THE MODERATING ROLE OF INFORMATION QUALITY (IQ) IN ENABLING E-COMMERCE CONSUMERS PURCHASE DECISIONS

HO CHIA HONG

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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Signature :.....

Name Supervisor : Dr. Norfaridatul Akmaliah Othman

Date: :….....

Signature :.....

Assessor name : Pn. Azrina Binti Othman

Date :.....

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HO CHIA HONG

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Universiti Teknikal Malaysia Melaka

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DECLARATION OF ORIGINAL WORK

"I hereby declare that the work of this research is mine except for the quotations summaries that have been duly acknowledged"

Signature :……

Name : Ho Chia Hong

Date :…....……

Signature :……

Name : Dr. Norfaridatul Akmaliah Othman

Date :…....……

DEDICATION

To my beloved, father and mother, who gave me my first lessons in spiritual things; To my beloved supervisor, Dr Norfaridatul Akmaliah Othman, who gave me suggestions and advice; To the hundreds of young men and women who are in our university to pursuit of an education, And to the reading public in general.

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ABSTRACT

In the absence of a chance to physically interact with products in the online environment, consumers perceived risky while shopping via online. Thus, the online information plays a critical role in enabling e-commerce consumers' purchase decisions. Thus, it is crucial to understand what make consumers satisfied with online information quality in order to make a purchase decision via internet. However, despite the rapidly increasing number of consumers who use websites to gather pre-purchase product information, very little is known about how to increase consumers' satisfaction with online product information quality in different contexts in order to persuade them to buy through online. This research-in-progress study proposes a comprehensive model to investigate the impacts of perceived qualities from the sources of information quality (IQ), there are verbal information (VI), nonverbal information (NVI) and decision support tools (DS) on consumers purchase decision within e-commerce websites. Further, the researcher also plan to investigate how the relations between the independent variables that proposed in the theoretical frameworks might vary by individual factors such as gender, age, and living environment. This research adopted a survey-based methodology which will generate the quantitative data that can be used to justify the relationship between the moderating roles of information quality (IQ) with e-commerce consumers purchase decision.

ABSTRAK

Ketidakada peluang untuk berinteraksi dengan produk secara fizikal dalam persekitaran internet, pengguna menganggap berisiko semasa membeli-belah secara dalam talian. Dengan ini demikian, maklumat dalam talian memainkan peranan penting untuk memperbolehkan keputusan pembelian pengguna dalam e-dagang. Oleh itu, ia amat penting kepada para peniaga untuk memahami apa yang menyebabkan pengguna berpuas hati dengan kualiti maklumat dalam talian supaya membuat keputusan pembelian melalui internet. Walaupun kadar penggunaan laman web untuk mengumpul maklumat produk sebelum pembelian semakin meningkat, tetapi ia menunjuk amat sedikit yang diketahui tentang bagaimana untuk meningkatkan kepuasan pelanggan dengan kualiti maklumat produk dalam konteks yang berbeza untuk memujuk mereka untuk membeli secara online. Kajian penyelidikan ini mencadangkan satu model yang menyeluruh untuk menyiasat kesan dari sumber-sumber maklumat (IQ), iaitu maklumat lisan (VI), maklumat bukan lisan (NVI) dan alat sokongan keputusan (DS) ke atas keputusan pembelian pengguna dalam e-dagang. Di samping itu, penyelidik juga merancang untuk menentukan bagaimana hubungan antara teori-teori yang dicadangkan dalam model dan kemungkinan teori-teori ini akan diaruhi oleh faktor-faktor individu seperti jantina, umur, dan persekitaran hidup. Kajian ini mengguna kaedah berasaskan kajian yang akan menjana data kuantitatif, ia boleh digunakan untuk belaja hubungan antara peranan sederhana kualiti maklumat (IQ) dengan keputusan pembelian pengguna dalam e-dagang.

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CHAPTER 1

INTRODUCTION

1.1 Background of the study

The main role of marketers is to determine the needs and desires of customers for the benefit of a company or research study. They are responsible for analyzing the minds of those customers who buy products to identify what they buy and other purchasing habits by using psychology and marketing concepts. The marketers will conducting a range of marketing activities in order to help company to keep consumers satisfied with their products and services as well as the shopping experiences as customer satisfaction has a strong impact on consumer's purchase intention, loyalty, and repeat purchases (Rodgers et al., 2005). While, the consumer's purchase decision be an important part to evaluate the successfulness and effectiveness of the marketing activities. In new century, people are starting and interesting in online shopping. Online consumer's purchase decisions mainly affected by information quality (IQ). Information quality (IQ) is an encompassing term consisting of utility, integrity and objectivity (Office of Management and Budget, 2010). It plays a critical role in enabling online consumer's purchase decision in the absence of an opportunity to physically interact with products in the online environment (Kim et al, 2008). In the context of e-commerce, verbal and nonverbal information (VI, NVI) play the important roles in supporting consumers in their decision making process (Kim &

Lennon, 2008). In addition, decision support (DS) tools such as a product comparison matrices and agents help consumers to make better decisions (Park et al, 2010). While, the relationship between IQ and consumer satisfaction has been tested by some researchers but it does not explain why a website is perceived as having a high information quality. Thus, this research project attempt to tackle this gap by proposing VI, NVI and DS tools as the types of information quality that could potentially influence consumer purchase decision with the information of a website. In addition, researcher also plans to investigate how the relations between the constructs in the proposed theoretical framework model might vary by the factors such as gender, age, and culture.

1.2 Problem Statement

Online shopping has many advantages and convenience to people, it able to solve the problem of traffic jam due to everyone drive for the purpose of shopping, while it saving our time by just visiting the web page through internet and get a better price that much lower than what they will be found at a physical store. Although online shopping bring a lot of benefits to people, but there are still some online shopping problem that consumers encounter or face during the online shopping. This result led consumers are afraid to rely on online shopping due to their past experience. The most common problems that faced by consumer such as receive incorrect product, damaging of product in distribution and delay in delivery of product. Many times the products received are not same quality as promised or are not received within the delivery date. All the issues above resulting by a fundamental problem, it is called as inaccurate information. While, the inaccurate information led the misunderstanding and miscommunication of the consumers or internet users toward the information provided from a website. Thus, the information quality play a moderating role to resolve the problems and enable the e-commence consumer's purchase decision.

1.3 Research Objectives

Depending on the nature and content of the problem statement, the enunciation should bring one or more questions to which researcher want to find answers. Through these questions researcher focus the research in terms of aim, research hypotheses and objectives. According to Saunders et al., (2012), research objective is a clear and specific statements that identify what the researcher wishes to accomplish as a result of doing the research.

In this chapter, researcher will indicate the aims of the research proposal. It will be used to interpret what are the purposes that the researcher planned to operationalize the problem statement from previous chapter.

- To identify the sources of information quality (IQ) in e-commerce.
- To determine the relationship between sources of information quality (IQ) and individual factors in e-commerce
- To investigate individual factors affect the impacts of information quality (IQ) on e-commence consumer's purchase decisions.

1.4 Research Questions

According to Dumitru (2009), research question is a logical statement through which the essential coordinates of the situation, state of things, dilemma, contradiction etc. There are described, defined and exposed, together with the context and circumstances necessary for its identification. The research problem can have a theoretical character such as construction or reconstruction, theory creation or development, contradiction, paradox or theoretical inconsistence and so on.

The choice of the research question is an important moment of the research process, the next steps and the final results and success being significantly affected by the quality of this positioning of knowledge, information relations and availability. While the research questions for this proposal are:

- What are the sources of information quality (IQ) in e-commerce?
- What is the relationship between the sources of information quality (IQ) and individual factors in e-commerce?
- How the individual factors affect the impacts of information quality (IQ) on e-commence consumer's purchase decisions?

1.5 Scope, Limitations and Key Assumptions of the study

The research proposal focuses on analyze and investigate how the moderating roles of information quality able to influence and enabling e-commerce consumer's purchase decision and the information quality that perceived from a website. In this study, researcher classified the information into three categories or types, such as verbal information (VI), nonverbal information (NVI) and decision support tools (DS). Thus, the researcher will using these three sources of information quality to examine consumer perceptions and expectations regarding to the information quality (IQ). Hence, in trying to understand what leads to consumer satisfaction with online information quality, it is important to discern the role of consumer perception regarding the qualities of verbal information, nonverbal information and decision support tools within an e-commerce website. Although the information quality able to influence perception of consumer that enabling e-commerce consumer's purchase decision, but there are some individual factors such as gender, age and culture may vary the consumer expectation and perception on a website information.

During the research study, there are some limitations occurred where the researcher only planned to conducting the research questionnaire through internet based distributed questionnaire. The limitation for the internet based distributed questionnaire only focuses on the internet users who able access to the internet by using various computer or other mobile phone devices. The problem of respondents also being a restriction on internet survey questionnaire where the respondents who qualified to answers those question is unpredictable. It is very difficult to check whether the survey is completed by the right person. While, in this case, it will caused a problem of lack of information which the data is collected insufficiently and inaccurately.

In addition, the limitation of time to conducting this research may influence the accuracy of the results of finding. While, the available time to completing the whole

research is around 6 months, so the research has no enough time to collecting the data from the market in order to get a more accurate and precise findings.

While, the key assumption of this research study included the selection of respondents. As respondents who are selected must be assumed that they are qualified in which they are able access to the internet and they owned post-experience in online shopping. In order to achieve the purpose of this finding research, it should be assumed that the respondents will answer all the questionnaire truthfully to get the accurate information and feedback from them.

1.6 Importance of the study

The importance of this research study is to make significant contributions to both theory and practice. Based on theoretical perspective, this is a study to develop and validate a model to explain on how the types or categories of information such as verbal information (VI), nonverbal information (NVI) and decision support tools (DS) that able to influence consumers' satisfaction with information quality (IQ) in e-Commerce websites. This study also develop a construct as a theoretical framework that may use to assess consumer perceptions regarding the quality of decision support tools on e-Commerce Websites. Further, we also investigate how the relations between the constructs in the proposed model might vary by individual factors such as gender, age and culture.

On the other hand, some practitioners can use the results of this research project to customize the shopping experiences for their customers to increase their satisfaction, purchase intention, and loyalty to the company's products and services. Such customization would incorporate the optimal mix of the three types of information to form a better sources of information and it will best match with their customers' information

needs based on their gender, age and culture when such information is available to company.

1.7 Summary

Today, people are more rely on the internet no matter they are using it to chatting with their friends, searching for extra information, writing a diary on a blog and visiting to a website. By the way, internet bring a large opportunity to all business organizations where the businesses can promote and sell their products and services via internet. While, by doing business in online, it can help the business to reach a worldwide markets with a low cost and low time consuming. It can definitely benefits to the organization if they willing to do the business via internet. But, nothing is perfect, no matter the internet can helps the businesses spreads the information faster and wider, if the information that spreads can harms to the businesses, it will definitely threating to organization at whole. Thus, the quality of the information is the key crucial to influence the performance of online businesses. In this study, the researcher aims to analyze how the moderating roles of information quality (IQ) enable the e-commerce consumers purchase decision. The result of the study can be used by other researchers or business organization as a reference or guideline when they are doing a similar or related research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, researcher will discusses the theories that found from books, journals and other sources, then analyze and summarize the theories to form a theoretical framework. Based on the topic of the research proposal, researcher challenged the claims that the roles of the information quality (IQ) enable e-commence consumer purchase decision. In the others words, researcher want to declares that the roles of the information quality (IQ) is the main factor that may influence the online users to make a purchase decision or convince them to buy a product through online.

First of all, the researcher needs to declare the strengths and opportunities of e-commerce for today business. After that, understand the nature of the problem that may occur within e-commerce can facilitate this research proposal and help researcher tackle the gap more effectively. Then, define the background of consumer buying behavior through a research theories from books and journals may help researcher to describe the customer's perceptions and their buying behavior. Considering that a marketer seeking to identify the needs and demands of customers and do the appropriate action to meet those needs and desires, should understand Consumer behavior as well.

Furthermore, the process of consumers purchase decision will be the other important part that must be identify and elaborate step by step through the theories. And then define that the impacts of e-commerce on consumer purchase decision process. In addition, researcher may determine the roles and the sources of the information quality (IQ) in e-commerce industry. Then continuous to identify what are the criteria may include to evaluate the quality of online information. Moreover, the researcher also need to determine the interrelation between sources of information quality (IQ) and individual factors in e-commerce. Its aims to facilitate and smooth the plan on the explanation of the relationship between the information quality with consumer purchase decision, on how the information quality (IQ) able to effect on the purchase decisions.

Finally, researcher summarize all the theories and then forms a theoretical framework that is describe and explain the core of the topic of this research proposal, it also called as a proposed research model that is create by the researcher which encompasses the sources that can be used to evaluate the information quality that may perceived by consumers based on a website. The framework included three elements of sources to evaluate quality of information, there are verbal information (VI), nonverbal information (NVI) and decision support tools (DS).This theoretical framework may be used to claims that how the perceived quality on the three different sources of information positively influence or enable the online consumers purchase decisions. This research model describe whether the perceived quality of verbal information, nonverbal information and decision support tools will affect the consumers or internet users to make a decision to buy a product through online.

2.2 Emerge of E-Commerce

According to Rouse (2005), e-commerce also called as electronic commerce. It refers to the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network through internet. These business transactions activities occur either business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business. E-commerce is implemented by using a different types of tools or applications, such as fax, social networking, email, online catalogs and shopping carts, Electronic Data Interchange (EDI), file transfer protocol, and web services. While, the e-commerce may bring a lists of benefits on today business, such as its around-the-clock availability, the speed of access, a wider selection of goods and services, accessibility, and international reach. A business that used e-commerce as its business model, it's able to receive any order or purchase processes form the customers unstoppably without considered on time, it due to the e-commerce help the firm operates the business 24 hours per day. By using the online business model, it offers a high speed of access to the customers where the customer can be easily access to the products through a 'click' on a website rather than drive and visit to the physical retail shops. Besides, internet can offers a range of variety alternative choices of products and services to their customers, the customers can gain the details and information about the products and make them able to comparing among the products more easily. The internet is a worldwide interaction platform, e-commerce can help a firm to explore their business internationally and able to expand their market into the other countries and serve more customers around the world.

Recent research on the definition of e-commerce (Investopedia, 2014), it describes the e-commerce as a type of business model, or segment of a larger business model, that enables a firm or individual to conduct business over an electronic network, typically through the internet. The e-commerce will operates in all four of the major business transactions activities as mentioned by (Rouse, 2005): business to business, business to consumer, consumer to consumer and consumer to business. It can be thought of as a more advanced form of mail-order purchasing through a catalog. E-commerce offers a large range of business opportunities, there are almost all product or service can be sell through

the e-commerce, from clothes and home applications to business management services and transportation tickets. Thus, there are almost all kind of business able to apply on the online business model, it able to help the business to serve in a new environment and increase the market coverage. E-commerce has allowed firms to establish a market presence and to improve an existing market position, by providing a cheaper and more efficient distribution chain for their products or services.

According to Narwal (2014), e-commerce may help companies to enhance awareness about their products and services as well as their brand to the market place. This benefit brings the consumer aware about a new or existing product and service, such information may help them during the process of purchase decision making to increase alternative choices in order to select a best one. The information may related to the prices, features, and designs of the different alternatives of products and services to ease the consumers to compare among alternatives and improve the skills of decision making of consumers. Thus, it can be concluded that e-commerce makes the consumers aware about various products and services alternatives and their prices thereby making him a well-informed consumer.

E-commerce also provide knowledge enhancement to consumers. The online information can be used by consumers not only for online transaction but also can be used for offline purchasing as consumer used such online information to visit the dealers and bargain with them. Besides, consumers are also learned more about knowledge of online shopping on how they can make an order through online or a confirmation of purchasing for a product or service with company through e-mail and website. Furthermore, some companies also offer online payment options such as debit or credit card so that consumers can make payment easily. Thus, consumers are getting more knowledge about technology, schemes, placing of order, mode of payment and offline purchase. Thus, enhanced knowledge can act as a booster dose of confidence for consumers.

2.3 Announcement of Web 3.0

Web 3.0 is the designation topically associated with the evolution to an "intelligent web" and it anticipated that will able to address the lack of structure and organization in Web 2.0 by linking information from difference or unrelated sources and systems to make the web even easier to use, more efficient, and more valuable to its users. While, the web 3.0 is also known as "semantic web". It may use semantics in the study of meanings behind words and information and then decode searchable content to convey more appropriate and relevant content to end-users (Verizon, 2010). Web 3.0 will introduce new techniques for organizing content and new tools that will make it possible for software and applications to collect, interpret, and use data in ways that can add meaning and structure to information where it didn't exist before. The web 3.0 has a significant effect in online users and businesses. The basic shift occurring in Web 3.0 is from information-centric to knowledge-centric patterns of computing (Almeida, 2013). It will change how people work and play, how companies use information to market and sell their products, as well as operate their businesses. Web 3.0 will enable people and machines to connect, evolve, share and use knowledge on an unprecedented scale and in new ways that make our experience of the internet better.

2.4 Nature of the Problem

In e-commerce industry, online advertising become a common approach to market and promote their products and services, but due to the bad post experiences and words of mouth, consumers have a bad impression with online shopping. They are worry to buy a product through online and start do not trust online shopping gradually. Consumers have suffered the consequences of poor-quality information. For most of them, the impact has minor significance and is of short duration. Perhaps a consumer missed a bus or flight connection as a result of using an out-of-date schedule and he or she lost an insurance

claim because failed to note the change in exemptions to the policy when we last renewed. Thus, all the problems happened led by the bad information quality.

Nevertheless, information on its own is neither inherently good nor bad. It is often a sequence of factors that causes to the consequences of what we simplistically refer to as bad quality of information (Adams, 2003). Before considering any solutions to address the problems, researcher needs to understand the nature of the problem more accurately. Only then can the researcher make progress towards modifying research processes in order to cope better in finding of the results.

In the works of Adams (2003), he was defined five differences ways in which information can be wrong or considered as low information quality:

First, the information can be wrong due to inappropriate quality. The problems start when it becomes difficult to discern the intended user of a piece of information, or when users expecting one quality level encounter information built to a different quality level. In other words, consumers received information related to the high performance and the specifications about a product, but the product failed to delivery as promised and unqualified with the mentioned specifications, while such information will considered as low quality.

