products are of highest quality, recommending products to other users and representatives presentation of product information.

Trust with employee: there is significant evidence to support that employee attitude is positively associated with trust. These variables are significant in terms of respondents' resolving problems, handled goods, monitor suppliers for performance, document control name and grant outside access.

As mentioned in section 2.4.3, the result of the research demonstrated that trust had a positive effect on customer and employee attitude.

H4: The higher level of trust is positively related to the lower the level of monitoring costs.

There is significant evidence to support that trust is positively associated with reducing monitoring costs. These variables are significant in terms of respondents' project on time, handled goods and preventing unauthorised document access.

As mentioned in section 2.4.4, the result of the research demonstrated that the lower level of monitoring costs had a positive effect on the higher level of trust.

## 6.2 Imitations of the Study

The results of this research were helpful because they confirmed the research hypotheses. However, there are still some limitations for this research. They were come from research method and size of businesses considered.

The limitations of this research are the lack of explanation in depth. Thus, there are requirements for in-depth exploration. This research identifies the testing on supply chain and electronic contracting. Thus, further works suggest testing on other business frameworks.

Moreover, range of population was small and time limited. The limitations consist of small population size. The population size was separated 50 questionnaires to customer and 40 questionnaires to employee. The participants just answered questionnaires for quantitative surveys. It should be quantitative and qualitative surveys. They also could be described as being medium and large organisations in future work.

There are several types of questionnaire test but this research use peer reviewing. The time was too limited to use other testing.

## 6.3 Further Work

From section above, further work can be taken to determine other information from respondents such as communication, financial and personality. The future study should not be limited by location. This model may be possible to apply in the real world. It will be used for creating a database from trust model to simulate that the user trust or not trust. For instance, we can create a database from customer and employee information. We identify criteria for their requirement (condition). If they meet their requirement, the result will show trust (or not trust). Trust will reach to reduce monitoring costs whereas distrust will do nothing.

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# APPENDIX A:

**Questionnaires for customer:**
**Section 1: Demographic profiles**

    1.1 What is your gender?
        1. Male
        2. Female

    1.2 What is your current age?
        1. Less than 18
        2. 19 to 29
        3. 30 to 39
        4. 40 plus

    1.3 What is your current marital status?
        1. Single, Never Married
        2. Married
        3. Separated
        4. Divorced/Widowed

    1.4 What is the highest level of education that you have completed?
        1. High school
        2. Undergraduate degree
        3. Graduate degree
        4. Postgraduate degree

    1.5 How long have you used products/services from Starbucks/ Central
department store/ True Corporation/ Maruay Garden Hotel/ Landmark Bangkok?
        1. Less than 1 month
        2. 1-6 months
        3. 6 months to 1 year
        4. More than 1 year

**Section 2: Customer satisfaction**

For each statement below, show the extent of your agreement or disagreement from your opinions. (Select one)

5 = Strongly Agree
4 = Agree
3 = Neutral
2 = Disagree
1 = Strongly Disagree

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 2.1 You are very satisfied with the price that you paid for what you bought. | | | | | |
| 2.2 Stores are conveniently located. | | | | | |
| 2.3 Store hours are convenient for your shopping needs. | | | | | |
| 2.4 Store atmosphere and decor are appealing. | | | | | |

| 2.5 You like to purchase products/services from another company. | | | | | |
|---|---|---|---|---|---|

2.6 If you wanted to buy/have these new products/services, which purchase method would you most prefer?
1. Calling and ordering by telephone
2. Ordering through the mail
3. Using the internet
4. Going to the company

2.7 Did you satisfy with method used in question 2.6?
1. Yes
2. No

## Section 3: Perceived value
For each statement below, show the extent of your agreement or disagreement from your opinions. (Select one)

5 = Strongly Agree
4 = Agree
3 = Neutral
2 = Disagree
1 = Strongly Disagree

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 3.1 Products sold are the highest quality. | | | | | |
| 3.2 Products are value for money. | | | | | |
| 3.3 Advertised products were in stock. | | | | | |
| 3.4 Packaging and labelling of products are attractive. | | | | | |
| 3.5 Products are better than other companies. | | | | | |

3.6 Did you return or cancel products after you received it?
1. Yes
2. No

3.7 Will you use/purchase products again?
1. Definitely will
2. Probably will
3. Might or might not
4. Probably will not
5. Definitely will not

3.8 How likely are you to recommend products to others?
1. Definitely will recommend
2. Probably will recommend
3. Not sure
4. Probably will not recommend
5. Definitely will not recommend

**Section 4: Service quality**

For each statement below, show the extent of your agreement or disagreement from your opinions. (Select one)

5 = Strongly agree

4 = Agree

3 = Neutral

2 = Disagree

1 = Strongly disagree

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 4.1 You feel that the representative on helpfulness or willingness to assist customers. | | | | | |
| 4.2 The customer service representative was very courteous. | | | | | |
| 4.3 The customer service representative was very knowledgeable. | | | | | |
| 4.4 The customer service representative was very friendly. | | | | | |
| 4.5 The customer service representative accurately presented products/services information. | | | | | |
| 4.6 The customer service representative handled my call quickly. | | | | | |
| 4.7 The automated phone system made the customer service experience more satisfying. | | | | | |

4.8 What about the representative could be improved?
1. Not patient
2. Not enthusiastic
3. Didn't listen carefully
4. Unfriendly
5. Unresponsive
6. No improvement needed

4.9 How long did it take to get this problem resolved?
1. Immediately resolution
2. Less than 1 day
3. Between 1 and 6 days
4. More than 1 week

**Section 5: Technology acceptance**
5.1 How frequently do you access the internet?
1. Daily
2. Weekly
3. Monthly
4. Never

5.2 Where do you access the internet?
1. Home

2. Office
3. School
4. Cyber café
5. Never

5.3 In the past three months, have you purchased products/services through the internet?

1. Yes
2. No

5.4 When you began shopping on this occasion, were you?

1. Surfing the net with no intent to purchase
2. Surfing the net with intent to make a purchase

5.5 Based on your experience, how would you rate quality of company's website?

1. Very high quality
2. High quality
3. Average
4. Below average
5. Unacceptable

5.6 Where did you hear about company's website?

1. Online or link from another website
2. Search engine
3. Friend
4. Newspaper or magazine

5.7 How often have you used web to gather product information?

1. Every day
2. Once a week
3. Several times a week
4. Once a month
5. Several times a month
6. Never used

**Questionnaires for employee:**
**Section 1: Demographic profiles**
    1.1 What is your gender?
        1. Male
        2. Female
    1.2 What is your current age?
        1. Less than 18
        2. 19 to 29
        3. 30 to 39
        4. 40 plus
    1.3 What is your current marital status?
        1. Single, Never Married
        2. Married
        3. Separated
        4. Divorced/Widowed
    1.4 What is the highest level of education that you have completed?
        1. High school
        2. Undergraduate degree
        3. Graduate degree
        4. Postgraduate degree
    1.5 How long have you been an employee of this organisation?
        1. Less than 1 year
        2. 2 to 9
        3. 10 to 19
        4. More than 20 years
    1.6 Number of employees in your organisation
        1. 1-100
        2. 101-250
        3. 251-500
        4. More than 500
    1.7 Please select your department
        1. Accounting
        2. Customer service
        3. Finance
        4. Marketing
        5. Sale
        6. Other (please specify)_____

**Section 2: Employee satisfaction**
For each statement below, show the extent of your agreement or disagreement from your opinions. (Select one)
5 = Strongly Agree
4 = Agree
3 = Neutral
2 = Disagree

1 = Strongly Disagree

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 2.1 You feel your department gets support and teamwork from other areas within the company. | | | | | |
| 2.2 Your manager clearly defines your job responsibilities. | | | | | |
| 2.3 Your manager encourages high achievement by reducing the fear of failure. | | | | | |
| 2.4 Your manager takes responsibility for shaping the attitudes and relationships within your department. | | | | | |
| 2.5 Your manager clearly communicates what is expected of you. | | | | | |
| 2.6 Your manager provides you with continuous feedback to help you achieve. | | | | | |
| 2.7 Your manager demonstrates professionalism. | | | | | |
| 2.8 You do a good job of recognising both individual and team contributions. | | | | | |
| 2.9 You review the customer's requirements before resolving problem. | | | | | |
| 2.10 Most projects/orders are done to the customer's satisfaction and on time. | | | | | |