Second, ambiguous or deliberately fraudulent become another factor that affect the information quality. Some researchers believe that some types of information can be measured by an absolute standard, and this standard becomes more precise as time goes on. According to Environmental Protection Agency (EPA) has drafted a set of "Assessment Factors for Evaluating the Quality of Information from External Sources", which attempt to establish standards for data quality to avoid ambiguous. In addition to "innocent" variation in information quality as an artifact of the method of presentation, there are known examples of deliberate fraud. For an example, a product failed to perform as promised will lead the consumers dissatisfied and do not trust the brand anymore.

Biased or Non-Objective will be the next factor make the low quality of information. Prior to the advent of the Internet, professional users assumed that information retrieved from an electronic service was a faithful reflection of their search strategy. The implementation of paid-for links on Internet search engines has demolished that assumption, in where the consumers can no longer assume that the results presented to them as "the most relevant" which that are the best fit to their research strategy. It means that the results presented that conducted by some marketers who representing a company may be biased at somewhere, its results may unfair to others. While, a failure to be objective in reporting is one of the most subtle corruptions of information quality, since it is one of the most difficult to detect by anyone other than a specialist peer group. It is also one of the most difficult to correct, if it manages to enter the information chain.

Furthermore, incomplete information may be one of the factors influences the quality. A website provide an inaccurate or incomplete information will cause the consumers misunderstanding about the information as well as the products. At the end, the consumers may feel cheated and bad experience with the online information. While, one of the possible causes is that the process of distilling information into a usable note resulted in information loss, which led to the accident.

Lastly, the final possibility factor for defining the low quality of information is out of date. Despite a search strategy may be adequate, the source unbiased, and the results technically accurate, the answer may be out-of-date. This is clearly a live issue when dealing with dynamic information such as financial or business data. Knowledge of database update policy is important to assess the usefulness of that database to the particular type of search. In some instances, no harm is done by a failure to identify the most current data, as the situation will be rectified later on in the supply chain. For example, a book search may identify the second edition of a title. If the requestor places an order, the book supplier should alert the buyer that the third edition is now available. However, as more and more end users are searching directly for information via internet, there may be no safety net of third-party intervention, and out-of-date information may be recalled and used as if it was the most current.

2.5 Background of Consumer Buying Behavior

After the nature of the problems were clearly defined, researcher may continuous to investigate the definition and background of the consumers buying behavior in order to more understand about patterns or trends of purchases regarding to the potential target market. A deeper understanding of consumer buying behavior would assists the researcher in developing the theories regarding the factors which may influence internet users or e-commerce consumers on considering to purchase a product through internet. On the others hand, it may help the researcher to forms and creates an effective theoretical framework where the researcher can use a list of concepts to develops the possible independent variable that may effect on the consumer buying behavior in e-commerce industry.

While, the consumer buying behavior is refers to the systematic analysis of human behavior and the patterns in buying that may related to the marketing activities that conducted by a firm, together with the strategic implication of this analysis (Poulos,2007). The consumer buying behavior is extracted from the elements that included in human behavior, such as psychology, social psychology, anthropology and sociology. Based on his works, these elements are referred to the knowledge of social science and try to make a generalization about the nature of human being which may assist the researcher to understand the behavior of the potential target market. It also known as elements of contributing disciplines to consumer buying behavior.

Figure 2.1: shown the elements of consumer buying behavior

Psychology is a systematic study of human behavior and mental events. It is the most considerable contributing disciplines to the consumer buying behavior. The psychology of consumer behavior is related to the fields such as personality, motivation, learning theory, perception and attitudes of an individual. The psychology of consumer behavior will explain each of the fields of those internal factors to describe how the people perceive, respond and react to a particular problem, issue as well as the marketing action. The previous or post experience will influence an individual's perception, for example, a bad performance of a particular product or incorrect information that provided by a web page will make the consumer do not buy the same product twice or do not trust the online shopping anymore, this experience may vary the way in where the consumer processes the information and shape the buying behavior in the future.

Social psychology is related to the explanation of human behavior but it is more concerns on the behavior in the context of other people. In social psychology, consumers are considered as members of groups instead of an isolated individual. The members of the groups will influence each other in the way of perception within the group. The members will tend to coincide with others when they are in the existence of group. They would like to purchase the similar product where the group likely to purchase too or perceived a same level of information quality where the group members likely to perceived. On the other hand, a group also offer a comparison means where let an individual to develop a sense of himself within the group.

Anthropology refers to a study of societies and cultures. These study will observe a society in a long period to define the culture and behavior of the members of society, recording all the findings result and analyze on the dimensions of customs, rituals as well as the values held by the society. Understand the culture of a society is vital for today business organization before start dealing with their target market or selling the products and services into the market of the society. The cultures that held by different societies may vary the perception and insight on an issue, product as well as the information that they received from the marketers.

Sociology is related to the social psychology with some contents, but it more focused on the group processes in their totality than with individual behavior in a social context. It means that the sociology is a study on the nature of communication processes among the group members and the information flow within the society. There are crucial for all company to understand the nature of information flow among the members within a market. The power of words of mouth may positively or negatively influence the information that received by the customers through the promotions and advertising activities.

2.6 Consumer Purchase Decision Process

In the research of study, researcher need to understand the dynamics of the traditional consumer purchase decision process. While, the internal and external factors affecting purchase decision making would vary from person to person or within the same person from situation to situation, the study of consumer behavior attempts to draw certain generalizations. The major decisions that will selected by a consumer is relates to what is the product or service that the consumer will buys, how much the quantity of product that the consumer will buys, where is the place that consumer will buys, when the consumer buys the product and how the consumer buys the product. Thus, the decision is selected as a solution that out of the several available alternative choice.

According to Friesner (2014), the consumer purchase decision process refers as a number of stages that the consumer will go through before actually making the final purchase decision. The consumer buying decision process and business or organization buying decision process are similar to each other. Obviously core to this process is the fact that the purchase is generally of value in monetary terms and that the consumer or business will take time to actually assess alternatives.

While, the purchase decision is the process of choosing or selecting between two or more alternatives, it refers as a selection of an alternative choice out of the several choices that are available. The recent study of consumer behavior focuses on how individuals make decisions to spend their available resources such as time, money, effort on consumption related items (Schiffman and Kanuk, 1997). Consumer behavior is a study of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires (Solomon 1996).

A purchase decision is actually a response from a consumer toward a specific problem. Consumer decision making related on making a decision regarding product and service offerings. It may be related as a process of collecting and interpreting information, evaluating it and selecting the best possible alternative choice to solve a problem or make a buying choice. While decision making is defined as the selection of an alternative to solve a problem, the time and effort required to complete the process varies across buying situations.

Consumers can purchase different products and services, this is because that different buying decisions process consists of several steps. Sometime, consumers purchase some goods don't need to pass during all stages of the buying decision. However, some purchases are so important that the consumer is forced to do all these steps carefully and meticulously (GilaniNia, 2010).

Although, the descriptions of the consumer purchase decision process is difference across models, but these five stages of decision process remain same that may be used in all different models. These five stages of consumer purchase decision included problem or need recognition, information search, evaluation of alternative, purchase decision and post-purchase evaluation. Figure 2.2 shown the process of consumers purchase decision.

Figure 2.2: Consumers Purchase Decision Process. Source by Bruner, (1988).

Need recognition is the first and critical stage of consumer decision making process where once the need is recognized, then the process of purchase will occurred. This stage is primarily depends on the level of departure from homeostasis, the relationship between the actual state, it refers as the consumer's status quo, and the desired state which related with the situation that the consumer wants (Bruner, 1988). Once the level of departure from the homeostasis is achieved to a certain limit, then a need will be recognized. While, the recognition of need can be initiated by the changes in actual state of desired state of consumers. The consumers develop predictable styles over time, the actual state style refers as a problem recognition happen most frequently due to the changes in actual state, on the orders hand, the desired style is related to the problem recognition occurs mainly due to the change in desired state (Bruner, 1983).

The second stage of the consumer purchase decision making process is information search. It is the crucial part that may linked to the research topic where information that the customer search will directly or indirectly influence them to buy or not to buy a product and service. An interested consumer will or will not search for more information (Kotler, 2004), if the consumers feel interest will the product or the product is satisfied their needs, then the consumers are likely to purchase it. While, if they are not

interest and the product failed to fulfill their needs, then they will store the needs or conducting an information search related to the needs. The information search can be divided into two types of search, there are internal search and external search. The internal search is related to the consumer search through the information recalled about products from their memory and it is depends on the consumer's existing experiences and knowledge and their ability to retrieve relevant product information (Engel.et al., 1993). While, the external search is refers to the situation that the internal search may not sufficient to satisfied consumer's needs, and then the customer will start searching to outside information. It would include mostly personal interaction by word of mouth or mass marketing activities (Holbrook and Hirschman, 1982). Furthermore, consumers also can obtain the information from any of several sources, such as personal sources, commercial sources, public sources and experiential sources. The personal sources refers as the information or feedback that can be obtain from their friends, family, neighbors, and acquaintances. And the commercial sources is related to the salespeople, dealers, and any advertising activities that controlled by marketers to persuade the customers to buy the products and services. The experiential sources will be retrieved from the memories in handling, examining and the experience using the product that will make the consumers to repeat purchase.

While, the third stage of the consumers purchase decision process is alternative evaluation. Alternative evaluation refers to the process of evaluating a list of alternative choice that is selected to meet and satisfy the consumer's needs and wants. The most cited criteria that consumers use to implementing the alternative evaluation are words of mouth, price, brand name and country of origin. These four criteria often vary in their impact on consumer's product selections and some dimensions will have a greater impact than others, which is defined as "salience" (Engel.et al., 1993). The criteria of price may be used as a surrogate indicator of the quality of a product when there are lack of information or the knowledge about the product is low (Gerstner, 1985). Those consumers will perceived that if they pay a higher price for a product in return they will gain back an equally level of quality product. While, whatever the brand name has been proven to be significant effect on the consumer choosing a brand for a product to satisfy their needs and wants.

They are willing to pay more for a well-known name brand in order to fulfill their desire to a brand. Besides, the country of origin is also will be an important criteria that may significant influence the consumer to choose or evaluate the alternatives choices, people will choose a product and evaluate it based on their preference countries (Hong. et al., 1992). Furthermore, the power of words of mouth also bring a larger effect on the process of evaluation for the consumers assess the alternative products. The feedbacks or experiences from their friends and family will vary them in selecting an alternative choice. Since all the criteria above may bring significant impact on the consumer's evaluation of alternative, but the crucial key to improve or make a better alternative choice is the information of those four criteria must ensure that in high quality, it means that must accurate, updated and correct to the related products and services.

In addition, the fourth stage of the consumer purchase decision process is purchase decision. According to Engel et al., (1993), the purchase decision can be classifies into three categories, there are fully planned purchase, partially planned purchase and impulse purchase. The fully planned purchase refers as the product and the brand are already selected before visit to a website. On the others hand, partially planned purchase is related to an intention of a consumer plans to buy a product but hesitate in brand selection, he or she need to search more information in order to choose a best brand. While, for the consumers with impulse purchase, they are never plan to buy any products but they will intended to buy until they meet an attractive product and brand. Furthermore, some situational factors may lead these three purchase types to overlap, there are promotion and advertising, website atmosphere, weather and so on.

Lastly, the final stage for process of consumer purchase decision is post-purchase decision. This stage will related to the feedback or experiences from the consumer who bought the products or services. The consumer's post consumption evaluation of the products and services, to define whether the products or services able fulfill the needs and wants of the consumer. While, the product satisfaction or dissatisfaction will influence the consumer's decision making process for their next similar purchase, especially at the stages of need recognition and information search. If the purchase decision able to fulfilled

or satisfied the needs and wants of the consumers, they will not search for another alternative choices, they will stick with the brand and make repeat purchase when the similar needs is recognized.

2.7 Impacts of E-commerce on Consumers Purchase Decision Process

The previous sections enhanced our understanding of consumer purchase decision processes. The underlying concepts and the basis of purchase decision making were introduced. In this section, the e-commerce consumer purchase decision will be discussed, showing that online purchase decision does not always follow the traditional purchase decision (Karimi, 2013). In addition, understanding consumers and their decision-making journey is importance to e-businesses in order to facilitate and influence consumers' purchase processes. This knowledge can be used to reach consumers in the right place at the right time with the right message (Court et al., 2009).

Companies need a comprehensive understanding of their customers in order to attract and win more customers in the online market place where the competitors and their products are readily accessible. Online consumers behave differently and also have more complicated needs. They are not only the buyers but also the internet users (Koufaris, 2003). Their purchase decision is affected by general purchase related factors and also their interactions with the internet environment.

The processes of purchase decision making that consumers use to purchase a product or service does not certainly remain constant. For instance, if a product or service that do not satisfies a consumer's needs, consumers may practice extensive to redesign the decision making to switch to another brand (McDenial et al., 2009). E-commerce has significantly influence on consumer decision making, such as social networks emerge since many websites help a consumer to take final purchase decision by sharing feedbacks and comments by previous customers and evaluated by potential customers. Many online

shoppers tend to wait for early adopter's opinions before making a purchase decision to reduce the risk of buying a new product.

The nature of online purchase activities makes the consumers online purchase process differ with the traditional purchase process. It affects all the stages of the purchase process according to the consumers (McGaughey, 1998). For instance, searching for alternatives, gathering required information, simultaneous evaluation of different retailers, providing personal information and the payment process are all different in the online environment. In other words, the internet has changed consumer behavior by offering consumers diverse types of convenience to search for information, evaluate different options, and make a purchase (Moon, 2004). This environment could have a profound effect on how customers build their decision-making processes to adjust appropriately to the new decision-making environment (Xia, 2002). The internet also enable for cross-channel purchases. This means that different stages of the purchase process might take place via the internet channel or physical shops (Choudhury, 2008).

According to Bakos (1997), the amount and type of information available on online is different and various. Thus, information overload has been found to be the main reason for an alteration in consumer's behavior and purchase decision. It is related to the bounded rationality theory. The fact that consumers get confusing by large amounts of information on products has been proved previously, and it may affect the quality of information that received by the consumers, at the end it will negatively influence the consumers in purchase decision process (Jacoby, 1984). It has been verified that a limited number of alternatives and choices can be processed by consumer before being influenced by information overload. Information overload refer as multiplicative function of the amount of product attributes and alternative information available for a single product (Mick, 2004). It leads to simplification of choice processes which in return reduces the quality of the decision. It also increases confusion among the consumers and lowers the decision satisfaction.

As there is a huge amount of information available on the Internet, consumers are unable to evaluate all the alternatives in depth prior to making a decision. It is clear that internet purchase behavior does not necessarily follow the traditional consumer purchase behavior (Koufaris, 2003). The online consumers are also different in where they are more powerful, demanding and utilitarian in their shopping expeditions.

2.8 Definition of Information

According to White House Office of Budget and Management "OMB" (2002), the information refers as any communication or representation of knowledge such as facts or data, in any mediums or forms, it may include textual, numerical, graphic, cartographic, narrative, or audiovisual forms. This definition including the information that the agency disseminates from a web page in order to promote or sell something through the internet.

The term information is used with different meanings by different groups and in different contexts (Langefors, 1993). In his work, Langefors comments that information is the data which carries with them the possibility to compose or transfer back the text, photo, music and so on from which it is derived. Thus, "bringing back" the file provides access to the information and people can start reading, viewing and listening but also interpreting and analyzing the information existing in the file. This results in the creation of knowledge, that is, people learn from information.

Information is not equated with knowledge. Just like data must be interpreted in order to become information, so must information be interpreted and analyzed in order to be knowledge. Information is never the knowledge itself, the knowledge is within the knower (Goldkuhl, 1995). The researcher agree with Langefors with his concept that in order to understand information people must have pre-knowledge. This people see as knowledge that consist of the ability to assimilate the information, but also to have an understanding of the information content, or the subject in focus. The individual factors

such as gender, age and culture will differ the perception of the understanding of the contents of information.

Checkland (1998) comments that information is a service that supports decision making, while consumers search for extra information to evaluate a better alternative choice. Data are facts and a starting point for mental processes, it may be various according to the background of the consumers. Besides, Langefors, (1993) regards information as knowledge structured in such a way that it is communicated. Because of this it can also be stored, which leads to information being stored knowledge. Information is thus created the moment someone individually or in a group thinks of an issue. When people's ideas, or knowledge, are being shaped and transferred to a media they are made available for others to share. Hence, the knowledge has now once again become information and exists physically or digitally, available for people who need it in order to learn and increase their knowledge of something,

2.9 Role of Information Quality (IQ) in E-commerce

E-commerce is a worldwide competition market and it always been a never ending race to earn and retain consumers. A company who want to be successful and profitable, they need to continuously focus on their customer services in where to improve their consumer's experience of online shopping. Thus, the company need to understand the focus factor, for the areas where if they concern more then can convert a visitor into a buyer who purchase and used their company's products and services. Goswami (2013) comments that, the main factor that influencing a visitor transforms into a buyer is the information quality (IQ).

Information quality can be used to measure of the information system outputs, the primary example of such being the production of reports (DeLone, et al, 1992). E-commerce system users may seek transactional, customer service and marketing services

as well as information such that account must be taken of the features distinguishing e-commerce systems from conventional information systems.

Information quality (IQ) plays a critical role in enabling online consumers' purchase decisions in the absence of an opportunity to physically interact with products in the online environment (Kim et al, 2008). In addition, information quality (IQ) has been identified as one of the main factors contributing to online consumer satisfaction in order to enable them to make a purchase decision through online (McKinney et al, 2002). Thus, it is critical to understand what leads to higher levels of consumer satisfaction with website information quality.

2.10 Sources of Information Quality in E-commerce

The Internet has brings a significant changes to our daily lives from the ways we live, work, communicate, learn, and play to the ways we shop and buy consumer products and services (Hanson, 2007). Especially in information search and disseminate process, the emergent role of electronic word of mouth is highly emphasized as a powerful marketing tool due to its great impact on consumer's purchase decision making (Park et al, 2007). It is difference with the traditional word of mouth through face to face manner which can only be spread in verbal information. On the others hand, electronic word of mouth has conveying both verbal and visual or nonverbal information simultaneously and the advantage makes the impact of electronic word of mouth on consumer's decision making process extremely powerful. In addition, an abundance of available online information often making it hard and time consuming to evaluate products, while the decision support (DS) tools such as product comparison matrices and agents also help consumers to make better decisions (Park, 2010). While, researcher has found that three possible sources of information quality within an e-commerce context, there are verbal information (VI), nonverbal information (NVI) and decision support (DS) tools. Thus, the

researcher hypothesize that perceive quality on these three types of information quality sources as the independent variables that may positively influencing the e-commerce consumers purchase decision.

2.10.1 Verbal Information (VI)

The verbal information (VI) refers as consumer's assessment of the quality of verbal product information such as textual product descriptions along such dimensions as completeness, accuracy, format, and whether it is up to date (Nelson et al. 2005). Besides, Kim, et al (2008) comments that verbal information may help consumers evaluate products in order to make more informed and precise decisions. Verbal information (VI) able to influence the consumers possible change of knowledge, comprehension, satisfaction, and affective and cognitive toward the information that provided by the product. It may improve consumer's satisfaction with their online shopping experience. In addition, the quality of the contents of a website including verbal information may positively influencing consumer's purchase decision in e-commerce.

2.10.2 Nonverbal Information (NVI)

The nonverbal information (NVI) refers to the perceived quality of visual presentations of product information such as the images of a product appearance (Chau et al. 2000). Kim, et al (2008) also suggest that nonverbal information will helps consumers evaluate a product and enhance their understanding about the provided information. Thus, it can improve their online shopping experience as well as the perception of information quality that provided from a particular website. Nowadays, the ease of capturing and creating digital images has significant affect the information system, and it may cause the online information sources to look more visual and the visualized information has become an integral part of human communications. Especially in tourism industry where its

products and services are experience goods that cannot be evaluated before purchase (McIntosh, 1972). Experienced tourists can easily provide visualized information using digital images and videos in addition to textual descriptions. Furthermore, nonverbal information may bring the positive impact of incorporating social presence through human images on apparel websites on consumers' perceived usefulness, trust, enjoyment and attitude towards e-Commerce websites information. The researcher hypothesize the perceive quality on nonverbal information (NVI) may significant affect the e-commerce consumers purchase decision.

2.10.3 Decision Support Tools (DS)

Nowadays, consumers are increasingly using the decision support (DS) tools in their online shopping to help them navigate the abundance of choices and associated information for products they may be searching for (Park, 2010). The decision support (DS) tools refer as a wide range of computer-based tools with simulation models and techniques to develop a support decision analysis and participatory processes. Moreover, the decision support (DS) tools help consumers to construct comparisons among alternative of products, searching similar products with the same brand, searching a product's best price and showing product reviews by others. In principally, this tools can facilitate comparisons among the products alternative and exchange of information among the consumers or internet users. In addition, it may providing insights to non-experts and support them in the exploration of new products to fulfill their needs and wants. Decision support (DS) tools provide consumers additional verbal and nonverbal product information in order to help consumers to make a better decision in purchase. Thus, researcher hypothesize that the perceive quality on the information that provided by the decision support (DS) tools may positively influence the e-commerce consumers purchase decision.

2.11 Evaluating Quality of Information in E-commerce

Quality is not a new concept in information systems management and online environment. Information systems practitioners have always been aware of the need to improve the functions and quality of information so it can react to external and internal pressures and face the critical challenges to its growth and survivability in e-commerce. Furthermore, internet users or consumers have been concerned with definitions of quality in information systems of e-commerce. Thus, the researcher has attempts to determine criteria that are used to evaluate information quality (IQ).

According to Liu et al., (2000), he comments that eleven criteria that can be used to evaluate the information quality (IQ), there are accuracy, completeness, relevancy, security, reliability, and customization, and interactivity, ease of use, speed, search functionality, and organization. Based on the research of Huizingh, (2000), he only focused on two aspects of information quality, there are content and design. While, the author of Opportunities to enhance a Commercial Web Site, Information and Management, (2000), Wan suggests to divided quality of information attributes into four categories: information, friendliness, responsiveness, and reliability.

Although, there are too many factors or criteria can be used to assess the quality of information, it may cause by different opinions from various researchers. In this research, researcher planned to clarify that by using the most common set in which that can be generalize for any area of study. According to White House Office of Budget and Management "OMB" (2002), OMB has declares the Act of Information Quality that which describe the information quality is an encompassing term consisting of utility, integrity and objectivity. In others word, the information quality can be evaluate based on these three types of criteria. While, the most common set of criteria that can used to evaluate the information quality and it able to match with the Information Quality Act is the Eight Component of Information Quality that recommended by Radhakrishna. In the work of Radhakrishna (2012), he propose that information quality is composed of eight distinct aspects in evaluation of quality, it includes relevance, objectivity, validity, reliability, integrity, completeness, generalizability, and utility.

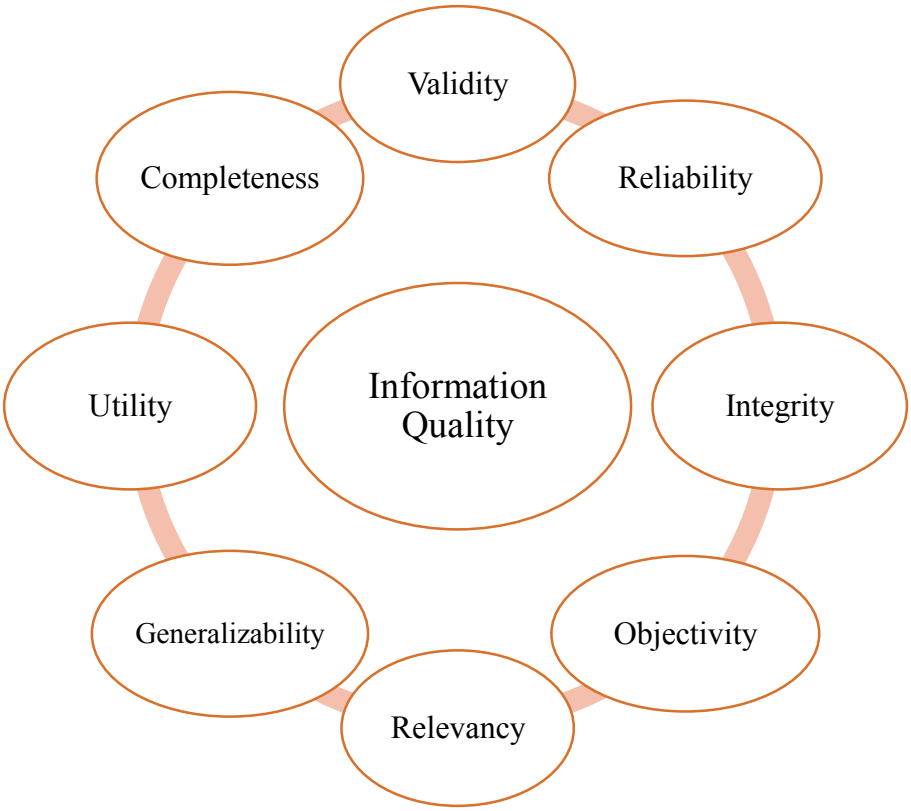

Figure 2.3: Eight Component of Information Quality. Source: Radhakrishna et al (2012)

Figure 2.3 shown the eight component of information quality that is adopted according to Radhakrishna et al (2012) to evaluate the quality of data information which provided from a website. Assess the webpages information based on those eight criteria or component to define high information quality website.

2.11.1 Validity

Validity refers to the closeness between the values provided by the information and the true values of the situation or condition. By the way, researcher needs to design and construct the questionnaire carefully to provide a basis for validity. In addition, a deeper examination of previous studies or ongoing review by a panel of experts, and carrying out a pilot test can makes the case for construct, content, and face validity.

2.11.2 Reliability

Reliability can be determine by using the degree or level to which measurements are similar or consistent with repeated measurements. In this case, the researcher must concern with wording of the questionnaire and field testing can be used to define the questionnaire with subjects not included in the sample, as well as a high response rate, thus it can provide the important of evidence for reliability.

2.11.3 Objectivity

Objectivity refers as the conclusions are based on statistically sound methods. If the researcher aims to make sure the good objectivity of the information, thus the researcher need to carefully analysis the key assumptions of the study, hypotheses testing, objectives of the research, research questions as well as use of appropriate statistical procedures. This results may provide evidence of objectivity.

2.11.4 Integrity

Integrity can be constructed by minimizing information errors through the process of collecting, recording, and analyzing data. Integrity can be enhanced by properly training those involved with data collection such as the researchers, interviewers as well as the marketers. They can review the data that have been properly recorded can repeat test the data to confirm the quality of integrity.

2.11.5 Generalizability

The generalization is taking one or a few facts that meet in the life and try to make it broader and more universal statement. Generalizability is concerned with sampling procedures that yield a sample representative of the population on key variables and follow-up with non-respondents. By this way, researchers will assume that the result of the study on a represented sample that can be apply to any similar population.

2.11.6 Completeness

In any data resource, it is crucial to achieve requirements of current and future demand for information. Information completeness refers to a measurement or indication of whether or not all the data necessary to meet the current and future business information demand are available in the data resource. It will determine the data needed to meet the business information demand and ensuring those data are captured and maintained in the data resource so they are available when needed.

2.11.7 Relevance

Relevance refers to the degree to which data or information are important to users and their needs. If the information that provided by a company, a website as well as a product that able to satisfy and fulfill the consumer's needs and wants, thus the information can be considered as high degree of relevance. While, the strategies may ensure a high degree of relevancy are thorough literature reviews and needs evaluation.

2.11.8 Utility

Utility of information describes on the aspects of timeliness, punctuality and accessibility. The timeliness refers as the data gathered in a timely approach so that data maintain their relevance to their users. On the others hand, the punctuality concerned with the release of data, where the information must be delivery to the right place at the right time. And the accessibility refers to the ways in which data or information are made available to the intended users.

While, the researcher will adopts the model of Eight Component of Evaluation for Information Quality which that is source by Radhakrishna et al (2012) as the guideline to assess and evaluate the quality of information in e-commerce environment. This model can provide a precise and useful evaluation result for the online information.

2.12 Consumer's Perception on Information Quality (IQ)

In this section, researcher need to determine that how does a consumer know that he or she has received a quality of information that related to a product or service? What does information quality (IQ) represent to the consumer? Is there one simple definition for information quality (IQ) or do the consumer define the quality as "knowing it when they see it"? According to the American Society for Information Quality, they define it as a subjective term for which each person has his or her own definition. In technical usage, it can divided into two meanings: (1) the characteristics of the information that is provided by a particular product or service that bear on its ability to describes exactly what the product can performs, (2) information that stated match with the product and service (Summers, 2009).

In the work of Summers (2009), she comments that satisfaction and perceived information quality (IQ) are related but different concept. Perceived information quality (IQ) is the consumer's viewpoint on the products information that related to the product feature. While, on the others hand, customer satisfaction centers on how the consumer felt the last time he or she bought the products or services from a company, it is a comparison between the consumer expectation and consumer experiences, whether the description of the product information match with the product performance or not. Effective companies recognize that they are providing products or services feature to their customers, but what the customers are actually buying is the benefits that offered from the products and services. So, the key crucial to make the customers buy the products is the information that can describes the benefits precisely and effectively.

Perceived information quality (IQ) goes beyond customer satisfaction and concentrates on future transaction. Consumer's perception of the information quality (IQ) they have received in a recent transaction will directly influence their purchase decision on the similar product or service in the future. While, if they received a good quality of the information which that the description is match with the product features and performance that they is experienced, they will trust to the product as well as the brand,

and then they will most likely purchase it again in the future, if they do not, they won't buy it again in the future.

2.13 Relationship between Information Quality (IQ) and Individual Factors

As the internet is growing fast and becoming accessible to everyone, there is no longer any such thing as a "typical Internet user". It is crucial to identify users with similarities characteristics and segment them into group, thus the marketers able to target them more effectively (Klever, 2009). Therefore, it is important to understand the relationship between the information quality (IQ) with the role of individual factors in e-commerce consumer decision-making process and purchase behavior (McDougall et al, 2005).

Therefore, consumers' individual factors are among the main factors that influence the purchase decision-making process. Their characteristics in each of these roles have an impact on their purchase behavior, making online purchase different from the traditional one. It is because the individual factors may vary the consumer's perception, thinking, as well as the decision making style.

In order to better understand the impacts of individual factors, researcher need to examine their influences on different stages of the purchase process. According to Moore, (1980), individual factors such as the gender, age and culture, it may influence the perception of the consumer in the search stage of the purchase process where different of individual factors will bring different perception on the information quality (IQ). More recent studies have proposed that illustrate factors affecting search and purchase decision on the Internet (Moon, 2004). In his work, he comments that individual factors are only linked to the search behavior, while the factors influencing the purchase stage are product type, benefits and risks involved in Internet transactions. However, the influence of individual factors on behavior is not limited to the search stage. For example, website

usage behavior depends on the way consumers process the information. Information processing and evaluation are also dependent on individual's factors (Balabanis, 2008). The model of Smith, (2003) suggests that individual characteristics affect not only consumers' pre-purchase information search, but also the need recognition and evaluations stages. The impacts of individual factors on the choice of the purchase decision has been acknowledged by several pioneering researchers. In this thesis, the researcher will focus on the individual factors such as gender, age and culture which each of these individual factor will influence the consumer perception of information quality (IQ) in the stages of e-commerce consumer purchase decision.

Gender is the one of the individual factors that will influence consumers' perception of information quality (IQ) and also online shopping experiences. It is because men may perceive websites information differently than women (Rodgers, 2005). In the research of Cyr et al, (2007), she suggests that men are more concerned with verbal information (VI) seeking than women who are more interested in a variety of information types including nonverbal information (NVI) which they find more engaging. Furthermore, according to Everhart et al, (2001), women seem to be better at decoding nonverbal cues and reach quicker interpretations than men.

Age will be another individual factor that will affect the perception of information quality (IQ). Some researchers suggest that older people more reliance on mass media than the younger, they may be particularly receptive to mass media (Davis, 1989). On the other hand, others mention that informal sources of information, especially family members and friends, are those which are the most important for the elderly compare to the younger. According to Neiss, (2010), older adults found pictures to be more positive and arousing than younger participants. Older people rated pictures more extremely at both ends of the valence continuum, they rated positive pictures more positively and negative pictures more negatively.

Individuals raised in diverse cultures can actually sense the world differently. Segall, (1966) comments that people who live in rural areas can sense crooked and slanted lines more accurately than the people who live in urban areas. This illustrate that the rural and urban groups sense the same situation differently as a result of their diverse cultural learnings. Therefore, apply the same concept on the perception of information quality, people who owned the different culture will perceived the different level of information quality. In the context of the study, researcher focus on two domestic culture, which is rural culture and urban culture as the research thought to be highly relevant to consumer's perception on the quality of information. The consumers who live in rural areas will not likely buy a product through online, they are more prefer to buy by visiting to a physical shop. On the others hand, consumers who live in urban areas will more interest in online shopping or both of them. It is because they more frequently connected to internet than the consumers who live in rural areas, and they are more willing to take risk to trying something new.

2.14 Theoretical Framework

Theoretical framework refers as a proposed research model which provide a guideline to navigate the research study. It is constructed by the researcher to hypothesize the several independent variables may significantly influence the dependent variable.

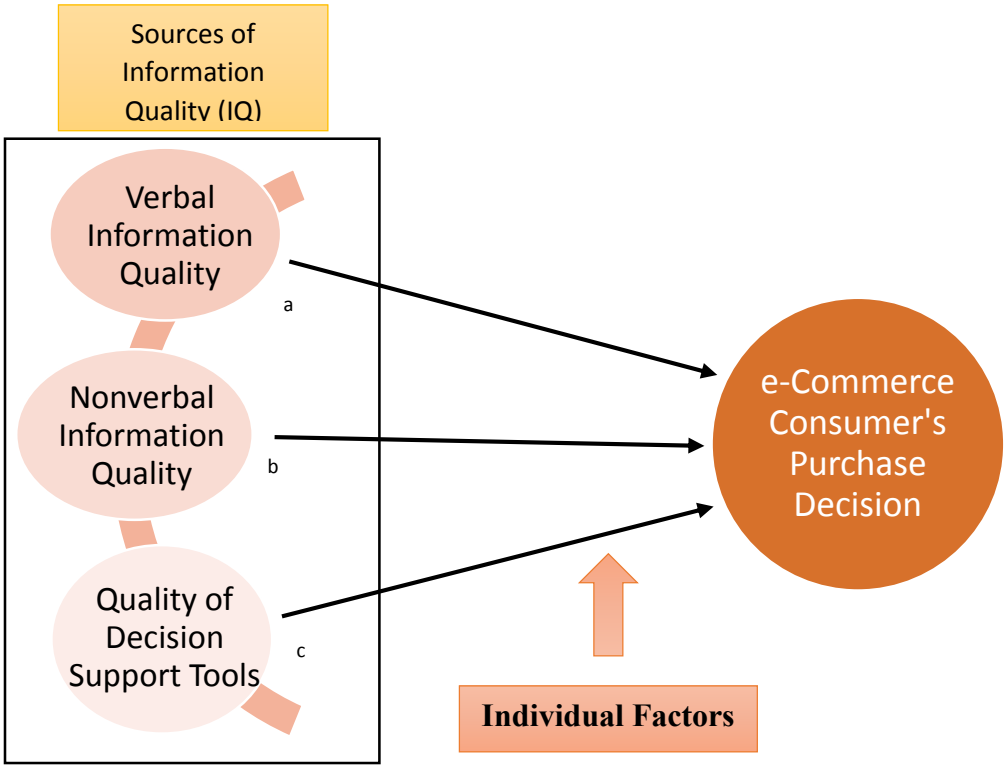

Figure 2.4: Proposed Research Model. Source: "a" and "b" (Kim et al, 2008), "c" (Park et al 2010)

Based on Figure 2.4, it shown the proposed research model as a theoretical framework that developed by the researcher through summarize all the previous theories. The theoretical framework will be used to guide the data collection and research findings. In the research model, the perceived quality based on the each types of sources of information that act as independent variables that may influence the result of satisfaction with information quality (IQ) in order to enable e-commerce consumers purchase decision.