## Section 3: Attitude toward suppliers
For each statement below, please select the best answer to each question. (Select one)
5 = Frequently
4 = Often
3 = Sometimes
2 = Seldom
1 = Never

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 3.1 Does your management assess the quality system regularly? | | | | | |
| 3.2 Do you evaluate and select suppliers based on their ability to meet your requirements? | | | | | |
| 3.3 Do you ensure that the goods are handled, stored, protected and packaged appropriately? | | | | | |
| 3.4 Do you have an organised process for corrective and preventive action? | | | | | |
| 3.5 Have you asked your suppliers for corrective actions when you receive non-conforming products? | | | | | |
| 3.6 Do you have documented procedures to report unauthorised entry into containers and container storage areas? | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 3.7 Does your facility have access controls for the positive identification of all employees, visitors, and vendors? | | | | | |
| 3.8 Do you have documented procedures for identifying and removing unauthorised or unidentified persons? | | | | | |
| 3.9 Are all outgoing/finished products properly marked, weighed, counted, and verified against manifest documents, delivery orders, and purchase orders? | | | | | |
| 3.10 Do you monitor suppliers regarding quality, cost and delivery? | | | | | |
| 3.11 Do you assess new suppliers/sub-contractors? | | | | | |
| 3.12 Does your organisation have formal procedures in place for the management of subcontractors? | | | | | |
| 3.13 Do you have good working relationships with your suppliers? | | | | | |
| 3.14 Can you increase revenue or decrease expenses in your business? | | | | | |
| 3.15 Do you plan to start cutting your marketing expenditure? | | | | | |
| 3.16 Do you keep records of the business transactions? | | | | | |
| 3.17 Does the department responsible for quality have the authority to control further processing and delivery of products until the unsatisfactory condition has been corrected? | | | | | |
| 3.18 Have you monitored suppliers for performance? | | | | | |
| 3.19 Does the department responsible for quality review your purchasing documents that give directions to your suppliers? | | | | | |
| 3.20 Do you require your suppliers to supply documented evidence as required by your customers or applicable specifications? | | | | | |

**Section 4: Technology skill**
For each statement below, please select the best answer to each question. (Select one)
5 = Frequently
4 = Often
3 = Sometimes
2 = Seldom
1 = Never

| Items | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 4.1 Do your computer systems require individually assigned accounts to acquire access? | | | | | |
| 4.2 Does your organisation update information for employee regularly? | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 4.3 Do your computer systems have firewalls? | | | | | |
| 4.4 Do you have procedures to prevent unauthorised use of documents and forms? | | | | | |
| 4.5 Is a security awareness program in place? | | | | | |
| 4.6 Do you have security training in recognition of document fraud and computer security controls? | | | | | |
| 4.7 Do you have document and control all user names and passwords issued? | | | | | |
| 4.8 Do you change passwords regularly? | | | | | |
| 4.9 Do you grant outside access to your automated systems? | | | | | |
| 4.10 Do you keep records of the business transactions? | | | | | |

## APPENDIX B:

Demographic profile of customer (n=50)

| Demographics | Frequency | Percentage |
|---|---|---|
| Gender | | |
| Male | 19 | 38% |
| Female | 31 | 62% |
| Age | | |
| 19 to 29 | 18 | 36% |
| 30 to 39 | 21 | 42% |
| 40 plus | 11 | 22% |
| Education level | | |
| High school | 4 | 8% |
| Undergraduate degree | 32 | 64% |
| Graduate degree | 11 | 22% |
| Postgraduate degree | 3 | 6% |
| How long using products/services | | |
| Less than 1 month | 6 | 12% |
| 1 to 6 month | 6 | 12% |
| 6 months to 1 year | 3 | 6% |
| More than 1 year | 35 | 70% |

Demographic profile of employee (n=40)

| Demographics | Frequency | Percentage |
|---|---|---|
| Gender | | |
| Male | 6 | 15% |
| Female | 34 | 85% |
| Age | | |
| 19 to 29 | 12 | 30% |
| 30 to 39 | 21 | 52.5% |
| 40 plus | 7 | 17.5% |
| Education level | | |
| High school | 5 | 12.5% |
| Undergraduate degree | 26 | 65% |
| Graduate degree | 7 | 17.5% |
| Postgraduate degree | 2 | 5% |
| How long being employee | | |
| Less than 1 year | 2 | 5% |
| 2 to 9 year | 27 | 67.5% |
| 10 to 19 year | 11 | 27.5% |
| Number of employees in organisation | | |
| 1 to 100 | 1 | 2.5% |
| 101 to 250 | 3 | 7.5% |
| 251 to 500 | 7 | 17.5% |
| More than 500 | 29 | 72.5% |

# APPENDIX C:

## C.1 Pearson Correlation of customer satisfaction variables

In table C.1 lists the variable names (satisfied price you paid, store located, store hour, store atmosphere, purchase from another and purchase method) down the first column and across the first row.

| | Satisfied price you paid | Store located | Store hour | Store atmosphere | Purchase from another | Purchase method |
|---|---|---|---|---|---|---|
| Satisfied price you paid | | | | | | |
| Store located | 0.458 | | | | | |
| Store hour | 0.486 | **0.827** | | | | |
| Store atmosphere | 0.392 | **0.726** | **0.729** | | | |
| Purchase from another | 0.457 | 0.014 | 0.057 | 0.156 | | |
| Purchase method | 0.086 | -0.063 | -0.023 | -0.860 | 0.385 | |

Table C.1: Pearson Correlation of customer satisfaction variables

From this table, Pearson correlation value of 0.458 was positive. It can be concluded that when the amount of store located (first variable) increases, the participant satisfied price you paid (second variable) also increases.

Pearson correlation value of 0.486 was positive. It can be concluded that when the amount of store hour (first variable) increases, the participant satisfied price you paid (second variable) also increases.

Pearson correlation value of 0.392 was positive. It can be concluded that when the amount of store atmosphere (first variable) increases, the participant satisfied price you paid (second variable) also increases.

Pearson correlation value of 0.457 was positive. It can be concluded that when the amount of purchase from another (first variable) increase, the participant satisfied price you paid (second variable) also increases.

Pearson correlation value of 0.086 was positive. It can be concluded that when the amount of purchase method (first variable) increases, the participant satisfied price you paid (second variable) also increases.

Pearson correlation value of 0.014 was positive. It can be concluded that when the amount of purchase from another (first variable) increases, the participant store located (second variable) also increases.

Pearson correlation value of -0.063 was negative. It can be concluded that when the amount of purchase method (first variable) increases, the participant store located (second variable) also decreases.

Pearson correlation value of 0.057 was positive. It can be concluded that when the amount of purchase from another (first variable) increases, the participant store hour (second variable) also increases.

Pearson correlation value of -0.023 was negative. It can be concluded that when the amount of purchase method (first variable) increases, the participant store hour (second variable) also decreases.

Pearson correlation value of 0.156 was positive. It can be concluded that when the amount of purchase from another (first variable) increases, the participant store atmosphere (second variable) also increases.

Pearson correlation value of -0.86 was negative. It can be concluded that when the amount of purchase method (first variable) increases, the participant store atmosphere (second variable) also decreases.

Pearson correlation value of 0.385 was positive. It can be concluded that when the amount of purchase method (first variable) increases, the participant purchase from another (second variable) also increases.

## C.2 Pearson Correlation of perceived value variables

In table C.2 lists the variable names (product highest quality, product value, advertised product in stock, packing attractive, product are better than other, return or cancel product, use product again and recommend products to other) down the first column and across the first row.

| | Product highest quality | Product value | Advertised product in stock | Packing attractive | Product are better than other | Return or cancel product | Use product again | Recommend products to other |
|---|---|---|---|---|---|---|---|---|
| Product highest quality | | | | | | | | |
| Product value | **0.778** | | | | | | | |
| Advertised product in stock | **0.639** | **0.610** | | | | | | |
| Packing attractive | **0.642** | 0.492 | **0.698** | | | | | |
| Product are better than other | **0.713** | 0.571 | **0.653** | **0.618** | | | | |
| Return or cancel product | 0.322 | 0.359 | 0.150 | 0.004 | 0.194 | | | |

| Use product again | -0.018 | -0.304 | 0.056 | 0.145 | -0.047 | -0.283 | | |
|---|---|---|---|---|---|---|---|---|
| Recommend products to other | -0.066 | -0.258 | 0.104 | 0.193 | 0.014 | -0.407 | **0.823** | |

Table C.2: Pearson Correlation of perceived value variables

From this table, Pearson correlation value of 0.322 was positive. It can be concluded that when the amount of return or cancel product (first variable) increases, the participant product highest quality (second variable) also increases.

Pearson correlation value of -0.018 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product highest quality (second variable) also decreases.

Pearson correlation value of -0.066 was negative. It can be concluded that when the amount of recommend products to other (first variable) increases, the participant product highest quality (second variable) also decreases.

Pearson correlation value of 0.492 was positive. It can be concluded that when the amount of packing attractive (first variable) increases, the participant product value (second variable) also increases.

Pearson correlation value of 0.571 was positive. It can be concluded that when the amounts of product are better than other (first variable) increases, the participant product value (second variable) also increases.

Pearson correlation value of 0.359 was positive. It can be concluded that when the amounts of return or cancel product (first variable) increases, the participant product value (second variable) also increases.

Pearson correlation value of -0.304 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product value (second variable) also decreases.

Pearson correlation value of -0.258 was negative. It can be concluded that when the amount of recommend products to other (first variable) increases, the participant product value (second variable) also decreases.

Pearson correlation value of 0.150 was positive. It can be concluded that when the amounts of return or cancel product (first variable) increases, the participant advertised product in stock (second variable) also increases.

Pearson correlation value of 0.056 was positive. It can be concluded that when the amounts of use product again (first variable) increases, the participant advertised product in stock (second variable) also increases.

Pearson correlation value of 0.104 was positive. It can be concluded that when the amounts of recommend products to other (first variable) increases, the participant advertised product in stock (second variable) also increases.

Pearson correlation value of 0.004 was positive. It can be concluded that when the amounts of return or cancel product (first variable) increases, the participant packing attractive (second variable) also increases.

Pearson correlation value of 0.145 was positive. It can be concluded that when the amounts of use product again (first variable) increases, the participant packing attractive (second variable) also increases.

Pearson correlation value of 0.193 was positive. It can be concluded that when the amounts of recommend products to other (first variable) increases, the participant packing attractive (second variable) also increases.

Pearson correlation value of 0.194 was positive. It can be concluded that when the amounts of return or cancel product (first variable) increases, the participant product are better than other (second variable) also increases.

Pearson correlation value of -0.047 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product are better than other (second variable) also decreases.

Pearson correlation value of 0.014 was positive. It can be concluded that when the amounts of recommend products to other (first variable) increases, the participant product are better than other (second variable) also increases.

Pearson correlation value of -0.283 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant return or cancel product (second variable) also decreases.

Pearson correlation value of -0.407 was negative. It can be concluded that when the amount of recommend products to other (first variable) increases, the participant return or cancel product (second variable) also decreases.

## C.3 Pearson Correlation of service quality variables

In table C.3 lists the variable names (representative helpfulness, representative courteous, representative knowledge, representative friendly, representative presented products information, representative handled call, automated phone satisfy, representative improve and time problem resolved) down the first column and across the first row.

| | Representative helpfulness | Representative courteous | Representative knowledge | Representative friendly | Representative presented information | Representative handled call | Automated phone satisfy | Representative improve | Time problem resolved |
|---|---|---|---|---|---|---|---|---|---|
| Representative helpfulness | | | | | | | | | |
| Representative courteous | **0.879** | | | | | | | | |
| Representative knowledge | **0.712** | **0.821** | | | | | | | |
| Representative friendly | **0.732** | **0.878** | **0.838** | | | | | | |
| Representative presented products information | **0.719** | **0.723** | **0.844** | **0.777** | | | | | |
| Representative handled call | 0.176 | 0.158 | 0.292 | 0.215 | 0.280 | | | | |
| Automated phone satisfy | 0.544 | 0.522 | 0.584 | 0.470 | 0.593 | 0.553 | | | |
| Representative improve | 0.552 | 0.429 | 0.418 | 0.362 | 0.542 | 0.139 | 0.413 | | |
| Time problem resolved | -0.507 | -0.479 | -0.382 | -0.502 | -0.252 | -0.041 | -0.229 | -0.165 | |

Table C.3: Pearson Correlation of service quality variables

From this table, Pearson correlation value of 0.176 was positive. It can be concluded that when the amount of representative handled call (first variable) increases, the participant representative helpfulness (second variable) also increases.

Pearson correlation value of 0.544 was positive. It can be concluded that when the amounts of automated phone satisfy (first variable) increases, the participant representative helpfulness (second variable) also increases.

Pearson correlation value of 0.552 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant representative helpfulness (second variable) also increases.

Pearson correlation value of -0.507 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative helpfulness (second variable) also decreases.

Pearson correlation value of 0.158 was positive. It can be concluded that when the amounts of representative handled call (first variable) increases, the participant representative courteous (second variable) also increases.

Pearson correlation value of 0.522 was positive. It can be concluded that when the amounts of automated phone satisfy (first variable) increases, the participant representative courteous (second variable) also increases.

Pearson correlation value of 0.429 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant representative courteous (second variable) also increases.

Pearson correlation value of -0.479 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative courteous (second variable) also decreases.

Pearson correlation value of 0.292 was positive. It can be concluded that when the amounts of representative handled call (first variable) increases, the participant representative knowledge (second variable) also increases.

Pearson correlation value of 0.584 was positive. It can be concluded that when the amounts of automated phone satisfy (first variable) increases, the participant representative knowledge (second variable) also increases.

Pearson correlation value of 0.418 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant representative knowledge (second variable) also increases.

Pearson correlation value of -0.382 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative knowledge (second variable) also decreases.

Pearson correlation value of 0.215 was positive. It can be concluded that when the amounts of representative handled call (first variable) increases, the participant representative friendly (second variable) also increases.

Pearson correlation value of 0.470 was positive. It can be concluded that when the amounts of automated phone satisfy (first variable) increases, the participant representative friendly (second variable) also increases.

Pearson correlation value of 0.362 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant representative friendly (second variable) also increases.

Pearson correlation value of -0.502 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative friendly (second variable) also decreases.

Pearson correlation value of 0.280 was positive. It can be concluded that when the amounts of representative handled call (first variable) increases, the participant representative presented products information (second variable) also increases.

Pearson correlation value of 0.593 was positive. It can be concluded that when the amounts of automated phone satisfy (first variable) increases, the participant representative presented products information (second variable) also increases.

Pearson correlation value of 0.542 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant representative presented products information (second variable) also increases.

Pearson correlation value of -0.252 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative presented products information (second variable) also decreases.

Pearson correlation value of 0.533 was positive. It can be concluded that when the amounts of automated phone satisfy (first variable) increases, the participant representative handled call (second variable) also increases.

Pearson correlation value of 0.139 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant representative handled call (second variable) also increases.

Pearson correlation value of -0.041 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative handled call (second variable) also decreases.

Pearson correlation value of 0.413 was positive. It can be concluded that when the amounts of representative improve (first variable) increases, the participant automated phone satisfy (second variable) also increases.

Pearson correlation value of -0.229 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant automated phone satisfy (second variable) also decreases.

Pearson correlation value of -0.165 was negative. It can be concluded that when the amount of time problem resolved (first variable) increases, the participant representative improve (second variable) also decreases.

## C.4 Pearson Correlation of technology acceptance variables

In table C.4 lists the variable names (frequently access internet, place access internet, purchase product three months, when began shopping, rate quality website, where hear website and often used web information) down the first column and across the first row.

| | Frequently access internet | Place access internet | Purchase product three months | When began shopping | Rate quality website | Where hear website | Often used web information |
|---|---|---|---|---|---|---|---|
| Frequently access internet | | | | | | | |
| Place access internet | 0.469 | | | | | | |
| Purchase product three months | 0.071 | 0.209 | | | | | |
| When began shopping | 0.065 | 0.224 | 0.410 | | | | |
| Rate quality website | -0.089 | -0.001 | 0.245 | 0.200 | | | |
| Where hear website | -0.152 | -0.129 | 0.053 | -0.072 | 0.111 | | |
| Often used web information | 0.310 | 0.158 | 0.186 | -0.175 | 0.247 | 0.058 | |

Table C.4: Pearson Correlation of technology acceptance variables

From this table, Pearson correlation value of 0.469 was positive. It can be concluded that when the amount of place access internet (first variable) increases, the participant frequently access internet (second variable) also increases.