While, the e-commerce consumers purchase decision is representing dependent variable in this model. And the result of online consumer purchase decision is cause by the satisfaction with information quality (IQ). In other words, higher satisfaction with information quality (IQ) will leads the consumers consider to purchase products through internet, while low satisfaction will make them abominate to online shopping. Further, the quality perception from consumers based on each sources of information may affect or influence by the three basic individual factors such as gender, age and culture of the consumers.

2.15 Hypothesis Testing:

Two types of hypotheses: Null hypotheses and Alternative hypothesis

The null hypothesis predicts that there will not be a significant different or relationship between the variable. While the alternative hypothesis predicts that there may be a significant different or relationship between the variables.

H1: Gender may affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

H2: Age may affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

H3: Living environment may affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

2.16 Summary

Information quality (IQ) is one of the main factors that contributing to online consumer's satisfaction and able to facilitate consumer's purchase decision in online shopping. Through a list of research on books, journals, articles and internet, researcher has identified that three types of available sources of information quality (IQ) that may positively influence the e-commerce consumers purchase decision. While, to more understanding about the e-commerce consumer purchase decision, researcher has also defined the basic model of consumer buying behavior and the process of purchase decision, and then describe that how the internet effect on the consumer purchase decision. After clarified all of them, researcher has summarized all the theories and formed a proposed theoretical framework as a guideline for whole research.

CHAPTER 3

RESEARCH METHOD

3.1 Introduction

Research method are the various procedures, schemes and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods (Rajasekar, 2006). They are essentially planned, scientific planned, scientific and value-neutral.

In this study, the research method including research design, research strategy, sampling technique, data collection technique and data analysis method. These all research methods will be used by researcher to collecting the primary data and also the secondary data from the respondents or previous study of the research. Explanatory studies will be adopted as the research design and the purpose is aims to examine the relationships among the variables. It needs to study the analysis of information quality (IQ) and its impact on the e-commerce consumers purchase decision. The research strategy that may use by the researcher to gathering the data information is through a survey research. Furthermore, the researcher also using the sampling technique to selecting a sample of the respondents from a whole population, purposive sampling will be used where the selection only focus on internet users. In addition, the researcher develops internet based distributed questionnaire as the data collection technique to conduct a survey on internet. While, the

data analysis method that will be used by the researcher to analysis the findings is through the descriptive analysis and SPSS technique. Thus, all the research methods is used by the researcher to clarify that how the role of information quality (IQ) enable the e-commerce consumers purchase decision.

3.2 Research Design

According to Vaus (2005), a research design is not just a work plan. A work plan details what has to be done to complete the project but the work plan will be implemented based on the project's research design. The function of a research design is to ensure that the evidence obtained enables the researchers to answer the initial question as unambiguously as possible. Obtaining relevant evidence entails specifying the type of evidence needed to answer the research question, to test a theory, to evaluate a program or to accurately describe some phenomenon. In other words, when designing research, researchers need to ask: given this research question or theory, what type of evidence is needed to answer the question or test the theory in a convincing way?

According to Creswell (2014), a research design refers to an overall decision or procedures of inquiry involves which approach should be used to study a topic. Informing this decision should be the philosophical assumptions the researcher brings to the study.

According to Saunders et al., (2012), research design is a general plan of how researcher will go about answering the research questions. It will contain clear objectives derived from the research questions, specify the sources from which researcher intend to collect data, how the researcher propose to collect and analysis these data information. It can be a framework for the collection and analysis of data to answer research question and meet research objective providing reasoned justification for choice of data source, collection methods and analysis techniques.

Based on the construction of the research enunciation, the main characteristic of the whole research can be situated in one of the following areas: exploratory, descriptive and explanatory. While, in this case, researcher has to consider a list of factors and decided to implement this research as an explanatory research.

The explanatory research is more focuses on 'why' questions. In this research study, researcher has to refers back to the research question as why people do not trust in online shopping, why the information quality (IQ) can positively influence the online consumers purchase decision and why a website is perceived as having a high information quality.

To answering the 'why' questions, the researcher needs to developing a causal explanation. The causal explanation can be used to argue that the phenomenon X is affected by the factor Y. In order to implementing the causal explanation, researcher needs to define the dependent variables and independent variables and then researcher may start a range of research activities or data collection methods. Sometime causal explanation can be very simple while other may be more complex. In this nature of research, the online consumers purchase decision will be the phenomenon or a dependent variable in which that can be affected by the factors or the independent variables, which is the roles of information quality (IQ).

While, the researcher needs to indicate and explain 'why' the information quality (IQ) enabling the e-commence consumers purchase decision. In the other words, people will receive the information through the internet, the quality of the information they perceived will direct or indirect affect their online purchase decision.

3.3 Methodological Choice

After constructed the research design, the methodological choice will be the next step to selecting a research approach to conducting the research and data collection. A research approach is the plans and procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretation (Creswell, 2014).

Methodological choice is related to whether researcher follow a single qualitative or quantitative or multiple methods research design, each of these option is likely to call for a different set of elements to achieve coherence in the research design (Saunders et al., 2012).

In this research proposal, researcher needs to decide to choose either one of the research approaches to implementing the data collection and analysis. According to Creswell (2014), the three research method can be defined as:

- Qualitative research is an approach for exploring and understanding the meaning individuals or group ascribe to social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data. The final written report has a flexible structure. Those who engage in this form of inquiry support has a way of looking at research that honors an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation.

- Quantitative research is an approach for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical

procedures. The final written report has a set structure consisting of introduction, literature and theory, methods, results, and discussion. Like qualitative researchers, those who engage in this form of inquiry have assumptions about testing theories deductively, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings.

- Mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone.

After the studies for each research approaches, to conducting the research in order to collection data information, the researcher decided to choose the quantitative methods research as the research method for further data collection and analysis.

By using the quantitative method research, researcher needs to collect numeric based data, such quantitative data can provide more accurate results.

For the data of quantitative, researcher gathers the data by using the data collection technique such as questionnaires and structured observation on the targeted audiences to collect the potential data information that generates in form of numerical. After the data collection, the gathered data information will be analyze and interpret through the data analysis procedures such as graphs and statistics as well as the SPSS tool to clearly and precisely declare the findings and the results of the data.

3.4 Research Strategy

According to Deming et al., (2010), data collection method refers as research strategy which is an essentially conceptual and is shaped by intention, it is not by the 'how', but by the 'why' of finding out. The nature of any research strategy is defined by two key dimensions that guide the process of scholarly inquiry. The first is the purpose or the relationship of the inquiry to theory, it is the purpose of the investigation to build, shape or test theory. While, the second dimension is the nature of the truth claims, or epistemology, that lie behind the investigation which is reality dependent upon, independent of, or interdependent between the researcher and the world.

According to Saunders et al., (2012), a strategy is a plan of action to achieve a goal. A research strategy may therefore be defined as a plan of how a researcher will go about answering her or his research question. The key to the choice of research strategy is that aims to achieve a reasonable level of coherence throughout the research design which will enable to answer particular research questions and meet the research objectives. The research strategy will be guided by the research questions and research objectives, the consistency with which these link to the research philosophy, research methods and purposes, and also to more pragmatic concerns including the extent of existing knowledge, the amount of time and other available resources and access to potential participants and to others sources of data.

There are several different types of research strategies which can be used to gather and collect the data information from those potential audiences. The available types of research strategies such as experiment, survey, archival research, case study, ethnography, action research, grounded theory and narrative inquiry.

While, in this research proposal, researcher decided to choose survey research as the research strategies to collect and gather the data from the respondents in order to answer the research questions and meet the research objectives.

Research strategy: Survey Study

A survey study explores a research topic or phenomenon within its context, or within a number of real-life context. The reason why the researcher chose this research strategy, it is because the survey study is most often used in explanatory research in which the research has mentioned on previous stage. The survey strategy has considerable ability to generate answer to the question “what”, “which” and “why”.

In the research proposal, researcher uses this strategy to study and define the online users or consumers buying behavior as well as their purchase decision. To determine whether the roles of the information quality (IQ) able to influence their purchase decision in online. This survey research will conducting through a questionnaire in order to collect the information from those potential respondents.

3.5 Data Collection Method

Data Collection is a crucial part of any type of research study. Inaccurate data collection can affects the results of a study and finally lead to invalid results. So, researcher needs to constructs and develops the data collection method carefully and precisely. While, in this study, researcher planned to use the quantitative data collection method to gathers the information from the potential respondents.

The quantitative data collection methods rely on sampling selection and structured data collection instruments that fit diverse experiences into predetermined response categories. They produce results in form of numerical that are easy to summarize, compare, and generalize. Quantitative data collection method is concerned with testing hypotheses derived from theories and it being able to estimate the size of a phenomenon of interest (Leedy et al, 2005). Depending on the research question, respondents may be randomly or purposely assigned to different treatments. If this is not feasible, the researcher may

collect data on those respondents and situational characteristics in order to statistically control for their influence on the dependent, outcome, and variable. If the intent is to generalize from the research respondents to a larger population, the researcher will employ probability sampling to select potential respondents.

During the data collection process, the researcher select questionnaire as the data collection method to conducting the research. A questionnaire is the most common method of primary data collection that can be sent to a large number of respondents and saves the researcher time and money. Those respondents are more truthful while responding to the questionnaires regarding controversial issues in particular due to the fact that their responses are anonymous (Leedy et al, 2005). In addition, a questionnaire research often make use of checklist and rating scales. These devices help simplify and quantify consumer's behaviors and attitudes. A checklist is a list of behaviors, characteristics, or other entities that the researcher is looking for. Either the researcher or survey participant simply checks whether each item on the list is observed, present or true or vice versa. A rating scale is more useful when a behavior needs to be evaluated on a continuum. They are also known as Likert scales. Those potential respondents may ranks the issues from 1 to 5 where answers starting from strongly disagree, disagree, neutral, agree and strongly agree. The questionnaire able to provide some useful primary data to the researcher in order to generate more precise result of findings for the research.

3.5.1 Primary Data

Primary data is collected purposively to address the problem in question and is conducted by the decision maker, marketer or a researcher. The primary data is totally different with the secondary data, primary data cannot be found elsewhere. Primary data may be collected through surveys, focus groups or in-depth interviews, or through experiments such as taste tests (Curtis, 2006).

During the research process, the researcher able to collect such primary data through a primary data collection method which is using the survey questionnaire. The researcher will distribute the questionnaire to the respondents, those respondents will go through all the questions and provide their answers by ranking each of them. By this way, researcher able to gathers the feedbacks and opinions of those respondents, while those feedbacks and opinions can be considered as primary data that to be used for this research.

3.5.2 Secondary Data

According to Curtis (2006), secondary data is information that has already been collected and is usually available in published or electronic form. Secondary data has often been collected, analyzed, and organized for another purpose of study, so it may have limited applications to specific market research.

However, some of the advantages of using secondary data for market research include both cost and time savings. Data that has been published by government agencies is readily available and free of charge for all types of researchers, while data collected and analyzed by private companies may require permission for use. In addition, the secondary data can be found through company reports, government agencies such as USDA's Economic Research Service (USDA-ERS) and Agricultural Marketing Service (USDA-AMS), newspaper articles, extension publications, and so on.

Thus, the researcher may collecting the secondary data from the previous studies of pioneering researchers, journals, articles, magazines, books and so on which the data or information that related to the research can be used to richer the sources of information and the theories that can be adopted to construct the research topic.

3.6 Data Analysis

Once the data have been collected, it needs to be analyzed using descriptive and associational statistics. According to Trochim (2006), he comments that descriptive statistics are used to describe and explain the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data. The descriptive statistics are used to present quantitative descriptions in a manageable form. In a research study, researcher may has a lots of measures or may measure a large number of people on any measure. Descriptive statistics help researcher to simply large amounts of data in a sensible way. Each descriptive statistic reduces lots of data into a simpler summary.

While, all data that analyzed by descriptive statistics, just will use the means and standard deviations without knowing what the relationship between each parameters. But in associational statistics, it helps researcher to analyzing the relationship between independent and dependent variables will be checked. The associational statistics is a measure of association to indicate the strength of the relationship between two variables (Crossman, 2014). The measures of association take on values ranging from -1.0 to +1.0, with the positive and negative signs indicating the direction of the relationship, not the strength of the relationship.

In addition, the researcher also adopted the use of SPSS software to make easier in calculating and drawing the charts. SPSS is a windows based program that can be used to perform data entry and analysis the data as well as create tables and graphs (Field, 2009). SPSS is capable of handling large amounts of data and can perform all of the analyses covered in the text and much more. SPSS is commonly used in the social sciences and in the business world, thus the SPSS may help the researcher to analyze the collected data more effectively.

3.7 Location of the Research

The location of the research refers as the place that the researcher conducting the survey research. In this study, the researcher may using the internet based distributed questionnaire, it is a new and inevitably growing methodology that is the use of internet based research (Leedy, 2005). This would means that consumers receiving an e-mail on which they would click on an address that would bring the consumers to a secure web-site to fill in a questionnaire. This type of research is often quicker and save costs. Thus, the internet will be the location that the researcher distribute the questionnaire to the respondents.

3.8 Sampling Technique

Sampling is a procedure where in a fraction of the data is taken from a large set of data, and the inference drawn from the sample is extended to whole group (Raj, 1972). While, if the population is too large, sampling is suitable to use for the selection of the sample from the large population. For economic reasons, it will be convenient to interview a certain part of the population which is a sample that chosen in an appropriate way so that the researcher can obtain later conclusions for the whole population.

Furthermore, the sampling technique that will be used by the researcher to conducting this study is purposive sampling. Oliver (2006) comments that the purposive sampling is a form of non-probability sampling in which decisions concerning the individuals to be involved in the sample are chosen by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research. Some types of research design necessitate researchers taking a decision about the individual participants who would be most likely to contribute appropriate data, both in terms of relevance and depth.

In this study, the researcher planned to conducting an internet based distributed questionnaire where distribute the survey questionnaire via internet. By the way, the targeted respondents for the research is the internet users. The internet users are the individuals who do the searching, chatting, screening, reading, and writing through internet, they are familiar with the online environment. Thus, they may provide more useful, relevance, and appropriate data that is related to the research topic which is the moderating roles of information quality (IQ) enabling e-commerce consumers purchase decision.

In addition, the sample size for the research is the number of sample units selected for contact or data collection in order to prove the theoretical framework. Based on Partial Least Squares (PLS), the minimum sample size for validating a model of theoretical framework is ten times the larger of the number of items for the most complex constructed model. The number of the items refer to the largest number of the independent variables plus with the largest number of dependent variable in the model (Gefen, 2000). While, the theoretical framework of this research has 4 items, which including the 3 independent variables of information quality (IQ) and 1 dependent variable of e-commerce consumers purchase decision, it resulting in a minimum sample size of 40. However, in order to improve the validity and reliability, the researcher decided to construct the survey up to 200 respondents as the sample size of the research. It can give more accurate and precise findings from each available questions.

3.9 Time Horizon

Time horizon refers as an estimated length of time for design, develop, plan and project to complete. While, for this research, the researcher estimate around 6 months to complete the whole research. It including the formation of the research topic, research objectives and questions, literature reviews, research design, data collection and analysis,

discussion of result and future plan. In addition, a cross sectional study will be adopted into this research to analyze and compare among the variables.

3.9.1 Cross-sectional study

The cross-sectional study is an observational study which means that researchers record information about their subjects without manipulating (Winter, 2009). The benefit of cross-sectional study is it allows researchers to compare many different variables at the same time. In this study, the variables may use to be compared between the dependent variable and independent variable. Dependent variable will be influenced by independent variable. From this research, the analysis of information quality (IQ) will influence to the e-commerce consumers purchase decision. For instance, this research needs to find out on how the sources of information quality (IQ) such as verbal information (VI), nonverbal information (NVI), and decision support (DS) tools enable e-commerce consumers purchase decision.

3.10 SCIENTIFIC CANON

The scientific canon refers as a tool that help the researcher to defend and vindicate on his work through provide a list of reliability and validity supports.

3.10.1 Reliability

According to Saunders (2012), comments that reliability refers to whether data collection techniques and analytic procedures would produce consistent findings if they were repeated on another occasion or if they were replicated by a different researcher.

Reliability refers as the consistency or repeatability of measurement. It has to do with the quality of measurement. It can be defined as the extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials. In this study, all the result based on the survey questionnaire on respondents must consistent with the measurement of the analysis of information quality (IQ) on e-commerce consumers purchase decision, so that it can define how the information quality (IQ) able positively influence customers purchase decision in e-commerce. This is because all the data generated from respondents must be accurate with the survey questionnaire so that it can ensure the information are consistent with the result based on the analysis on SPSS software. SPSS Manual is tool that can help researcher to analyze the data collected from respondents. The most important things to avoid during the research study is falling response rates because once customers are failing response on questionnaire, it can affect all the information collected are not consistency with the findings. It is important for conducting reliability measurement because it helps to ensure this researcher study has get the accurate measurement as well as consistent on the findings analyzing by SPSS software.

3.10.2 Validity

Validity refers to the extent to which the instrument measures what it purpose to study. In this study, the instrument used to measure information quality (IQ) and its impact on e-commerce consumers purchase decision are verbal information (VI), nonverbal information (NVI), decision support (DS) tools. Besides, validity can be divided into three types, there are internal validity, external validity, and construct validity.

3.10.3 Internal validity

According to Saunders (2012), internal validity is established when the research demonstrates a causal relationship between two variables. During the measurement of the analysis of information quality (IQ) and its impacts on e-commerce consumers purchase decision, there are three independent variable to be used to analyze and measure which are verbal information (VI), nonverbal information (NVI), decision support (DS) tools. All of these three independent variables needs to be measure with the dependent variable which is e-commerce consumers purchase decision to examine whether the roles of information quality (IQ) will positively influence the consumers purchase decision and make them to buy via online.

3.10.4 External Validity

External validity refers to how well data and theories from one setting apply to another and to whom can the results of the study be applied. The result of the study can be applied for academic environment especially for researchers who will carry out the similar or related project of research, they can adopting the proposed theoretical framework as a reference to make the information more diverse and also organizations particularly in business environment, it provide the insight to improve the quality of information especially in online environment, it can make the consumers more reliable and trust to the webpage's information as well as the online shopping.

3.10.5 Construct Validity

According to Saunders (2012), construct validity is concerned with the extent to which research measures actually what researcher intend them to assess. However, this study aim was to measure the analysis of information quality (IQ) and how its impacts will enable e-commerce consumers purchase decision. Thus, in this test it can be considered as construct validity.

3.11 Pilot Test

According to Calitz (2009), a pilot test is a specific pre-testing of research instruments such as including questionnaire or interview schedules. A pilot study is a mini-version of a full-scale study or a trial run done in a preparation of the complete study or also called a feasibility study. Pilot test are used to evaluate how a sample of people from the survey population respond to the questionnaire. In this study, 10 samples from the survey respondents will be selected as used to test the understanding of questions. It is important to evaluate the selected sample from populations so that the questionnaire can be successfully be conducting and this can reduce the errors occurs during survey questionnaire respondents. Besides, the benefit of pilot test is enable the data or information to be collected from respondents are accurate because when conducting pilot test on selected sample from population, it can get the accurate information on how the moderating roles of information quality (IQ) enable e-commerce consumers purchase decision, it can improve the degree of reliability and validity of this research.

3.12 Summary

In this chapter, research method will be conducted by researcher as the way to collecting the data. Research design to be adopted in this study are explanatory research. It shows to examine the relationships between the variables. Methodological choice to be selected are quantitative research because the survey is focuses the survey questionnaire on respondents. Key respondents are the main sources in this investigations. Data collection are important because it relates to how the data is to be collected. Data collection to be conducting such as primary data sources and secondary data sources. Descriptive and associational statistics are the data analysis using in this study to analyze all the data that have been collected. Tools to support the analysis are SPSS software. Research strategy in this study are adopted by survey strategy because it requires to survey on respondents by using internet based distributed questionnaire. Pilot test is necessary in this study because a few sample of respondents will be selected as the pre-testing in questionnaire.

CHAPTER 4

RESULT AND DATA ANALYSIS

4.1 Introduction

A central finding for Chapter 4 was the moderating roles of information quality (IQ) in enabling e-commerce consumer purchase decision. The data presented in the research is demonstrated using IBM "Statistical Package for Social Sciences (SPSS) version 20.0 for Windows. The collected data and discussion of findings were based on the research objectives.

The data analysis for this chapter was presented the results of the survey as they are employed in the SPSS using Descriptive Analysis, Correlation Analysis and Multiple Regression. Based on the outputs from those analysis, the findings of the study can be derived.

First of all, the demographic variables of the respondents were addressed in the initial part, then followed by the analysis of independent and dependent variables. In addition, the reliability testing were conducted to indicate whether the results and findings of the research are reliable or unreliable. Furthermore, the inferential statistics analysis that used Pearson Correlation Coefficient Analysis method to describe the degree of relationship between two variables will be included in this chapter.

At the end of this chapter, multiple regression will be constructed to test the hypothesis for the impacts of the independent variables toward dependent variable and it also be used to explain more about the relationship between the available independent variables and the dependent variable.

4.2 Description of Samples

The sample size refers as the number of respondents of this research, 200 respondents will be chosen randomly from internet. The coverage of the respondents was focused on the internet users that around in Malaysia based on the networking of the researcher.

4.3 Demographical Analysis

Basically, the analysis of demographic is used to reveal the background information of the respondents. While for this research, the information of demographic are the moderating roles to influence the information quality (IQ) that will enable e-commerce consumer purchase decision. Moreover, there were five questions being asked in the demographic section in the questionnaire, such as gender, age, living environments, participants in online shopping, and frequency use of online shopping.

4.3.1 Gender

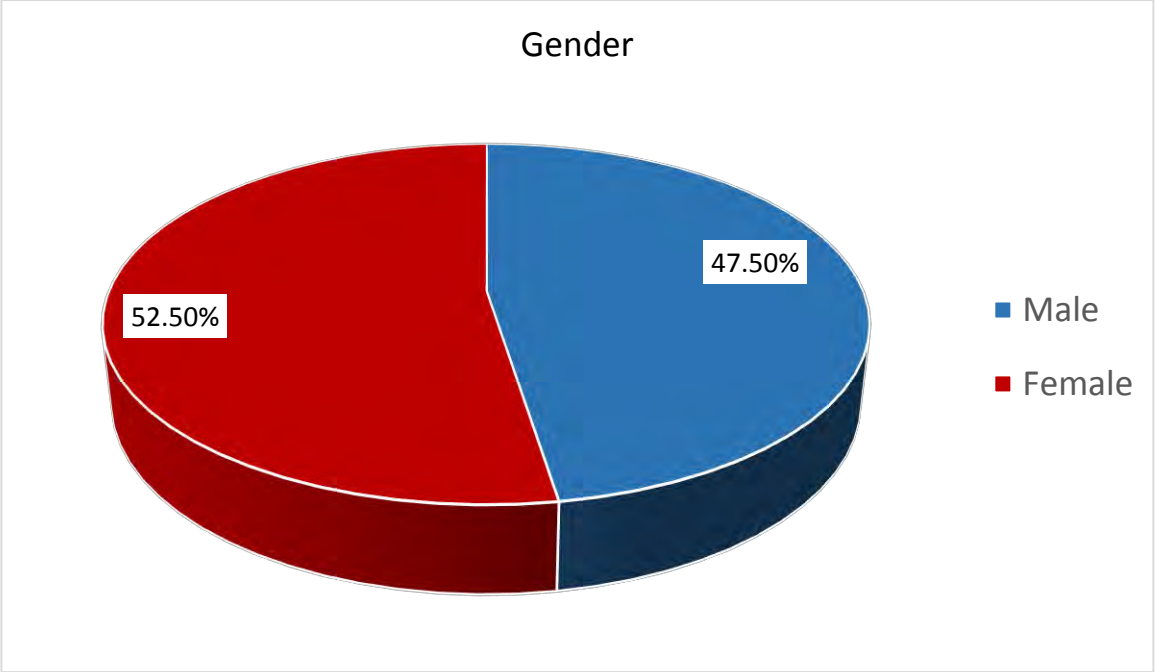

Figure 4.1: Pie chart for Gender of respondents

Table 4.1: Frequency table of gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	95	47.5	47.5	47.5
	Female	105	52.5	52.5	100.0
	Total	200	100.0	100.0	

Figure 4.1 shown the percentage of respondents based on both genders. There are 47.5% (95 people) from the total of 200 respondents in the survey is male, while the majority partial shown on the figure above is female, which is 52.5% that was around 105 people.

4.3.2 Age

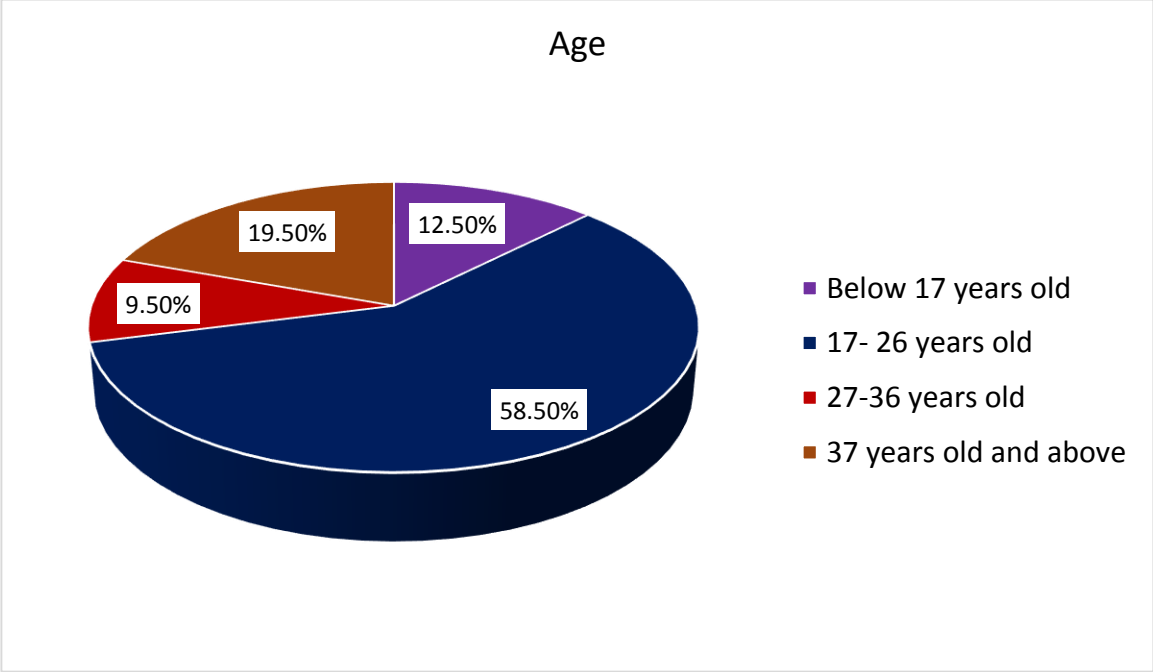

Figure 4.2: Pie chart for Age of respondents

Table 4.2: Frequency table of age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 16 years old	25	12.5	12.5	12.5
	17- 26 years old	117	58.5	58.5	71.0
	27-36 years old	19	9.5	9.5	80.5
	Above 37 years old	39	19.5	19.5	100.0
	Total	200	100.0	100.0	

Figure 4.2 shown a pie chart of age of respondents who answer the questionnaire for the research. The pie chart above comprises a highest group in the range of age between 17-26 years old which is 58.5% from the total number of respondents that is around 117 people. And the second higher is between the age of 37 years old and above, it is 19.5 % (39 people) from the total respondents and followed by the age below 17 years old that is around 12.5% with 25 people. Furthermore, the lowest range of age is between 27-36 years old which is 9.5% that consisted by 19 people.

4.3.3 Living Environments

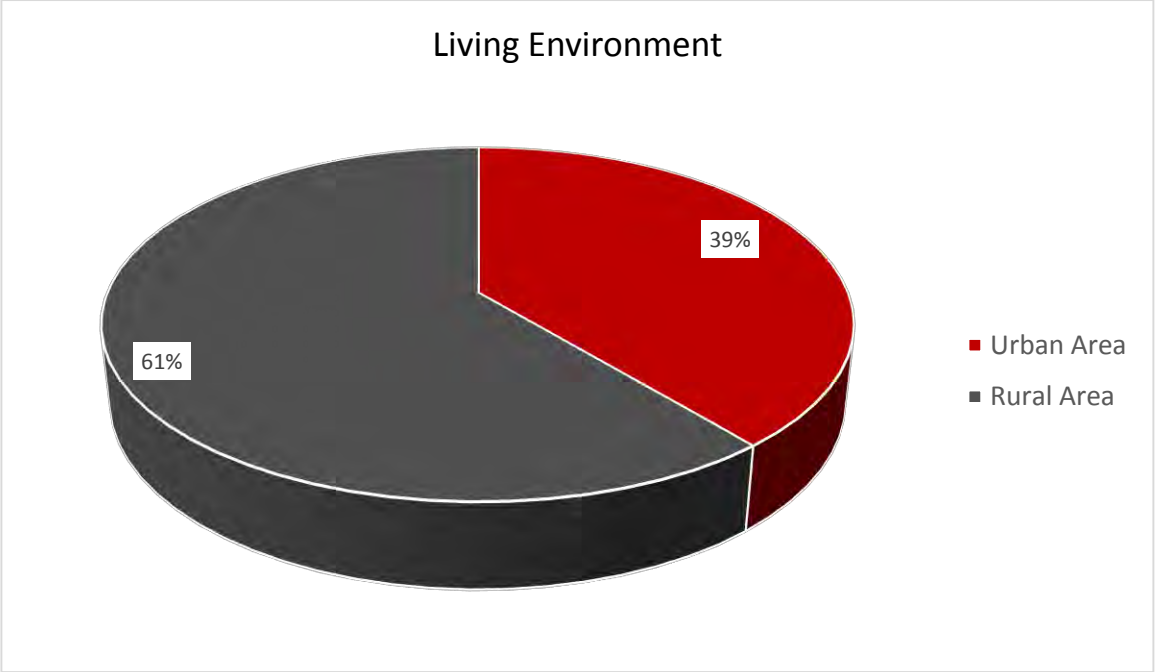

Figure 4.3: Pie chart for Living Environments of respondents

Table 4.3: Frequency table of living environment

Living Environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban Area	78	39.0	39.0	39.0
	Rural Area	122	61.0	61.0	100.0
	Total	200	100.0	100.0	

The pie chart above represented the living environment of respondents in the research. Based on the data above, about 61% of total respondents that representing 122 of people who are live in rural area. On the others hand, around 39% from the total respondents that is representing 78 of people who are live in urban area.

4.3.4 Involvement

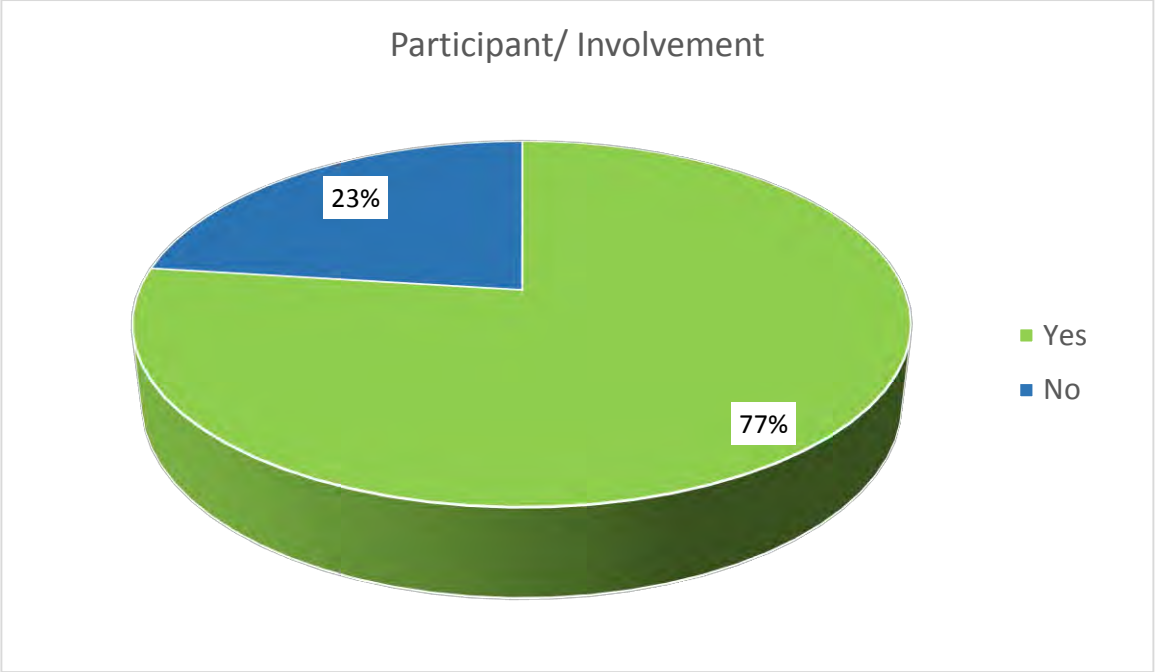

Figure 4.4: Pie chart of Involvement of respondents

Table 4.4: Frequency table of involvement

Interaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	154	77.0	77.0	77.0
	No	46	23.0	23.0	100.0
	Total	200	100.0	100.0	

Figure 4.4 above shown the involvement of respondents to the online shopping. It happen whether the respondent influence an online purchase, participant in purchase or direct purchase by themselves from internet. The larger partial representing the involvement of online shopping which has 77% from the total respondents that is about 154 people. While, the remaining part representing those respondents who do not involved into the online shopping, it around 23% with 46 people of respondents.

4.3.5 Frequency of Use

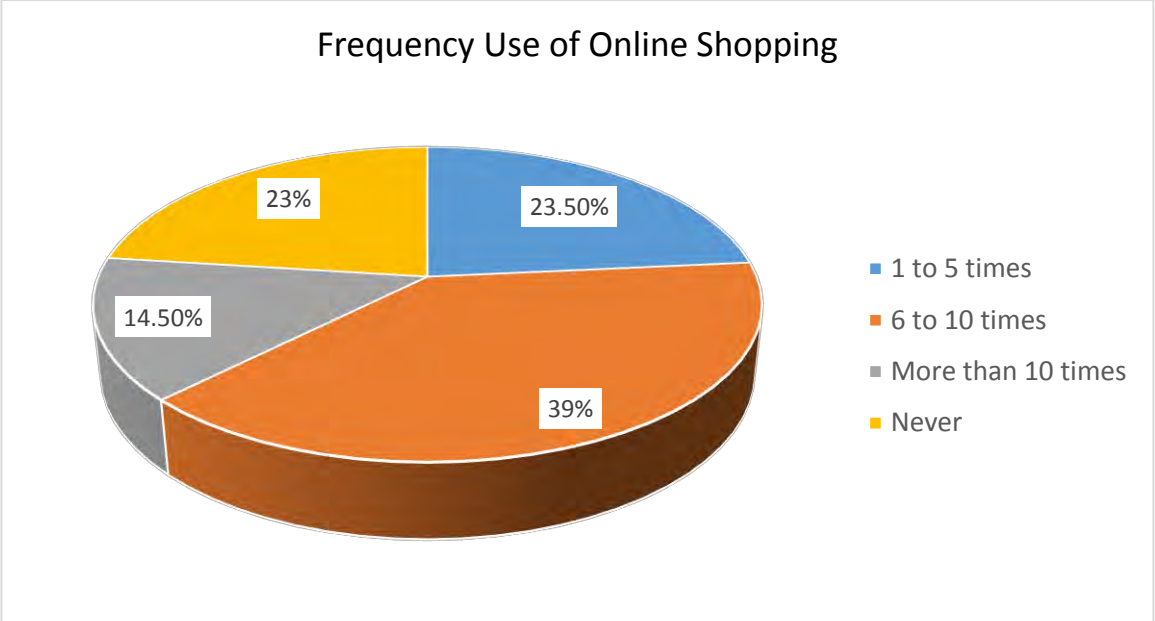

Figure 4.5: Pie chart for Frequency Use of Online Shopping

Table 4.5: Frequency table of Usage

Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 5 times	47	23.5	23.5	23.5
	6 to 10 times	78	39.0	39.0	62.5
	More than 10 times	29	14.5	14.5	77.0
	Never	46	23.0	23.0	100.0
	Total	200	100.0	100.0	

Based on the pie chart 4.5 above, it shown the frequency use of online shopping from 200 respondents. The largest partial from the pie chart represented the range of frequency use between 6 to 10 times, it comprised 39% from the total of respondents which is about 78 of people. And then it followed by 23.5% and 23% which represented the range of frequency use between 1 to 5 times and never use online purchase respectively. In the same manner, the last was the range of frequency use that more than 10 times, it represented 14.5% in which that contained around 29 of respondents.