Pearson correlation value of 0.071 was positive. It can be concluded that when the amount of purchase product three months (first variable) increases, the participant frequently access internet (second variable) also increases.

Pearson correlation value of 0.065 was positive. It can be concluded that when the amount of when began shopping (first variable) increases, the participant frequently access internet (second variable) also increases.

Pearson correlation value of -0.089 was negative. It can be concluded that when the amount of rate quality website (first variable) increases, the participant frequently access internet (second variable) also decreases.

Pearson correlation value of -0.152 was negative. It can be concluded that when the amount of where hear website (first variable) increases, the participant frequently access internet (second variable) also decreases.

Pearson correlation value of 0.310 was positive. It can be concluded that when the amount of often used web information (first variable) increases, the participant frequently access internet (second variable) also increases.

Pearson correlation value of 0.209 was positive. It can be concluded that when the amount of purchase product three months (first variable) increases, the participant place access internet (second variable) also increases.

Pearson correlation value of 0.224 was positive. It can be concluded that when the amount of when began shopping (first variable) increases, the participant place access internet (second variable) also increases.

Pearson correlation value of -0.001 was negative. It can be concluded that when the amount of rate quality website (first variable) increases, the participant place access internet (second variable) also decreases.

Pearson correlation value of -0.129 was negative. It can be concluded that when the amount of where hear website (first variable) increases, the participant place access internet (second variable) also decreases.

Pearson correlation value of 0.158 was positive. It can be concluded that when the amount of often used web information (first variable) increases, the participant place access internet (second variable) also increases.

Pearson correlation value of 0.410 was positive. It can be concluded that when the amount of when began shopping (first variable) increases, the participant purchase product three months (second variable) also increases.

Pearson correlation value of 0.245 was positive. It can be concluded that when the amount of rate quality website (first variable) increases, the participant purchase product three months (second variable) also increases.

Pearson correlation value of 0.053 was positive. It can be concluded that when the amount of where hear website (first variable) increases, the participant purchase product three months (second variable) also increases.

Pearson correlation value of 0.186 was positive. It can be concluded that when the amount of often used web information (first variable) increases, the participant purchase product three months (second variable) also increases.

Pearson correlation value of 0.200 was positive. It can be concluded that when the amount of rate quality website (first variable) increases, the participant when began shopping (second variable) also increases.

Pearson correlation value of -0.072 was negative. It can be concluded that when the amount of where hear website (first variable) increases, the participant when began shopping (second variable) also decreases.

Pearson correlation value of -0.175 was negative. It can be concluded that when the amount of often used web information (first variable) increases, the participant when began shopping (second variable) also decreases.

Pearson correlation value of 0.111 was positive. It can be concluded that when the amount of where hear website (first variable) increases, the participant rate quality website (second variable) also increases.

Pearson correlation value of 0.247 was positive. It can be concluded that when the amount of often used web information (first variable) increases, the participant rate quality website (second variable) also increases.

Pearson correlation value of 0.058 was positive. It can be concluded that when the amount of often used web information (first variable) increases, the participant where hear website (second variable) also increases.

## C.5 Pearson Correlation of employee satisfaction variables

In table C.5 lists the variable names (support and teamwork, define responsibilities, reduce fear, relationship in department, communicates, achievement, professionalism, good job, resolve problem and project on time) down the first column and across the first row.

| | Support and teamwork | Define responsibilities | Reduce fear | Relationship in department | Communicates | Achievement | Professionalism | Good job | Resolve problem | Project on time |
|---|---|---|---|---|---|---|---|---|---|---|
| Support and teamwork | | | | | | | | | | |
| Define responsibilities | 0.544 | | | | | | | | | |
| Reduce fear | 0.567 | **0.717** | | | | | | | | |
| Relationship in department | **0.643** | **0.784** | **0.871** | | | | | | | |
| Communicates | **0.695** | **0.666** | **0.745** | **0.850** | | | | | | |
| Achievement | **0.671** | **0.751** | **0.628** | **0.711** | **0.776** | | | | | |
| Professionalism | **0.615** | **0.781** | **0.741** | **0.813** | **0.842** | **0.814** | | | | |
| Good job | **0.702** | **0.633** | 0.584 | **0.710** | **0.633** | **0.627** | **0.675** | | | |
| Resolve problem | **0.768** | **0.609** | **0.671** | **0.701** | **0.759** | **0.736** | **0.736** | **0.832** | | |
| Project on time | 0.577 | 0.390 | 0.390 | 0.451 | 0.491 | **0.630** | 0.473 | **0.701** | **0.766** | |

Table C.5: Pearson Correlation of employee satisfaction variables

From this table, Pearson correlation value of 0.544 was positive. It can be concluded that when the amount of define responsibilities (first variable) increases, the participant support and teamwork (second variable) also increases.

Pearson correlation value of 0.567 was positive. It can be concluded that when the amount of reduce fear (first variable) increases, the participant support and teamwork (second variable) also increases.

Pearson correlation value of 0.577 was positive. It can be concluded that when the amount of project on time (first variable) increases, the participant support and teamwork (second variable) also increases.

Pearson correlation value of 0.390 was positive. It can be concluded that when the amount of project on time (first variable) increases, the participant define responsibilities (second variable) also increases.

Pearson correlation value of 0.584 was positive. It can be concluded that when the amounts of good job (first variable) increases, the participant reduce fear (second variable) also increases.

Pearson correlation value of 0.390 was positive. It can be concluded that when the amount of project on time (first variable) increases, the participant reduce fear (second variable) also increases.

Pearson correlation value of 0.451 was positive. It can be concluded that when the amount of project on time (first variable) increases, the participant relationship in department (second variable) also increases.

Pearson correlation value of 0.491 was positive. It can be concluded that when the amount of project on time (first variable) increases, the participant communicates (second variable) also increases.

Pearson correlation value of 0.473 was positive. It can be concluded that when the amount of project on time (first variable) increases, the participant professionalism (second variable) also increases.

## C.6 Pearson Correlation of attitude toward suppliers variables

In table C.6 lists the variable names (assess quality, evaluate supplier, handled goods, preventive action, receive products, report unauthorised, identification visitors, remove unauthorised, finished product, monitor quality, assess suppliers, formal subcontracts, good relationship, decrease expense, cut marketing, record transaction, quality control, monitor suppliers, quality purchase and suppliers document) down the first column and across the first row.