4.4 Reliability Analysis

This section will determine the reliability of the results and findings for this research where it refers to the results from SPSS that shown the determinant factors in this study. While, the reliability analysis is used to measure the degree of data free from errors and it able to yields more consistent results. According to Sekaran (2003), reliability analysis provides information about the relationship between individual items in the scale. This study has selected the Cronbach Coefficient Alpha model to assess internal consistency.

According to Joppe (2000), the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar method, then the research instrument can be considered as reliable.

In this study, researcher used internal techniques which is Cronbach's Alpha. The result that shown in the table must be exceeded the value of 60%, it is 0.6 of Cronbach's Alpha which means high reliability. While, Cronbach's alpha is used to test the goodness of the data obtained from the survey. In the research of Sekaran (2003), he defined that Cronbach's Alpha is a reliability coefficient that indicates how well the items in a set are positively correlated to one another.

Based on the Cronbach Coefficient Alpha model that constructed by Sekaran (2003), it presented if the value is 0.9 or above, then it will be considered as excellent, in between 0.8 to 0.89 is very good, in between 0.7 to 0.79 is considered good, in between 0.6 to 0.69 is moderate and below 0.6 is unacceptable. Variables with the value that falls below 0.6 reconsidered to be poor reliability and unacceptable. Reliability analysis will be conducted for Section B of the questionnaire before proceeds to further data analysis.

The method that will be adopted to test the reliability is IBM "Statistical Package for Social Sciences (SPSS) version 15.0 for Windows.

Table 4.6: Rules of Thumb about Cronbach's Alpha Coefficient Size. Sourced by Sekaran (2003).

Cronbach's Alpha Coefficient Range	Strength of Association
0.9 and above	Excellent
0.8 - 0.89	Very good
0.7 - 0.79	Good
0.6 - 0.69	Moderate
Less than 0.6	Unacceptable

Table 4.7: Reliability Statistics table for Cronbach's Alpha.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.713	.810	20

Table 4.7 above shown the results of reliability analysis for Cronbach's Alpha. The purpose of this test is to check the reliability of this research's results and findings. Based on the data presented in table above, the Cronbach's alpha coefficient value for the variables in this study are well above 0.6, it is about 0.713 which can be considered as good in association and the results were free from errors. This indicates that the items have reasonable internal consistency reliability.

4.5 Degree of Agreement for Each Proposed Sources of Information Quality (IQ) In E-Commerce Consumers Purchase Decision

In this section, researcher planned to investigate how many respondents in the research those will agree or support for each proposed sources of information quality (IQ). Hence, there are a total of 12 questions will be asking in the questionnaire for each proposed sources and each of the questions is constructed in form of Likert scale in which the available questions will be ranging from 1-strongly disagree to 5-strongly agree. While, the result of findings were analyzed through normal distribution which is an analysis method to express the features for a variable interval scale through a measure of mean score that contributed by all respondents and determine the degree of agreement for each proposed sources of information quality, there are verbal information, nonverbal information and decision support tools.

Calculation of range of mean:

$$\frac{\text{Highest Scale} - \text{Lowest Scale}}{3} = \frac{5 - 1}{3}$$

$$= 1.333$$

Range of mean in the variable:

Table 4.8: Range of mean score

Mean Score	Degree of Agreement
1 – 1.333	Low Score
1.334 – 2.667	Moderate Score
2.668 – 5	High Score

Table 4.8 above shown the guideline to interpret the degree of agreement based on the mean score from the questionnaire.

4.5.1 Degree of Agreement on Verbal Information enable the E-Commerce Consumers Purchase Decision

Table 4.9: Result of normal distribution on verbal information

Statistics

		Verbal Information
N	Valid	200
	Missing	0
Mean		4.2738
Median		4.2500
Mode		4.25

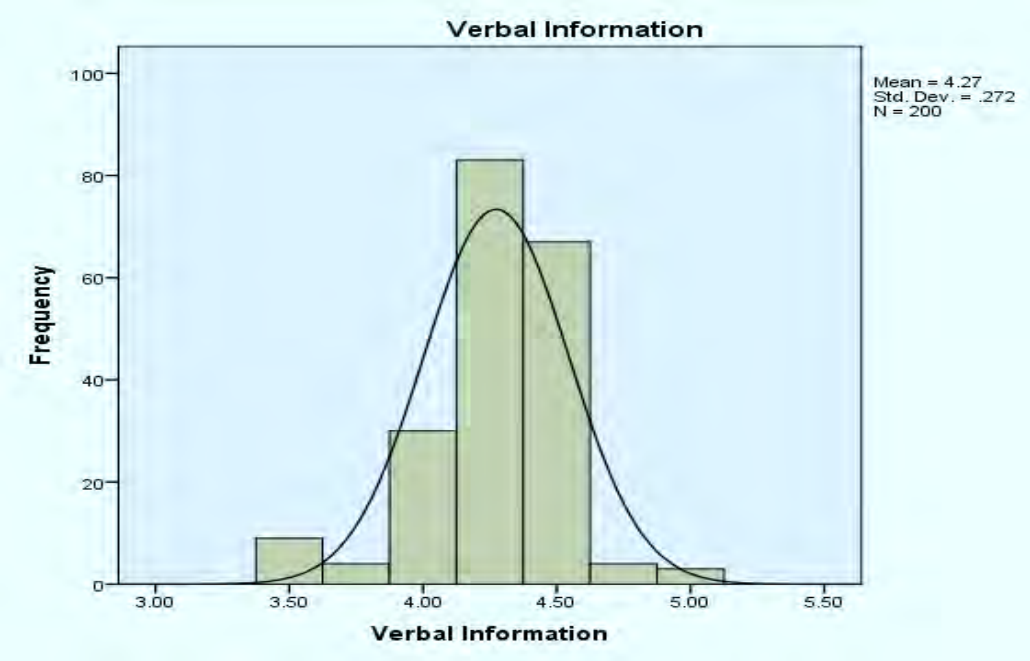

Figure 4.6: Histogram of number of agreement among respondents on verbal information

This part revealed the degree of agreement on verbal information is enable e-commerce consumers purchase decision. The figure 4.6 shown the number of agreement among respondent for verbal information based on Likert scale. While, the mean score for this independent variable is 4.2738, when refers to table 4.8 it is considered as high score which implied that the variable is supported by majority of respondents of the research.

4.5.2 Degree of Agreement on Nonverbal Information enable the E-Commerce Consumers Purchase Decision

Table 4.10: Result of normal distribution on nonverbal information

Statistics

		Nonverbal Information
N	Valid	200
	Missing	0
Mean		4.2463
Median		4.2500
Mode		4.25

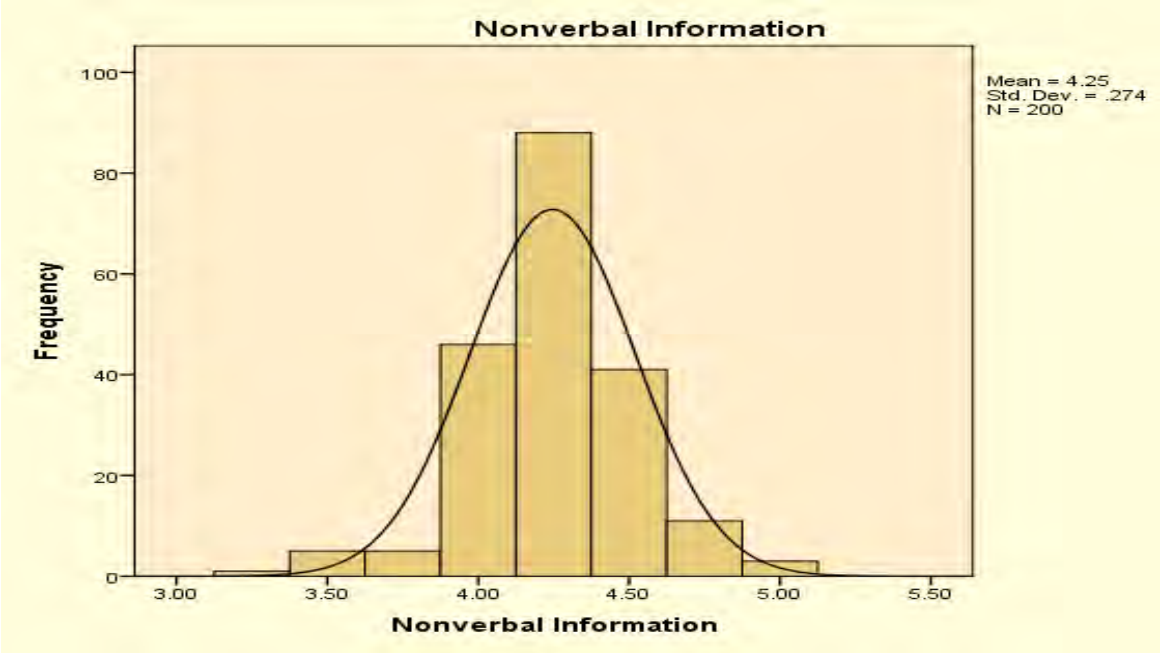

Figure 4.7: Histogram of number of agreement among respondents on nonverbal information

This section described the degree of agreement on nonverbal information is enable e-commerce consumers purchase decision. Figure 4.7 reviewed the number of agreement among respondents on nonverbal information and the table 4.10 shown that the mean score for nonverbal information is 4.2463 which also considered as high degree of agreement.

4.5.3 Degree of Agreement on Decision Support Tools enable the E-Commerce Consumers Purchase Decision

Table 4.11: Result of normal distribution on decision support tools

Statistics

		Nonverbal Information
N	Valid	200
	Missing	0
Mean		4.1750
Median		4.2500
Mode		4.25

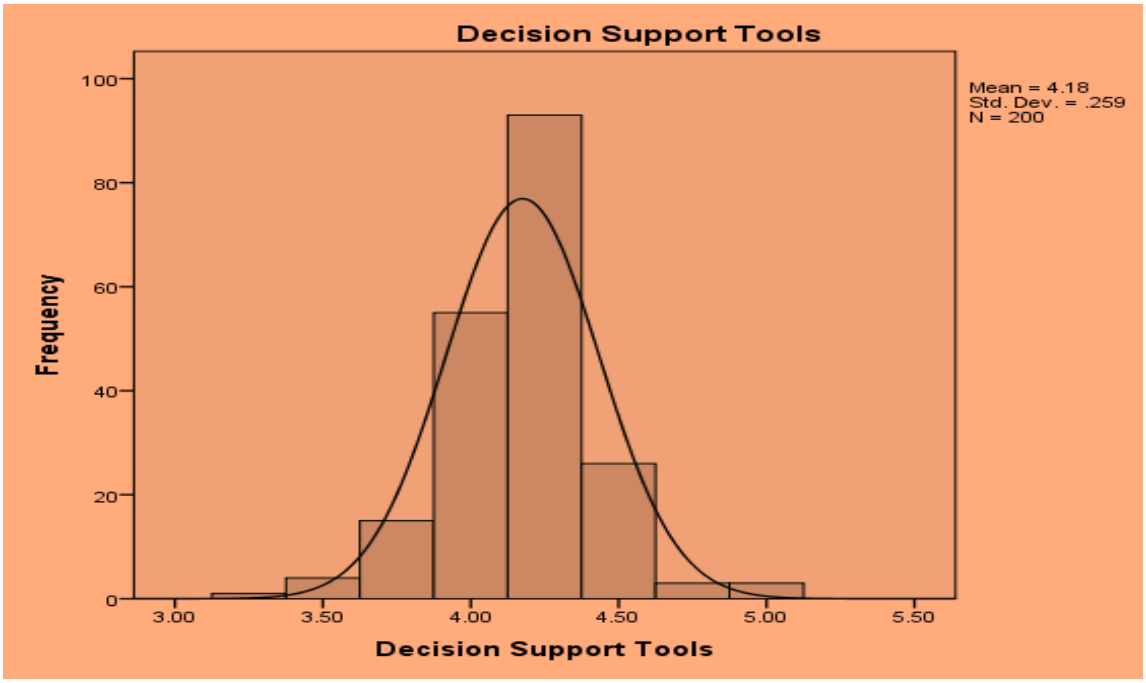

Figure 4.8: Histogram of number of agreement among respondents on decision support tools

Based on the figure 4.8, it represented the number of agreement among respondents on decision support tools. Meanwhile, the mean score that was shown in table 11 is 4.1750 which is indicated that there were also a high degree of agreement among the respondents for e-commerce consumers purchase decision can be affected by the used of decision support tools.

4.5.4 Summary of Mean Score for each Proposed Sources of Information Quality

Table 4.12: Summary of mean score for each proposed sources

Sources of Information Quality (IQ)	Mean Score	Result
Verbal Information	4.2738	Supported
Nonverbal Information	4.2463	Supported
Decision Support Tools	4.1750	Supported

Table 4.12 above shown the summarized result of mean score for each proposed sources of information quality (IQ) that supportive by the respondents of the research. While, according to the result above, each proposed sources is supported by the majority of the respondents, it is because the mean score for each proposed sources is more than 4 or above. Thus, researcher can concluded that the verbal information, nonverbal information and decision support tools are the main sources of information quality (IQ) that were enable in e-commerce consumers purchase decision and its result is supported by the majority respondents in the research.

4.6 Inferential Statistic

Inferential statistics are techniques that allow researcher to use these samples to make generalizations about the populations from which the samples were drawn. Inferential statistic is concerned about making prediction, decision inferences and expectation regarding to the characteristic of a population based on the data obtained from the observation and analysis of sample. It is, therefore, important that the sample accurately represents the population. The process of achieving this is called sampling. A sampling is refers as a group of sample that will be chosen to represented the whole population in order to carry out a research study (Leardstatistic, 2013).

In this research, the correlation analysis is adopted to define the strength of the relationship between several variables. While, there are three independent variables in this research, and then the three independent variables will be influenced by the three individual factors such as gender, age and living environment toward dependent variable. It means that there are three aspects of variables in the relationship, to test how the individual factors acted as a moderating role to influence the independent variables on the dependent variable.

Correlation analysis is used to explain the strength and direction of the linear relationship between several variables. There are a number of different statistics available from SPSS, depending on the level of measurement and the nature of data. In this section, researcher interpreted the data by using Pearson correlation coefficient (r) for two group.

Pearson correlation coefficients (r) can take on values from –1 to +1. The sign out the front indicates whether there is a positive correlation as one variable increases, so too does the other. While, for a negative correlation it's result as one variable increases, the other variable will decreases. The size of the absolute value provides an indication of the strength of the relationship. A perfect correlation of 1 or –1 indicates that the value of one variable can be determined exactly by knowing the value on the other variable.

4.6.1 Pearson Correlation Coefficients between each variables against gender

4.6.1.1 Perception of male respondent on the relationship between independent variables and dependent variable.

Table 4.13: Correlation coefficient between each variable against male respondents.

Gender	Independent Variables	Number of cases, N	Pearson Correlation (r): E-commerce Consumers Purchase Decision
Male	Verbal Information	95	0.812**
	Nonverbal Information	95	0.812**
	Decision Support Tool	95	0.821**

Based on the table 4.13 above, it shown the results of Pearson correlation coefficients between each pair of variables listed, the significance level and the number of cases according to the perception of the gender, it is male. While, the results for Pearson correlation are shown in the section headed Pearson Correlation (r) e-commerce consumers purchase decision.

According to SPSS Survival Manual constructed by Julie (2011), there are three things need to be check in order to interpret the data from the correlation coefficient's table.

The first thing that the researcher need to look in the table labelled Correlations is the number of cases, N. The researcher must check the number of cases to define whether there are a lot of missing data, if the missing data is occurred the researcher must identify the reason of why the missing data will happen. While, according to the table above, it shown a well full data in each number of cases with 95 of male respondents, it means that has no missing data occurred in each pair of variables listed.

The second thing to consider is the direction of the relationship between variables. The researcher need to define that whether there are negative sign in front of the correlation coefficient value. If there is, this means there is a negative correlation between

the two variables, when high scores on one are associated then will be a low scores on the other side. The interpretation of this depends on the way the variables are scored. While, based on the result of the research, there shown a positive sign for each correlation coefficient values, it indicated that male respondents perceived there are positive correlation between all independent variables with the dependent variable, it means that when an independent variable increases, the dependent variable also increases.

In addition, the third thing to consider in the results is the size of the correlation coefficient's value. The value of correlation coefficient can ranged from –1.00 to 1.00. This value will indicate the strength of the relationship between independent variables and dependent variable. A value of correlation with 0, it indicated no relationship at all between the variables, then if a value of correlation with 1.0 that indicated a perfect positive correlation, and a value of –1.0 that will indicates a perfect negative correlation.

Furthermore, Cohen (1988) suggested that a way to interpret the value of correlation coefficient, if the Correlation Coefficient's value, (r) is between 0.10 to 0.29 that is considered as low relationship between two variables, and if the value, r is between 0.30 to 0.49 can considered as medium relationship then if r is 0.50 or above is considered as strong relationship between two variables.

Cohen (1988) suggests the following guidelines:

Table 4.14: The Strength of Relationship of Correlation Coefficient's value, r.

Correlation Coefficient's Value, r	Strength of Relationship
0.10 to 0.29	Low
0.30 to 0.49	Medium
0.5 and above	Strong

Based on the data presented in table 4.13, it shown the male respondents perceived that there are two independent variables had achieved a same level of relationship with dependent variable. The two independent variables are verbal information and nonverbal information, which is about 0.812 value of r for both variables. This results indicated that the both variables had the positive strong relationship with dependent variable (E-commerce Consumers Purchase Decision). While, for the last independent variable which is decision support tools and it had contributed the highest value of r, it is about 0.821. This means that the male respondents are perceived that decision support tools has the strongest relationship with e-commerce consumers purchase decision.