| | Assess quality | Evaluate supplier | Handled goods | Preventive action | Receive products | Report unauthorised | Identification visitors | Remove unauthorised | Finished product | Monitor quality | Assess suppliers | Formal subcontracts | Good relationship | Decrease expense | Cut marketing | Record transaction | Quality control, | Monitor suppliers | Quality purchase | Suppliers document |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assess quality | | | | | | | | | | | | | | | | | | | | |
| Evaluate supplier | 0.384 | | | | | | | | | | | | | | | | | | | |
| Handled goods | 0.284 | 0.465 | | | | | | | | | | | | | | | | | | |
| Preventive action | 0.575 | 0.513 | **0.717** | | | | | | | | | | | | | | | | | |
| Receive products | 0.465 | 0.415 | 0.521 | **0.765** | | | | | | | | | | | | | | | | |
| Report unauthorised | 0.311 | 0.376 | **0.630** | **0.614** | **0.605** | | | | | | | | | | | | | | | |
| Identification visitors | 0.465 | 0.300 | **0.678** | **0.665** | 0.513 | **0.696** | | | | | | | | | | | | | | |
| Remove unauthorised | 0.568 | 0.375 | **0.600** | **0.600** | 0.428 | 0.560 | **0.621** | | | | | | | | | | | | | |
| Finished product | 0.166 | 0.205 | 0.316 | 0.534 | 0.552 | 0.493 | 0.552 | 0.163 | | | | | | | | | | | | |
| Monitor quality | 0.108 | 0.329 | 0.395 | 0.597 | **0.687** | 0.544 | 0.444 | 0.203 | **0.772** | | | | | | | | | | | |
| Assess suppliers | 0.052 | 0.273 | 0.509 | 0.516 | 0.439 | 0.357 | 0.565 | 0.207 | **0.652** | **0.628** | | | | | | | | | | |
| Formal subcontracts | 0.259 | 0.294 | 0.512 | 0.593 | 0.463 | 0.288 | 0.554 | 0.384 | 0.512 | 0.584 | **0.840** | | | | | | | | | |
| Good relationship | 0.007 | 0.070 | 0.429 | 0.488 | 0.438 | 0.437 | **0.605** | 0.307 | **0.702** | **0.639** | **0.821** | **0.731** | | | | | | | | |
| Decrease expense | 0.043 | 0.275 | 0.397 | 0.558 | 0.577 | 0.330 | 0.324 | 0.249 | 0.473 | **0.745** | 0.531 | 0.591 | **0.613** | | | | | | | |
| Cut marketing | 0.125 | 0.199 | 0.563 | 0.559 | 0.542 | 0.402 | 0.435 | 0.362 | 0.370 | 0.435 | **0.605** | 0.431 | 0.557 | 0.560 | | | | | | |
| Record transaction | 0.095 | 0.144 | **0.661** | 0.581 | 0.475 | **0.631** | 0.570 | 0.493 | 0.318 | 0.412 | 0.430 | 0.415 | 0.485 | 0.424 | 0.588 | | | | | |
| Quality control, | 0.068 | 0.151 | **0.629** | 0.495 | 0.366 | 0.541 | **0.695** | 0.474 | 0.364 | 0.366 | **0.630** | **0.633** | **0.740** | 0.487 | 0.449 | 0.597 | | | | |
| Monitor suppliers | -0.003 | 0.155 | 0.352 | 0.415 | 0.370 | 0.408 | **0.605** | 0.176 | **0.618** | **0.605** | **0.795** | **0.686** | **0.795** | 0.515 | 0.503 | 0.402 | **0.648** | | | |
| Quality purchase | 0.065 | 0.125 | 0.556 | 0.519 | 0.438 | 0.456 | 0.504 | 0.379 | 0.438 | **0.668** | 0.598 | **0.681** | **0.691** | **0.774** | 0.545 | 0.531 | **0.724** | 0.598 | | |
| Suppliers document | 0.293 | 0.277 | 0.523 | 0.589 | 0.493 | 0.532 | **0.668** | 0.542 | 0.392 | 0.551 | **0.633** | **0.726** | **0.674** | 0.596 | 0.529 | 0.503 | **0.674** | **0.710** | **0.745** | |

Table C.6: Pearson Correlation of attitude toward suppliers variables

From this table, Pearson correlation value of 0.384 was positive. It can be concluded that when the amount of evaluate supplier (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.284 was positive. It can be concluded that when the amounts of handled goods (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.575 was positive. It can be concluded that when the amounts of preventive action (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.465 was positive. It can be concluded that when the amounts of receive products (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.311 was positive. It can be concluded that when the amounts of report unauthorised (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.465 was positive. It can be concluded that when the amounts of identification visitors (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.568 was positive. It can be concluded that when the amounts of remove unauthorised (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.166 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.108 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.052 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.259 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.007 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.043 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.125 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.095 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.068 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of -0.003 was negative. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant assess quality (second variable) also decreases.

Pearson correlation value of 0.065 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.293 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.465 was positive. It can be concluded that when the amounts of handled goods (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.513 was positive. It can be concluded that when the amounts of preventive action (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.415 was positive. It can be concluded that when the amounts of receive products (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.376 was positive. It can be concluded that when the amounts of report unauthorised (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.300 was positive. It can be concluded that when the amounts of identification visitors (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.375 was positive. It can be concluded that when the amounts of remove unauthorised (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.205 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.329 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.273 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.294 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.070 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.275 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.199 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.144 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.151 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.155 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.125 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.277 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.521 was positive. It can be concluded that when the amounts of receive products (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.316 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.395 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.509 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.512 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.429 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.397 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.563 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.352 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.556 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.523 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.534 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.597 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.516 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.593 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.488 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.558 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.559 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.581 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.495 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.415 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.519 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.589 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.513 was positive. It can be concluded that when the amounts of identification visitors (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.428 was positive. It can be concluded that when the amounts of remove unauthorised (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.552 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.439 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.463 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.438 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.577 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.542 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.475 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.366 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.370 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.438 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant receive products (second variable) also increases.

Pearson correlation value of 0.493 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant receive products (second variable) also increases

Pearson correlation value of 0.560 was positive. It can be concluded that when the amounts of remove unauthorised (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.493 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.544 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.357 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.288 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.437 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.330 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.402 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.541 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.408 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.456 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.532 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.552 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.444 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.565 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.554 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.324 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.435 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.570 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.504 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant identification visitors (second variable) also increases.

Pearson correlation value of 0.163 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.203 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.207 was positive. It can be concluded that when the amounts of assess suppliers (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.384 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.307 was positive. It can be concluded that when the amounts of good relationship (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.249 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.362 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.493 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.474 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.176 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.379 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.542 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.512 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.473 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.370 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.318 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.364 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.438 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.392 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.584 was positive. It can be concluded that when the amounts of formal subcontracts (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.435 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.435 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.412 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.366 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.551 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.531 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant assess suppliers (second variable) also increases.

Pearson correlation value of 0.430 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant assess suppliers (second variable) also increases.

Pearson correlation value of 0.598 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant assess suppliers (second variable) also increases.

Pearson correlation value of 0.591 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant formal subcontracts (second variable) also increases.

Pearson correlation value of 0.431 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant formal subcontracts (second variable) also increases.

Pearson correlation value of 0.415 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant formal subcontracts (second variable) also increases.

Pearson correlation value of 0.557 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant good relationship (second variable) also increases.

Pearson correlation value of 0.485 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant good relationship (second variable) also increases

Pearson correlation value of 0.560 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.424 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.487 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.515 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.596 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.588 was positive. It can be concluded that when the amounts of record transaction (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.449 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.503 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.545 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.529 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.597 was positive. It can be concluded that when the amounts of quality control (first variable) increases, the participant record transaction (second variable) also increases.

Pearson correlation value of 0.402 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant record transaction (second variable) also increases.

Pearson correlation value of 0.531 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant record transaction (second variable) also increases.

Pearson correlation value of 0.503 was positive. It can be concluded that when the amounts of suppliers document (first variable) increases, the participant record transaction (second variable) also increases.

Pearson correlation value of 0.598 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant monitor suppliers (second variable) also increases.

## C.7 Pearson Correlation of technology skill variables

In table C.7 lists the variable names (computer require account, update employee information, firewalls, prevent unauthorised document, security awareness program, security training, document control name, change passwords regularly, grant outside access and keep records business transaction) down the first column and across the first row.

| | Computer require account | Update employee information | Firewalls | Prevent unauthorised document | Security awareness program | Security training | Document control name | Change passwords regularly | Grant outside access | Keep records business transaction |
|---|---|---|---|---|---|---|---|---|---|---|
| Computer require account | | | | | | | | | | |
| Update employee information | **0.674** | | | | | | | | | |
| Firewalls | **0.799** | **0.752** | | | | | | | | |
| Prevent unauthorised document | **0.715** | **0.730** | **0.771** | | | | | | | |
| Security awareness program | 0.558 | 0.451 | **0.606** | **0.613** | | | | | | |
| Security training | 0.173 | 0.326 | 0.319 | 0.416 | 0.561 | | | | | |
| Document control name | 0.592 | 0.476 | **0.682** | **0.705** | **0.835** | 0.512 | | | | |
| Change passwords regularly | 0.089 | 0.169 | 0.243 | 0.435 | 0.398 | 0.477 | 0.380 | | | |
| Grant outside access | 0.301 | 0.432 | 0.389 | **0.625** | 0.308 | 0.408 | 0.302 | **0.675** | | |
| Keep records business transaction | 0.488 | 0.410 | 0.552 | **0.609** | 0.455 | 0.365 | 0.482 | 0.441 | **0.685** | |

Table C.7: Pearson Correlation of technology skill variables

From this table, Pearson correlation value of 0.558 was positive. It can be concluded that when the amounts of security awareness program (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.173 was positive. It can be concluded that when the amount of security training (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.592 was positive. It can be concluded that when the amount of document control name (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.089 was positive. It can be concluded that when the amount of change passwords regularly (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.301 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.488 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.451 was positive. It can be concluded that when the amounts of security awareness program (first variable) increases, the participant update employee information (second variable) also increases.

Pearson correlation value of 0.326 was positive. It can be concluded that when the amounts of security training (first variable) increases, the participant update employee information (second variable) also increases.

Pearson correlation value of 0.476 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant update employee information (second variable) also increases.

Pearson correlation value of 0.169 was positive. It can be concluded that when the amounts of change passwords regularly (first variable) increases, the participant update employee information (second variable) also increases.

Pearson correlation value of 0.432 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant update employee information (second variable) also increases.

Pearson correlation value of 0.410 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant update employee information (second variable) also increases.

Pearson correlation value of 0.319 was positive. It can be concluded that when the amounts of security training (first variable) increases, the participant firewalls (second variable) also increases.

Pearson correlation value of 0.243 was positive. It can be concluded that when the amounts of change passwords regularly (first variable) increases, the participant firewalls (second variable) also increases.

Pearson correlation value of 0.389 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant firewalls (second variable) also increases.

Pearson correlation value of 0.552 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant firewalls (second variable) also increases.

Pearson correlation value of 0.416 was positive. It can be concluded that when the amounts of security training (first variable) increases, the participant prevent unauthorised document (second variable) also increases.

Pearson correlation value of 0.435 was positive. It can be concluded that when the amounts of change passwords regularly (first variable) increases, the participant prevent unauthorised document (second variable) also increases.

Pearson correlation value of 0.561 was positive. It can be concluded that when the amounts of security training (first variable) increases, the participant security awareness program (second variable) also increases.

Pearson correlation value of 0.398 was positive. It can be concluded that when the amounts of change passwords regularly (first variable) increases, the participant security awareness program (second variable) also increases.

Pearson correlation value of 0.308 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant security awareness program (second variable) also increases.

Pearson correlation value of 0.455 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant security awareness program (second variable) also increases.

Pearson correlation value of 0.512 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant security training (second variable) also increases.

Pearson correlation value of 0.477 was positive. It can be concluded that when the amounts of change passwords regularly (first variable) increases, the participant security training (second variable) also increases.

Pearson correlation value of 0.408 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant security training (second variable) also increases.

Pearson correlation value of 0.365 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant security training (second variable) also increases.

Pearson correlation value of 0.380 was positive. It can be concluded that when the amounts of change passwords regularly (first variable) increases, the participant document control name (second variable) also increases.

Pearson correlation value of 0.302 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant document control name (second variable) also increases.

Pearson correlation value of 0.482 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant document control name (second variable) also increases.

Pearson correlation value of 0.441 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant change passwords regularly (second variable) also increases.

## C.8 Pearson Correlation of trust customer variables

In table C.8 lists the variable names (product highest quality, product value, product are better than other, use product again, recommend products to other, representative friendly, representative presented products information and rate quality website) down the first column and across the first row.

|  | Product highest quality | Product value | Product are better than other | Use product again | Recommend products to other | Representative friendly | Representative presented products information | Rate quality website |
|---|---|---|---|---|---|---|---|---|
| Product highest quality |  |  |  |  |  |  |  |  |
| Product value | **0.778** |  |  |  |  |  |  |  |
| Product are better than other | **0.713** | 0.571 |  |  |  |  |  |  |
| Use product again | -0.018 | -0.304 | -0.047 |  |  |  |  |  |
| Recommend products to other | -0.066 | -0.258 | 0.014 | **0.823** |  |  |  |  |
| Representative friendly | **0.683** | 0.529 | 0.578 | 0.009 | -0.015 |  |  |  |
| Representative presented products information | **0.730** | **0.716** | 0.527 | -0.219 | -0.208 | **0.777** |  |  |
| Rate quality website | 0.155 | 0.165 | -0.085 | 0.134 | 0.120 | 0.142 | -0.011 |  |

Table C.8: Pearson Correlation of trust customer variables

From this table, Pearson correlation value of -0.018 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product highest quality (second variable) also decreases.

Pearson correlation value of -0.066 was negative. It can be concluded that when the amount of recommend products to other (first variable) increases, the participant product highest quality (second variable) also decreases.

Pearson correlation value of 0.155 was positive. It can be concluded that when the amount of rate quality website (first variable) increases, the participant product highest quality (second variable) also increases.

Pearson correlation value of 0.571 was positive. It can be concluded that when the amounts of product are better than other (first variable) increases, the participant product value (second variable) also increases.

Pearson correlation value of -0.304 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product value (second variable) also decreases.

Pearson correlation value of -0.258 was negative. It can be concluded that when the amount of recommend products to other (first variable) increases, the participant product value (second variable) also decreases.

Pearson correlation value of 0.529 was positive. It can be concluded that when the amounts of product are representative friendly (first variable) increases, the participant product value (second variable) also increases.

Pearson correlation value of 0.165 was positive. It can be concluded that when the amount of rate quality website (first variable) increases, the participant product value (second variable) also increases.

Pearson correlation value of -0.047 was negative. It can be concluded that when the amount of use product again (first variable) increases, the participant product are better than other (second variable) also decreases.

Pearson correlation value of 0.014 was positive. It can be concluded that when the amounts of recommend products to other (first variable) increases, the participant product are better than other (second variable) also increases.

Pearson correlation value of 0.578 was positive. It can be concluded that when the amounts of representative friendly (first variable) increases, the participant product are better than other (second variable) also increases.

Pearson correlation value of 0.527 was positive. It can be concluded that when the amounts of representative presented products information (first variable) increases, the participant product are better than other (second variable) also increases.

Pearson correlation value of -0.085 was negative. It can be concluded that when the amounts of rate quality website (first variable) increases, the participant product are better than other (second variable) also decreases.

Pearson correlation value of 0.009 was positive. It can be concluded that when the amounts of representative friendly (first variable) increases, the participant use product again (second variable) also increases.

Pearson correlation value of -0.219 was negative. It can be concluded that when the amounts of representative presented products information (first variable) increases, the participant use product again (second variable) also decreases.

Pearson correlation value of 0.134 was positive. It can be concluded that when the amounts of rate quality website (first variable) increases, the participant use product again (second variable) also increases.

Pearson correlation value of -0.015 was negative. It can be concluded that when the amounts of representative friendly (first variable) increases, the participant recommend products to other (second variable) also decreases.

Pearson correlation value of -0.208 was negative. It can be concluded that when the amounts of representative presented products information (first variable) increases, the participant recommend products to other (second variable) also decrease.

Pearson correlation value of 0.120 was positive. It can be concluded that when the amounts of rate quality website (first variable) increases, the participant recommend products to other (second variable) also increases.

Pearson correlation value of 0.142 was positive. It can be concluded that when the amounts of rate quality website (first variable) increases, the participant representative friendly (second variable) also increases.

Pearson correlation value of -0.011 was negative. It can be concluded that when the amounts of rate quality website (first variable) increases, the participant representative presented products information (second variable) also decreases.

## C.9 Pearson Correlation of trust employee variables

In table C.9 lists the variable names (resolve problem, handled goods, preventive action, report unauthorised, remove unauthorised, monitor suppliers, quality purchase, computer require account, firewalls, prevent unauthorised document, document control name and grant outside access) down the first column and across the first row.

| | Resolve problem | Handled goods | Preventive action | Report unauthorised | Remove unauthorised | Monitor suppliers | Quality purchase | Computer require account | Firewalls | Prevent unauthorised document | Document control name | Grant outside access |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resolve problem | | | | | | | | | | | | |
| Handled goods | 0.321 | | | | | | | | | | | |
| Preventive action | 0.505 | **0.717** | | | | | | | | | | |
| Report unauthorised | 0.251 | **0.630** | **0.614** | | | | | | | | | |
| Remove unauthorised | 0.261 | **0.600** | **0.600** | 0.560 | | | | | | | | |
| Monitor suppliers | 0.346 | 0.352 | 0.415 | 0.408 | 0.176 | | | | | | | |
| Quality purchase | 0.455 | 0.556 | 0.519 | 0.456 | 0.379 | 0.598 | | | | | | |
| Computer require account | 0.190 | 0.546 | 0.484 | 0.519 | 0.480 | 0.279 | 0.550 | | | | | |
| Firewalls | 0.549 | **0.726** | **0.705** | **0.644** | 0.542 | 0.448 | **0.655** | **0.799** | | | | |
| Prevent unauthorised document | 0.247 | 0.567 | 0.509 | **0.608** | **0.748** | 0.346 | 0.530 | **0.715** | **0.771** | | | |
| Document control name | 0.095 | 0.417 | 0.501 | 0.451 | 0.346 | 0.316 | 0.461 | 0.592 | **0.682** | **0.705** | | |
| Grant outside access | 0.188 | 0.305 | 0.301 | 0.431 | 0.541 | 0.204 | 0.264 | 0.301 | 0.389 | **0.625** | 0.302 | |

Table C.9: Pearson Correlation of trust employee variables

From this table, Pearson correlation value of 0.321 was positive. It can be concluded that when the amount of handled goods (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.505 was positive. It can be concluded that when the amount of preventive action (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.251 was positive. It can be concluded that when the amount of report unauthorised (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.261 was positive. It can be concluded that when the amount of remove unauthorised (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.346 was positive. It can be concluded that when the amount of monitor suppliers (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.455 was positive. It can be concluded that when the amount of quality purchase (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.190 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.549 was positive. It can be concluded that when the amount of firewalls (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.247 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.095 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.188 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant resolve problem (second variable) also increases.