Since the three independent variables achieved positive strong relationship with dependent variable, the researcher may concluded that the majority of male respondents agreed that there are strong relationship between Information Quality (IQ) and E-commerce Consumer's Purchase Decision.

4.6.1.2 Perception of female respondent on the relationship between independent variables and dependent variable.

Table 4.15: Correlation coefficient between each variable against female respondents.

Gender	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
Female	Verbal Information	105	0.679**
	Nonverbal Information	105	0.748**
	Decision Support Tool	105	0.642**

Based on the table 4.15 above, it shown the results of Pearson correlation coefficients between each pair of variables that perceived by female respondents. The total number of respondents for female is 105 people. Refer back to the correlation table above, each number of cases that perceived by female respondents is presented 105, then it means that there are no missing data occurred from the results of the table.

Moreover, for the direction of relationship between independent variables and dependent variable, all the correlation coefficient's value, r that were shown in the table presented a positive relationship between each pair of variables.

Furthermore, for the strength of relationship between independent variables and dependent variable, the table of correlation that perceived by female respondents shown that there were a positive strong correlation relationship between each pair of variables. It was observed that the Pearson Correlation value, r between verbal information with the e-commerce consumer's purchase decision was 0.679, which indicated that there is a strong relationship between those two variables. Meanwhile, the value, r between nonverbal information with e-commerce consumer's purchase decision was the highest at 0.748, which implies that the relationship between both two variables are strong in determining each other. In addition, the decision support tools provided the r value of Pearson Correlation Coefficient at 0.642, which proved that the relationship between two variables is moderate-strong.

In summary of influences of gender toward relationship between IVs and DV:

In conclusion, the researcher can concluded that the individual factor of gender can influences the relationship of Information Quality (IQ) toward E-Commerce Consumer's Purchase Decision. It is because the both gender, male and female respondents presented the different results in the comparison of each pairs of variables and it indicated that the gender can affect the strength of relationship between both two independent variables and dependent variable.

4.6.2 Pearson Correlation Coefficients between each variables against age.

4.6.2.1 Perception of respondents with below 17 years old on the relationship between independent variables and dependent variable.

Table 4.16: Correlation coefficient between each variable by respondents below 17 years old.

Age	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
Below 17 Years old	Verbal Information	25	0.865**
	Nonverbal Information	25	0.830**
	Decision Support Tool	25	0.731**

Table 4.16 presented the Correlation coefficient between independent variables and dependent variable based on the perception of the respondents below 17 years old. The total number of cases that conducted by the respondents below 17 years old is 25, then it means that is no missing number occurred from each pairs of the variables in the research.

Moreover, the correlation table shown that there are positive sign in front of the value of Pearson Correlation. This means that each pair of the variables has positive relationship between both variables, when a high score in an independent variable then there also will be a high score in the dependent variable.

Furthermore, respondents below 17 years old perceived that the verbal information and nonverbal information both have the extremely strong relationship with the e-commerce consumers purchase decision. The values of Correlation Coefficient are 0.865 and 0.830 respectively. Lastly, for the decision support tool toward e-commerce consumers purchase decision, the Correlation Coefficient's value slightly reduced when comparing with others two independent variables, it is about 0.731 and it also presented a strong relationship between the independent variables and dependent variable.

4.6.2.2 Perception of respondents with 17 to 26 years old on the relationship between independent variables and dependent variable.

Table 4.17: Correlation coefficient between variables by respondents17 to 26 years old.

Age	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
17 to 26 Years old	Verbal Information	117	0.715**
	Nonverbal Information	117	0.752**
	Decision Support Tool	117	0.725**

Table 4.17 above shown that the Correlation coefficient between independent variables and dependent variable based on the perception of the respondents between 17 to 26 years old.

Based on the data presented in table 4.17, there are no missing data occurred in each pair of the independent variables and dependent variable, each number of case matched with the total number of respondents, it is totally 117 respondents between 17 to 26 years old.

In addition, every value of Correlation Coefficient shown in the table 7 presented positive sign for each pair of variables. This means that there are positive relationship between both two independent variables and dependent variables.

Meanwhile, for the strength of the relationship between independent variables and dependent variables, the respondents between 17 to 26 years old perceived that the strongest relationship on nonverbal information toward e-commerce consumer purchase decision, which is about 0.752 value of correlation. While, the next is followed by decision support tools with the Correlation Coefficient value about 0.725. And the last is the verbal information which also contributed a strong relationship on the e-commerce consumer purchase decision, it is about 0.715 value of correlation.

4.6.2.3 Perception of respondents with 27 to 36 years old on the relationship between independent variables and dependent variable.

Table 4.18: Correlation coefficient between variables by respondents 27 to 36 years old.

Age	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
27 to 36 Years old	Verbal Information	19	0.707**
	Nonverbal Information	19	0.829**
	Decision Support Tool	19	0.836**

Based on the data presented in table 4.18, the total number of cases that conducted by the respondents between 27 to 36 years old is 19, it means that is no missing number occurred from each pairs of the variables in the research.

Moreover, the correlation table shown that there are positive sign in front of the value of Pearson Correlation. This means that each pair of the variables has positive relationship between both variables, when a high score in an independent variable then there also will be a high score in the dependent variable.

Furthermore, respondents between 27 to 36 years old revealed that the decision support tools has the extremely strongest relationship with the e-commerce consumers purchase decision which is about 0.836 value of correlation, it means that is close related to each other. While, the next is followed nonverbal information which is about 0.829 toward e-commerce consumers purchase decision, the Correlation Coefficient's value is shown that there are also extremely strong relationship between the dependent variable. And the last is the verbal information which is contributed about 0,707 value of correlation that is considered as strong relationship between independent variable and dependent variable.

4.6.2.4 Perception of respondents with 37 years old and above on the relationship between independent variables and dependent variable.

Table 4.19: Correlation coefficient between each variable by respondents 37 years old and above.

Age	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
37 Years Old and Above	Verbal Information	39	0.753**
	Nonverbal Information	39	0.750**
	Decision Support Tool	39	0.776**

Based on the data presented in table 4.19, there are no missing data occurred in each pair of the independent variables and dependent variable, each number of case matched with the total number of respondents, it is totally 39 respondents 37 years old and above.

In addition, each value of Correlation Coefficient shown in the table 19 presented positive sign for each pair of variables. It means that there are positive relationship between both two independent variables and dependent variables that is perceived by the respondents 37 years old and above.

Furthermore, for the strength of the relationship between independent variables and dependent variables, the respondents 37 years old and above sensed that the strongest relationship between both variables is decision support tools toward e-commerce consumer purchase decision, which is about 0.776 value of correlation. While, the next is followed by verbal information with the Correlation Coefficient value is about 0.753. And the last is the nonverbal information with a slightly reduction which is also contributed a strong relationship on the e-commerce consumer purchase decision, it is about 0.750 value of correlation.

In summary of influences of age toward relationship between IVs and DV:

In conclusion, the individual factor of age is able to influences the relationship of Information Quality (IQ) toward E-Commerce Consumer's Purchase Decision. It is because each range of age that used by the researcher had presented a different results in the comparison of each pairs of variables and the different between the range of the age can affect the strength of relationship between both two independent variables and dependent variable.

4.6.3 Pearson Correlation Coefficients between each variables against living environment.

4.6.3.1 Perception of respondents who live in urban area on the relationship between independent variables and dependent variable.

Table 4.20: Correlation coefficient between each variable by respondents who live in urban area.

Living Environment	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
Urban Area	Verbal Information	78	0.705**
	Nonverbal Information	78	0.701**
	Decision Support Tool	78	0.633**

The table 4.20 above shown the result of Correlation Coefficient between each variables according to the respondents who live in the urban area.

Based on the data presented in the table, the number of cases are perfectly matched with the total number of respondents who live in urban area, which is about 78 of respondents. While, by this result, the researcher can declared that is no missing data occurred for this research analysis.

Besides, the correlation table shown that there are no negative sign in front of the value of Pearson Correlation. This means that each pair of the variables has positive relationship between both variables, when a high score in an independent variable then there also will be a high score in the dependent variable.

Meanwhile, the majority of respondents who live in urban area sensed that the verbal information has the largest relationship toward e-commerce consumers purchase decision when comparing to others two which is about 0.705 value of correlation. And it closely followed by the nonverbal information which is about 0.701 value of correlation and that also can be considered as a strong relationship with the dependent variable. Lastly,

the respondents revealed that the decision support tool is a good method in comparison among several alternative, it is contributed 0.633 value of correlation and it has a moderate-strong relationship between that independent variable and dependent variable.

4.6.3.2 Perception of respondents who live in rural area on the relationship between independent variables and dependent variable.

Table 4.21: Correlation coefficient between each variable by respondents who live in rural area

Living Environment	Independent Variables	Number of cases, N	Pearson Correlation: E-commerce Consumers Purchase Decision
Rural Area	Verbal Information	122	0.772**
	Nonverbal Information	122	0.820**
	Decision Support Tool	122	0.783**

Based on the table 4.21 above, it shown the results of Pearson correlation coefficients that perceived by the respondents who live in rural area. The total number of respondents who live in rural area is 122 people. While, each number of cases that presented in the correlation table shown that perfect matched with the total number of respondents. Then, it means that there are no missing data occurred from the results of the table. Moreover, for the direction of relationship between independent variables and dependent variable, all the correlation coefficient's value, r that shown in the table presented a positive relationship between both independent variables and dependent variable.

In addition, for the strength of relationship between independent variables and dependent variable, the table of correlation that sensed by the respondents who live in rural area shown that there were a positive strong correlation relationship between each pair of variables. It was observed that the Pearson Correlation value, r between nonverbal

information with the online purchase decision has the highest score of r that is about 0.820, which indicated that there is an extremely strong relationship between those two variables in determining each other. Meanwhile, the value, r between decision support tools with online purchase decision was the second highest at 0.783, which implies that the relationship between both two variables are strong. Furthermore, the verbal information and online purchase decision contributed a Pearson Correlation Coefficient of 0.772, which proves that the relationship between two variables is strong too.

In summary of influences of living environment toward relationship between IVs and DV:

In conclusion, the individual factor of living environment can influences the relationship of Information Quality (IQ) toward E-Commerce Consumer's Purchase Decision. It is because the respondents who live in different environment may presented a different results in the comparison of each pairs of variables and the living environment factor may affect the strength of relationship between both two independent variables and dependent variable.

4.6.4 Summaries of Individual Factors influence the relationship between Information Quality (IQ) and E-commerce Consumers Purchase Decision.

Table 4.22: Results of factor of gender on the relationship between IVs and DV.

Independent Variables to E-commerce Consumers Purchase Decision	Pearson Correlation: Gender		Average of Pearson Correlation:	Result on E-commerce Consumers Purchase Decision
	Male	Female		
Verbal Information	0.812**	0.679**	0.746	Affected
Nonverbal Information	0.812**	0.748**	0.780	Affected
Decision Support Tool	0.821**	0.642**	0.732	Affected

Table 4.23: Results of factor of age on the relationship between IVs and DV.

Independent Variables to E-commerce Consumers Purchase Decision	Pearson Correlation: Age				Average of Pearson Correlation:	Result on E-commerce Consumers Purchase Decision
	Below 17 Years old	17 to 26 Years old	27 to 36 Years old	37 Years old and above		
Verbal Information	0.865**	0.715**	0.707**	0.753**	0.760	Affected
Nonverbal Information	0.830**	0.752**	0.829**	0.776**	0.797	Affected
Decision Support Tool	0.731**	0.725**	0.836**	0.750**	0.761	Affected

Table 4.24: Results of living environment factors on the relationship between variables

Independent Variables to E-commerce Consumers Purchase Decision	Pearson Correlation: Living Environment		Average of Pearson Correlation:	Result on E-commerce Consumers Purchase Decision
	Urban Area	Rural Area		
Verbal Information	0.705**	0.772**	0.739	Affected
Nonverbal Information	0.701**	0.820**	0.761	Affected
Decision Support Tool	0.633**	0.783**	0.708	Affected

According to table 4.22, 4.23, and 4.24, it shown the summaries of correlation results. While, the result had proved that the second research objective is achieved. It is because there are interrelationship between the individual factors to sources of information quality and e-commerce consumers purchase decision, it presented that all individual factors had affected on the relationship between each independent variables with dependent variable.

4.7 Hypothesis Testing

Hypothesis testing is one of the method that used to test a claim or a hypothesis that had been constructed in the earlier stage of the research by using the data in the sample research. While, in this research, all of the hypothesis that had been discussed in earlier stage is tested by using one of the statistical approach that called multiple regression. Multiple regression can be used to address a variety of research questions. It can describes how well a set of variables is able to predict a particular outcome and it able to test whether a hypothesis can be accepted or neglected (Julie, 2011).

4.7.1 Hypothesis 1 (H1): Gender may affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

Table 4.25: Multiple regression between information quality and e commerce consumers purchase decision against gender.

Hypothesis Testing	Elements	R Square	ANOVA. Sig, (p)	Result
Gender may affect the impacts of information quality (IQ) toward E-commerce consumers purchase decision.	Male	0.827	0.00	Accepted
	Female	0.739	0.00	Accepted

In this section, researcher used a statistical approach that called multiple regression to test the hypothesis 1. The multiple regression is done between the e-commerce consumers purchase decision and the three independent variables which are the sources of information quality (IQ) regarding to the gender. Table 4.25 above presented the results of the multiple regression analysis which is discovered that the individual factor of gender brings a significant impact to the relationship between sources of information quality (IQ) with e-commerce consumers purchase decision.

According to the table 4.25, the model summary shown that the value of R square for male respondents is about 0.827 which indicated that 82.7% of e-commerce consumers purchase decision was explained by the sources of information quality (IQ) which is supported by the male respondents. On the other hand, the R square for female respondents is 0.739 which revealed that 73.9% of e-commerce consumers purchase decision was explained by the sources of information quality (IQ) which is commended by the female respondents.

While, the ANOVA table shown that the significant of p value for both gender were $p < 0.00$, this means that the null hypothesis was rejected and the alternative hypothesis, H1 is accepted. Hence, this result of regression proved the researcher's hypothesis 1 in which the gender may significantly affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

Table 4.26: Coefficient of gender for each independent variables.

Gender	Independent Variables	Unstandardized Coefficient, B
Male	Constant	0.154
	Verbal Information	0.291
	Nonverbal Information	0.298
	Decision Support Tool	0.388
Female	Constant	0.160
	Verbal Information	0.335
	Nonverbal Information	0.370
	Decision Support Tool	0.265

In addition, table 4.26 presented that the value of coefficient for each independent variable against both gender. The value of coefficient, B will be used to construct a multiple regression's equation for predicting the dependent variable from independent variables. The equation can be in this form [y = a + bx1+ cx2+dx3] and it can be shown as:

Male:

[E-commerce consumers purchase decision = 0. 154 + 0.291 Verbal information + 0.298 Nonverbal information + 0. 388 Decision support tools]

Female:

[E-commerce consumers purchase decision = 0. 160 + 0.335 Verbal information + 0.370 Nonverbal information + 0. 265 Decision support tools]

Based on the equation of multiple regression for male respondents, it shown that each independent variables presented a positive impact to the e-commerce consumers purchase decision. This means that every unit increase in any sources of information quality that will give a positive influence to the e-commerce consumers purchase decision. Meanwhile, the highest impact of the independent variable is decision support tools which is 0.388 and then followed by nonverbal information and verbal information which is about 0. 298 and 0.291 respectively.

On the other hand, the equation for female respondents, it also presented that all independent variables have a positive impact to the e-commerce consumers purchase decision. While, the nonverbal information has the largest contribution to the dependent variable which is about 0.370. And the second bigger partial contributed by verbal information that is about 0.335 and the last is decision support tools which is about 0.265.

In summary of influences of gender on impact of IVs toward DV:

Hence, based on the both equation of multiple regression for male and female respondents, the researcher can conclude that the individual factor of gender will influence the impact of each independent variables toward dependent variable. It is because the equation for both gender presented the different figures for each independent variable in which the figures may produce a different result.

4.6.2 Hypothesis 2 (H2): Age may affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

Table 4.27: Multiple regression between information quality and e-commerce consumers purchase decision against age of respondents.

Hypothesis Testing	Elements	R Square	ANOVA. Sig, (p)	Result
Age may affect the impacts of information quality (IQ) toward E-commerce consumers purchase decision.	Below 17 years old	0.856	0.00	Accepted
	17 to 26 years old	0.756	0.00	Accepted
	27 to 36 years old	0.841	0.00	Accepted
	37 years old and above	0.809	0.00	Accepted

Table 4.27 above presented the results of the multiple regression analysis which is discovered that the individual factor of age brings a significant impact to the relationship between sources of information quality (IQ) with e-commerce consumers purchase decision.

The model summary from table 4.27 shown that the value of R square from each group of age in the research, there are below 17 years old, 17 to 26 years old, 27 to 36 years old and 37 years old or above. While, the value of R square for each group of age are 0.856, 0.756, 0.841 and 0.809 respectively. The highest value of R square was between the ages below 17 years old which indicated that 85.6% of e-commerce consumers purchase decision is explained by the sources of information quality (IQ) which is commended by the group. And the least value of R square was the group between 17 to 26 years old, it is about 0.756 which represented that the sources of information quality (IQ) contributed around 75.6% on e-commerce consumers purchase decision.

Meanwhile, the data presented in ANOVA table shown that the significant of F value for each group of age was $p < 0.00$, it means that the researcher has to rejects null hypothesis and the alternative hypothesis, H2 is accepted. By the way, this result of regression proved the hypothesis 2 of this study in which the age may significantly affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

Table 4.28: Coefficient of group of age for each independent variables.