Pearson correlation value of 0.352 was positive. It can be concluded that when the amount of monitor suppliers (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.556 was positive. It can be concluded that when the amount of quality purchase (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.546 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.567 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.417 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.305 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.415 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.519 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.484 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.509 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.501 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.301 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant preventive action (second variable) also increases.

Pearson correlation value of 0.560 was positive. It can be concluded that when the amounts of remove unauthorised (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.408 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.456 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.519 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.451 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.431 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant report unauthorised (second variable) also increases.

Pearson correlation value of 0.176 was positive. It can be concluded that when the amounts of monitor suppliers (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.379 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.480 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.542 was positive. It can be concluded that when the amounts of firewalls (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.346 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.541 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.598 was positive. It can be concluded that when the amounts of quality purchase (first variable) increases, the participant monitor suppliers (second variable) also increases.

Pearson correlation value of 0.279 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant monitor suppliers (second variable) also increases.

Pearson correlation value of 0.448 was positive. It can be concluded that when the amounts of firewalls (first variable) increases, the participant monitor suppliers (second variable) also increases.

Pearson correlation value of 0.346 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant monitor suppliers (second variable) also increases.

Pearson correlation value of 0.316 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant monitor suppliers (second variable) also increases.

Pearson correlation value of 0.204 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant monitor suppliers (second variable) also increases.

Pearson correlation value of 0.550 was positive. It can be concluded that when the amounts of computer require account (first variable) increases, the participant quality purchase (second variable) also increases.

Pearson correlation value of 0.530 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant quality purchase (second variable) also increases.

Pearson correlation value of 0.461 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant quality purchase (second variable) also increases.

Pearson correlation value of 0.264 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant quality purchase (second variable) also increases.

Pearson correlation value of 0.592 was positive. It can be concluded that when the amounts of document control name (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.301 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant computer require account (second variable) also increases.

Pearson correlation value of 0.389 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant firewalls (second variable) also increases.

Pearson correlation value of 0.302 was positive. It can be concluded that when the amounts of grant outside access (first variable) increases, the participant document control name (second variable) also increases.

**C.10 Pearson Correlation of reduce monitoring costs variables**

In table C.10 lists the variable names (project on time, assess quality, evaluate supplier, handled goods, remove unauthorised, finished product, monitor quality, decrease expense, cut marketing, update employee information,  prevent unauthorised document and keep records business transaction) down the first column and across the first row.

| | Project on time | Assess quality | Evaluate supplier | Handled goods | Remove unauthorised | Finished product | Monitor quality | Decrease expense | Cut marketing | Update employee information | Prevent unauthorised document | Keep records business transaction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project on time | | | | | | | | | | | | |
| Assess quality | 0.425 | | | | | | | | | | | |
| Evaluate supplier | 0.285 | 0.384 | | | | | | | | | | |
| Handled goods | 0.356 | 0.284 | 0.465 | | | | | | | | | |
| Remove unauthorised | 0.218 | 0.568 | 0.375 | **0.600** | | | | | | | | |
| Finished product | 0.410 | 0.166 | 0.205 | 0.316 | 0.163 | | | | | | | |
| Monitor quality | 0.420 | 0.108 | 0.329 | 0.395 | 0.203 | **0.772** | | | | | | |
| Decrease expense | 0.365 | 0.043 | 0.275 | 0.397 | 0.249 | 0.473 | **0.745** | | | | | |
| Cut marketing | 0.283 | 0.125 | 0.199 | 0.563 | 0.362 | 0.370 | 0.435 | 0.560 | | | | |
| Update employee information | 0.247 | 0.215 | 0.238 | **0.729** | 0.586 | 0.339 | 0.431 | 0.383 | 0.530 | | | |
| Prevent unauthorised document | 0.259 | 0.310 | 0.330 | 0.567 | **0.748** | 0.319 | 0.344 | 0.383 | 0.373 | **0.730** | | |
| Keep records business transaction | 0.200 | 0.197 | 0.278 | 0.399 | 0.294 | 0.241 | 0.352 | 0.427 | 0.276 | 0.410 | **0.609** | |

Table C.10: Pearson Correlation of reduce monitoring costs variables

From this table, Pearson correlation value of 0.425 was positive. It can be concluded that when the amount of assess quality (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.285 was positive. It can be concluded that when the amount of evaluate supplier (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.356 was positive. It can be concluded that when the amount of handled goods (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.218 was positive. It can be concluded that when the amount of remove unauthorised (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.410 was positive. It can be concluded that when the amount of finished product (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.420 was positive. It can be concluded that when the amount of monitor quality (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.365 was positive. It can be concluded that when the amount of decrease expense (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.283 was positive. It can be concluded that when the amount of cut marketing (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.247 was positive. It can be concluded that when the amount of update employee information (first variable) increases, the participant project on time (second variable) also increases.

Pearson correlation value of 0.259 was positive. It can be concluded that when the amount of prevent unauthorised document (first variable) increases, the participant project on time (second variable) also increases

Pearson correlation value of 0.200 was positive. It can be concluded that when the amount of keep records business transaction (first variable) increases, the participant project on time (second variable) also increases

Pearson correlation value of 0.384 was positive. It can be concluded that when the amount of evaluate supplier (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.284 was positive. It can be concluded that when the amounts of handled goods (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.568 was positive. It can be concluded that when the amount of remove unauthorised (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.166 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.108 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.043 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.125 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.215 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.310 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.197 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant assess quality (second variable) also increases.

Pearson correlation value of 0.465 was positive. It can be concluded that when the amounts of handled goods (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.375 was positive. It can be concluded that when the amounts of remove unauthorised (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.205 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.329 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.275 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.199 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.238 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.330 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.278 was positive. It can be concluded that when the amount of keep records business transaction (first variable) increases, the participant evaluate supplier (second variable) also increases.

Pearson correlation value of 0.316 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.395 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.397 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.563 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.567 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.399 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant handled goods (second variable) also increases.

Pearson correlation value of 0.163 was positive. It can be concluded that when the amounts of finished product (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.203 was positive. It can be concluded that when the amounts of monitor quality (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.249 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.362 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.586 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.294 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant remove unauthorised (second variable) also increases.

Pearson correlation value of 0.473 was positive. It can be concluded that when the amounts of decrease expense (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.370 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.339 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.319 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.241 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant finished product (second variable) also increases.

Pearson correlation value of 0.435 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.431 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.344 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.352 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant monitor quality (second variable) also increases.

Pearson correlation value of 0.560 was positive. It can be concluded that when the amounts of cut marketing (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.383 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.383 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.427 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant decrease expense (second variable) also increases.

Pearson correlation value of 0.530 was positive. It can be concluded that when the amounts of update employee information (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.373 was positive. It can be concluded that when the amounts of prevent unauthorised document (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.276 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant cut marketing (second variable) also increases.

Pearson correlation value of 0.410 was positive. It can be concluded that when the amounts of keep records business transaction (first variable) increases, the participant update employee information (second variable) also increases.

## APPENDIX D:

**Description of customer questionnaires:**

| Variable Names | Questions Number | Description | Measurement Scales | Values |
|---|---|---|---|---|
| Gender | C_1.1 | Gender of customer | Nominal | 2 options |
| Age | C_1.2 | Age of customer | Ordinal | 4 options |
| Marital status | C_1.3 | Marital status of customer | Nominal | 4 options |
| Education level | C_1.4 | Education of customer | Ordinal | 4 options |
| Experience of product | C_1.5 | Experience of product | Ordinal | 4 options |
| Satisfied price you paid | C_2.1 | You are very satisfied with the price that you paid for what you bought | Scale | 5-point |
| Store located | C_2.2 | Stores are conveniently located. | Scale | 5-point |
| Store hour | C_2.3 | Store hours are convenient for your shopping needs. | Scale | 5-point |
| Store atmosphere | C_2.3 | Store atmosphere and decor are appealing. | Scale | 5-point |
| Purchase from another | C_2.4 | You like to purchase products/services from another company. | Scale | 5-point |
| Purchase method | C_2.5 | What method would you prefer? | Nominal | 4 options |
| Satisfy method | C_2.6 | Did you satisfy method that you used? | Nominal | 2 options |
| Product highest quality | C_3.1 | Products sold are the highest quality. | Scale | 5-point |
| Product value | C_3.2 | Products are value for money. | Scale | 5-point |
| Advertised product in stock | C_3.3 | Advertised products were in stock. | Scale | 5-point |
| Packing attractive | C_3.4 | Packaging and labelling of products are attractive. | Scale | 5-point |
| Product are better than other | C_3.5 | Products are better than other companies. | Scale | 5-point |
| Return or cancel product | C_3.6 | Did you return or cancel products? | Nominal | 2 options |
| Use product again | C_3.7 | Will you use/purchase products again? | Scale | 5-point |
| Recommend products to other | C_3.8 | How likely are you to recommend products to others? | Scale | 5-point |
| Representative helpfulness | C_4.1 | You feel that the representative on helpfulness or willingness to assist customers. | Scale | 5-point |
| Representative courteous | C_4.2 | The customer service representative was very courteous. | Scale | 5-point |
| Representative knowledge | C_4.3 | The customer service representative was very knowledgeable. | Scale | 5-point |
| Representative friendly | C_4.4 | The customer service representative was very | Scale | 5-point |

| | | friendly. | | |
|---|---|---|---|---|
| Representative presented products information | C_4.5 | The customer service representative accurately presented products/services information. | Scale | 5-point |
| Representative handled call | C_4.6 | The customer service representative handled my call quickly. | Scale | 5-point |
| Automated phone satisfy | C_4.7 | The automated phone system made the customer service experience more satisfying. | Scale | 5-point |
| Representative improve | C_4.8 | What about representative could be improved? | Scale | 5-point |
| Time problem resolved | C_4.9 | How long did representative solve problem? | Ordinal | 4 options |
| Frequently access internet | C_5.1 | How frequently you access the internet? | Ordinal | 4 options |
| Place access internet | C_5.2 | Where do you access internet? | Nominal | 4 options |
| Purchase product three months | C_5.3 | Did you purchase products from internet within three months? | Nominal | 2 options |
| When began shopping | C_5.4 | When do you begin shopping on internet? | Nominal | 2 options |
| Rate quality website | C_5.5 | How would you rate quality of company's website? | Scale | 5-point |
| Where hear website | C_5.6 | Where do you hear about website? | Nominal | 4 options |
| Often used web information | C_5.7 | How often have you used web to gather product information? | Ordinal | 6 options |

**Description of employee questionnaires:**

| Variable Names | Questions Number | Description | Measurement Scales | Values |
|---|---|---|---|---|
| Gender | E_1.1 | Gender of customer | Nominal | 2 options |
| Age | E_1.2 | Age of customer | Ordinal | 4 options |
| Marital status | E_1.3 | Marital status of customer | Nominal | 4 options |
| Education level | E_1.4 | Education of customer | Ordinal | 4 options |
| Work Experience | E_1.5 | Experience of employee | Ordinal | 4 options |
| Number of Employee | E_1.6 | Number of employee | Ordinal | 4 options |
| Department | E_1.7 | Department of employee | Nominal | 6 options |
| Support and teamwork | E_2.1 | You feel your department gets support and teamwork from other areas within the company. | Scale | 5-point |
| Define responsibilities | E_2.2 | Your manager clearly defines your job responsibilities. | Scale | 5-point |
| Reduce fear | E_2.3 | Your manager encourages high achievement by reducing the fear of failure. | Scale | 5-point |
| Relationship in department | E_2.4 | Your manager takes responsibility for shaping the attitudes and relationships within your department. | Scale | 5-point |
| Communicates | E_2.5 | Your manager clearly communicates what is expected of you. | Scale | 5-point |
| Achievement | E_2.6 | Your manager provides you with continuous feedback to help you achieve. | Scale | 5-point |
| Professionalism | E_2.7 | Your manager demonstrates professionalism. | Scale | 5-point |
| Good job | E_2.8 | You do a good job of recognising both individual and team contributions. | Scale | 5-point |
| Resolve problem | E_2.9 | You review the customer's requirements before resolving problem. | Scale | 5-point |
| Project on time | E_2.10 | Most projects/orders are done to the customer's satisfaction and on time. | Scale | 5-point |
| Assess quality | E_3.1 | Does your management assess the quality system regularly? | Scale | 5-point |
| Evaluate supplier | E_3.2 | Do you evaluate and select suppliers based on their ability to meet your requirements? | Scale | 5-point |
| Handled goods | E_3.3 | Do you ensure that the goods are handled, stored, protected and packaged appropriately? | Scale | 5-point |
| Preventive action | E_3.4 | Do you have an organised process for corrective and preventive action? | Scale | 5-point |

| | | | | |
|---|---|---|---|---|
| Receive products | E_3.5 | Have you asked your suppliers for corrective actions when you receive non-conforming products? | Scale | 5-point |
| Report unauthorised | E_3.6 | Do you have documented procedures to report unauthorised entry into containers and container storage areas? | Scale | 5-point |
| Identification visitors | E_3.7 | Does your facility have access controls for the positive identification of all employees, visitors, and vendors? | Scale | 5-point |
| Remove unauthorised | E_3.8 | Do you have documented procedures for identifying and removing unauthorised or unidentified persons? | Scale | 5-point |
| Finished product | E_3.9 | Are all outgoing/finished products properly marked, weighed, counted, and verified against manifest documents, delivery orders, and purchase orders? | Scale | 5-point |
| Monitor quality | E_3.10 | Do you monitor suppliers regarding quality, cost and delivery? | Scale | 5-point |
| Assess suppliers | E_3.11 | Do you assess new suppliers/sub-contractors? | Scale | 5-point |
| Formal subcontracts | E_3.12 | Does your organisation have formal procedures in place for the management of subcontractors? | Scale | 5-point |
| Good relationship | E_3.13 | Do you have good working relationships with your suppliers? | Scale | 5-point |
| Decrease expense | E_3.14 | Can you increase revenue or decrease expenses in your business? | Scale | 5-point |
| Cut marketing | E_3.15 | Do you plan to start cutting your marketing expenditure? | Scale | 5-point |
| Record transaction | E_3.16 | Do you keep records of the business transactions? | Scale | 5-point |
| Quality control | E_3.17 | Does the department responsible for quality have the authority to control further processing and delivery of products until the unsatisfactory condition has been corrected? | Scale | 5-point |
| Monitor suppliers | E_3.18 | Have you monitored suppliers for performance? | Scale | 5-point |
| Quality purchase | E_3.19 | Does the department responsible for quality review your purchasing documents that give directions to your suppliers? | Scale | 5-point |
| Suppliers document | E_3.20 | Do you require your suppliers to supply | Scale | 5-point |

| | | documented evidence as required by your customers or applicable specifications? | | |
|---|---|---|---|---|
| Computer require account | E_4.1 | Do your computer systems require individually assigned accounts to acquire access? | Scale | 5-point |
| Update employee information | E_4.2 | Does your organisation update information for employee regularly? | Scale | 5-point |
| Firewalls | E_4.3 | Do your computer systems have firewalls? | Scale | 5-point |
| Prevent unauthorised document | E_4.4 | Do you have procedures to prevent unauthorised use of documents and forms? | Scale | 5-point |
| Security awareness program | E_4.5 | Is a security awareness program in place? | Scale | 5-point |
| Security training | E_4.6 | Do you have security training in recognition of document fraud and computer security controls? | Scale | 5-point |
| Document control name | E_4.7 | Do you have document and control all user names and passwords issued? | Scale | 5-point |
| Change passwords regularly | E_4.8 | Do you change passwords regularly? | Scale | 5-point |
| Grant outside access | E_4.9 | Do you grant outside access to your automated systems? | Scale | 5-point |
| Keep records business transaction | E_4.10 | Do you keep records of the business transactions? | Scale | 5-point |