Age	Independent Variables	Unstandardized Coefficient, B
Below 17Years old	Constant	-0.122
	Verbal Information	0.553
	Nonverbal Information	0.258
	Decision Support Tool	0.239
17 to 26 Years old	Constant	0.203
	Verbal Information	0.274
	Nonverbal Information	0.370
	Decision Support Tool	0.316
27 to 36 Years old	Constant	0.487
	Verbal Information	0.271
	Nonverbal Information	0.281
	Decision Support Tool	0.348
37Years old and above	Constant	-0.226
	Verbal Information	0.332
	Nonverbal Information	0.269
	Decision Support Tool	0.464

Hence, the multiple regression's equation [y = a + bx1+ cx2+dx3] for predicting the dependent variable from independent variables regarding to group of age can be shown as:

Below 17 years old:

[E-commerce consumers purchase decision = - 0. 122 + 0.553 Verbal information + 0.258 Nonverbal information + 0. 239 Decision support tools]

17 to 26 years old:

[E-commerce consumers purchase decision = 0. 203 + 0.274 Verbal information + 0.370 Nonverbal information + 0. 316 Decision support tools]

27 to 36 years old:

[E-commerce consumers purchase decision = 0. 487 + 0.271 Verbal information + 0.281 Nonverbal information + 0. 348 Decision support tools]

37 years old and above:

[E-commerce consumers purchase decision = - 0. 226 + 0.332 Verbal information + 0.269 Nonverbal information + 0. 464 Decision support tools]

Based on the equations above, these shown the strength of impacts of each independent variable toward dependent variable that perceived by each group of ages. While, each equation above presented that all independent variables have a positive impact on the e-commerce consumers purchase decision. For the age's group that below 17 years old, they sensed that verbal information is the independent variable that contribute a largest impact to the e-commerce consumers purchase decision which is 0.553 value of coefficient. And it followed by decision support tools and then nonverbal information.

In addition, for the age's group between 17 to 26 years old, nonverbal information has the highest impact on the e-commerce consumers purchase decision, it is about 0.370 value of coefficient. Then, the second highest of independent variable is decision support tools with the coefficient's value at 0.316 and the last is verbal information which is about 0.274 value of coefficient.

Moreover, the age's group within 27 to 36 years old perceived that decision support tools is the most contributed variable to e-commerce consumers purchase decision, it is about 0.348. And then it followed by nonverbal information and verbal information in which the value of coefficients are 0.281 and 0.271 respectively.

Lastly, the group of 37 years old and above sensed that the decision support tools has the largest impact to the dependent variable which is about 0.464 value of coefficient in determine the degree of e-commerce consumers purchase decision. And the second largest impact of independent variable is verbal information and its value of coefficient is about 0.332. Then, the least impact of independent variable is nonverbal information, it is about 0.269 value of coefficient.

In summary, influences of age on the impact of IVs toward DV:

While, based on those equations of multiple regression for different groups of age, the researcher can conclude that the individual factor of age will influence the impact of each independent variables toward dependent variable. It is because the equations for the different groups of age presented the different figures for each independent variable in which the figures may produce a different result.

4.6.3 Hypothesis 3 (H3): Living environment may affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

Table 4.29: Multiple regression between information quality and e-commerce consumers purchase decision against living environment of respondents.

Hypothesis Testing	Elements	R Square	ANOVA. Sig, (p)	Result
Living environments may affect the impacts of information quality (IQ) toward E-commerce consumers purchase decision	Urban Area	0.712	0.00	Accepted
	Rural Area	0.818	0.00	Accepted

Table 4.29 above shown that the data of the multiple regression analysis which is revealed that the individual factor of living environment has a significant impact to the relationship between sources of information quality (IQ) with e-commerce consumers purchase decision.

The value of R square for the respondents who live in urban area is about 0.712 which indicated that almost 71.2% of e-commerce consumers purchase decision is explained by the sources of information quality (IQ). While, the respondents who live in rural area have achieved a higher result which is about 0.818 that indicated almost 81.8 % of e-commerce consumers purchase decision is explained by the sources of information quality (IQ).

In addition, the ANOVA table shown that the significant of p for respondents with both living environment were $p < 0.00$, this means that the null hypothesis was rejected and the alternative hypothesis, H3 is accepted. Hence, this result of regression proved the researcher's hypothesis 3 in which the living environment has significantly affect the impacts of information quality (IQ) toward e-commerce consumers purchase decision.

Table 4.30: Coefficient of living environment for each independent variables.

Living Environment	Independent Variables	Unstandardized Coefficient, B
Urban Area	Constant	0.274
	Verbal Information	0.352
	Nonverbal Information	0.309
	Decision Support Tool	0.287
Rural Area	Constant	0.118
	Verbal Information	0.303
	Nonverbal Information	0.350
	Decision Support Tool	0.327

Furthermore, table 4.30 above presented that the value of coefficient for each independent variable against the factor of living environments, which are urban area and rural area. While, the value of coefficient, B will be used to construct a multiple regression's equation for predicting the dependent variable from independent variables. The equation can be in this form [y = a + bx1+ cx2+dx3] and it can be shown as:

Urban Area:

[E-commerce consumers purchase decision = 0. 274 + 0.352 Verbal information + 0.309 Nonverbal information + 0. 287 Decision support tools]

Rural Area:

[E-commerce consumers purchase decision = 0. 118 + 0.303 Verbal information + 0.350 Nonverbal information + 0. 327 Decision support tools]

Based on the equation of multiple regression for the respondents who live in urban area, it shown that each independent variables presented a positive impact to the e-commerce consumers purchase decision. This means that every unit increase in any sources of information quality that will give a positive influence to the e-commerce

consumers purchase decision. Meanwhile, the highest impact of the independent variable is verbal information which is 0.352 and then followed by nonverbal information and decision support tool which is about 0. 309 and 0.287 respectively.

On the other hand, the equation for the respondents who live in rural area and it also presented that all independent variables have a positive impact to the e-commerce consumers purchase decision. While, the nonverbal information has the largest contribution to the dependent variable which is about 0.350. And the second bigger partial contributed by decision support tools that is about 0.327 and the last is verbal information which is about 0.303.

In summary of influences of living environment on the impact of IVs toward DV:

Hence, based on the both equations of multiple regression for urban area and rural respondents, the researcher can conclude that the individual factor of living environment will influence the impact of each independent variables toward dependent variable. It is because the equation for both living environment shown the different numbers in coefficient for each independent variable in which the numbers may cause a different result of the e-commerce consumers purchase decision.

4.6.4 Summary of hypothesis testing results for each independent variable

Table 4.31: Summary of hypothesis testing result.

Hypothesis Testing		Elements	ANOVA. Sig, (p)	Result
H1	Gender may affect the impacts of information quality (IQ) toward E-commerce consumers purchase decision.	Male	p< 0.00	Value of p less than 0.05, hypothesis 1 is accepted.
		Female	p< 0.00	
H2	Age may affect the impacts of information quality (IQ) toward E-commerce consumers purchase decision.	Below 17 years old	p< 0.00	Value of p less than 0.05, hypothesis 2 is Accepted
		17 to 26 years old	p< 0.00	
		27 to 36 years old	p< 0.00	
		37 years old and above	p< 0.00	
H3	Living environments may affect the impacts of information quality (IQ) toward E-commerce consumers purchase decision	Urban Area	p< 0.00	Value of p less than 0.05, hypothesis 3 is Accepted
		Rural Area	p< 0.00	

Table 4.31 above shown the summary of results and findings from the hypothesis testing based on the three individual factors influence the impacts of the sources of information quality toward e-commerce consumers purchase decision. This result is important because it may help the researcher to answer the third research objective in where to investigate individual factors affect the impacts of information quality (IQ) on e-commence consumer's purchase decisions.

CHAPTER 5

DISCUSSION OF FINDING AND CONCLUSION

5.1 Introduction

In this chapter, researcher had interpreted the results and findings in the chapter 4 and discussed deeply in determining the moderating role of information quality (IQ) in enabling e-commerce consumers purchase decision. While, the purpose of this research was to clarify and investigate the moderating individual factors in where how these factors will influence the impacts of the sources of information quality (IQ) toward e-commerce consumers purchase decision. Therefore, this chapter will specifically addressed the objectives and hypothesis as explained in the earlier chapter. Based on the results and findings from chapter 4, it was proved that there are high relationship and significant impacts of the independent variables which are the sources of information quality (IQ) to the e-commerce consumers purchase decision can be influenced by the individual factors, there are gender, age and living environments. Meanwhile, this chapter was divided into three main subtopic which are discussion of findings, conclusion and recommendation. While, for the sections of the findings, researcher had explained how the research objectives were achieved based on the results in the chapter 4.

5.2 Discussion of Findings

In this section, researcher had divided the discussion of findings into four main parts. First, the discussion focused on the demographic profile of the respondents in order to explain the background details and individual factors of the respondents in the research.

Second, the discussion based on the first objective of the research in which to identify the sources of information quality (IQ) in e-commerce. The purpose of this objective is aim to define which alternatives that the majority of respondents perceived or chose among the sources of information quality (IQ).

Third, the discussion will be switched to second research objective which is to determine the interrelation between sources of information quality (IQ) and individual factors in e-commerce. In this part, researcher planned to determine how strong the relationship of individual factors with the sources of information quality (IQ) in e-commerce consumers purchase decision.

Last but not least, third research objective will be explained in the last part of discussion. The objective aims to investigate individual factors affect the impacts of information quality (IQ) on e-commence consumer's purchase decisions.

5.2.1 Demographic Profile

Demographic profile is a documentation statement that listed the personal information for each respondents of the research. Meanwhile, the demographic part of the questionnaire were used to reveal the background profile and identity of each respondents of the research. While, these sort of information were crucially importance to get a better understanding and clearer view on the targeted population.

In addition, there were a total of five questions being asked in the demographic section of the questionnaire. These demographic questions such as gender, age, living environments, involvement and frequency of use will be listed in the questionnaire. The questions in this section was in form of nominal scale which is called check boxes. While, there are the total of 200 respondents were involved in order to conducting the study of this research. The respondents of the research were those who were using internet and the questionnaires were distributed through online by sending email and posting on the social network group.

Based on the findings of the research, the results shown that the number of female respondents was exceeded the number of male respondents. It is because the figure 4.1 in chapter 4 presented that the statistics of female respondents was 52.5% which is representing about 105 respondents, on the other hand male respondents only consisted 47.5% which is about 95 respondents. While, the main reason why the number of female respondents is greater than the number of male respondents is because of the fact that majority of internet user were female and they were more often use and interesting in online shopping.

Meanwhile, the analysis of the figure 4.2 in the previous chapter presented the percentage for each group of age. The figure revealed that the highest number of the respondents of the age's group was between the 17 to 26 years old which is about 58.5% of the whole respondents, it is around117 respondents. The reason of why the group of age between 17 to 26 years old achieved the highest number in this research is because the younger today especially at the age between 17 to 26 years old are more rely on the internet application for their social life and also to communicate or interact with each other. They were using the online social network to interacting and chatting with their friends as well as sharing the information among their network group.

In addition, the figure 4.3 shown that the living environments of the respondents in the research. The researcher had categorized the living environments into two domains places which are urban area and rural area. While, the result presented that number of respondents who live in rural area was higher than the number of respondents who live in urban area. The reason for this result is because of the respondents who live in rural area are more frequent use internet for their daily life, they are live in the rural area where the places have a limited sources or information. Thus, they are often using the internet for browsing, searching as well as to gaining the information that they wanted or which cannot be found in their living environment.

Since the demographic questions had revealed the background information for each respondents in the research, those information can be used as the individual factors for further experiment in chapter 4 in order to test the interrelationship and impacts on the sources of information quality (IQ) to e-commerce consumers purchase decision.

5.2.2 First Research Objective: To Identify the Sources of Information Quality (IQ) in E-Commerce.

E-commerce involves an individual as well as organization that engaging in a variety of electronic business transactions using computer and telecommunication networks. They will provide a range of information sources regarding to their products and services in order to attract and influence the consumers to buy it (Narwal, 2014). While, this section answer and fulfill the first objectives of the research in which to identify the sources of information quality (IQ) in e-commerce.

The table 7 shown the summarized result of mean score for the degree of agreement on each proposed sources of information quality (IQ), there are verbal information, nonverbal information and decision support tools. This result is suggested based on the respondents of this research.

While, the mean scores for each proposed sources of information quality (IQ) revealed that there were high level in degree of agreement in which implies that the proposed sources of information quality such as verbal information, nonverbal information and decision support tools were strongly supported by the majority of the respondents in the research in which those variables can influenced the e-commerce consumers purchase decision.

The highest level in the degree of agreement that supported or chosen by the respondents is verbal information with the mean score about 4.2738. And then it closely followed by the nonverbal information which is about 4.2463. Last but not least, the decision support tools also highly supported by the online users in which that had contributed about 4.1750 value of mean score.

5.2.3 Second Research Objective: To Determine the Interrelation between Sources Of Information Quality (IQ) and Individual Factors in E-Commerce

In this section, researcher discussed the analyzed results on how it can answered and fulfilled the second research objective which is to determine the interrelation between sources of information quality (IQ) and individual factors in e-commerce.

In e-commerce, companies should take attention to understanding the issues that trigger consumers to make a purchase through online, affect their decision-making processes, and lead to variations in choice and process in different contexts for different individuals, are very important. As online purchase decision making is a complex phenomenon, a large number of factors have been found to be influential. Different factors have a different level of importance in affecting the e-commerce consumers purchase decision (Karimi, 2013).

According to the data presented in the table 17, 18 and 19, researcher found that the individual factors such as gender, age, and living environment, those factors had linked to the relationship between each independent variables and dependent variable. It is because the average of Pearson correlation value for each individual factors on the independent variables is greater than 0.6 which is 0.7 and above.

Thus, the researcher can concluded that the individual factors of gender, age and living environments are significantly related to the relationship between sources of information quality (IQ) with e-commerce consumers purchase decision.

5.2.4 Third Research Objective: To Investigate Individual Factors Affect the Impacts of Information Quality (IQ) on E-Commence Consumer's Purchase Decisions.

Nowadays, the internet is growing rapid and becoming accessible to everyone, there is no longer any such thing as a "typical Internet user". It is vital to identify users with similarities and segment them so that the marketing efforts can target them effectively (Klever, 2009).

In addition, retailers' knowledge which is gained from understanding particular customer profiles, enables personalization and increases the efficiency of online purchase (Zhang, 2011). Therefore, it is important for us to understand the role of individual factors in the e-commerce consumers purchase decision.

While, this part of the research, researcher discovered that how significant effect of individual factors to the impacts of information quality (IQ) on e-commerce consumers purchase decisions.

Based on the table 26, it shown the summary of hypothesis testing on each effect of individual factors for each variables. The result clearly presented that all alternative hypothesis are accepted while the null hypothesis are rejected. It is because the F value for each independent variable shown that $p < 0.000$ which the significant value was less than 0.05, hence all the null hypothesis were rejected.

Due to all alternative hypothesis were accepted, it is therefore the researcher may concluded that the individual factors such as gender, age and living environments had significantly affect the impacts of sources of information quality (IQ) toward e-commerce consumers purchase decisions.

5.3 Limitations and Recommendations

After conducted the research study, the researcher found that there are some limitations in this study that should be solved for the future research. The first limitation is about the number of individual factors that used to analyze the research study. In this research, the researcher explained only three individual factors that will influence the relationship between sources of information quality (IQ) toward e-commerce consumers purchase decisions. In order to make the result more reliable, future researchers should adopt more factors to test the consistency of the results from each individual factors.

In addition, the second limitations was related to the number of respondents for the research. In this research, the researcher collected the opinions from 200 respondents only by using online survey method. It was relatively a very small amount compared to the number of online shoppers around the Malaysia. Therefore, the future researchers should determine the proportion of population in Malaysia and then estimate the possible or suitable number of sample used in the survey. The suitable number of sampling should be adopted in the research in order to clarify that the result is strong enough to representing the whole population.

Furthermore, the last limitation was the respondents fail to understand and answer the questions. Thus, it required the researcher to providing a significant influence or storytelling to make the respondents to understand about content or the meaning of the questionnaire. While, future researcher should design the question more direct, easy to understand and more straight to the point in order to make them able to answer the questionnaire without any influences from third parties.

5.4 Conclusion

E-commerce comprises a core business process in buying and selling of goods, services and information over the internet. E-commerce has made it possible for the companies to expand their business in the form of business to business, business to customer, and so on. E-commerce has brought a change in the expectations and behavior of both firms and consumers. The power had been in the firm's hands before digital economy emerged as firms were able to sell whatever they produced. But now it is the consumers who have the power and there is a wide range of products/services diversity for them. The desired information can be reached within minutes. It has reduced economic distance between manufacturer and consumers. Now consumers are in a position to take better decision for online purchasing. The explosive growth of e-commerce and the rapidly increasing number of consumers who use interactive media for pre-purchase information search and online shopping. As the conclusion, this research exhibit evident that the sources of information quality (IQ) such as verbal information, nonverbal information and decision support tools will be the main parts that may make the consumers to buy a product or service in e-commerce and those variables will be affected by individual factors such like gender, age and living environments. Therefore, the online businesses which planned to increase their sales and improve the market share should understanding the detail and background of the consumers as well as to provide relative good information quality (IQ) to attracting them to purchase with e-commerce.

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APPENDICES

Appendix A: Frequencies Table

Notes

Output Created		15-MAY-2015 23:08:23
Comments		
Input	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	200
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=VAR00001 VAR00002 VAR00003 VAR00004 VAR00005 /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

Statistics

		Gender	Age	Living Environment	Interaction	Frequency
N	Valid	200	200	200	200	200
	Missing	0	0	0	0	0

Frequency Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	95	47.5	47.5	47.5
	Female	105	52.5	52.5	100.0
	Total	200	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 16 years old	25	12.5	12.5	12.5
	17- 26 years old	117	58.5	58.5	71.0
	27-36 years old	19	9.5	9.5	80.5
	Above 37 years old	39	19.5	19.5	100.0
	Total	200	100.0	100.0	

Living Environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban Area	78	39.0	39.0	39.0
	Rural Area	122	61.0	61.0	100.0
	Total	200	100.0	100.0	

Interaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	154	77.0	77.0	77.0
	No	46	23.0	23.0	100.0
	Total	200	100.0	100.0	

Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 5 times	47	23.5	23.5	23.5
	6 to 10 times	78	39.0	39.0	62.5
	More than 10 times	29	14.5	14.5	77.0
	Never	46	23.0	23.0	100.0
	Total	200	100.0	100.0	

Appendix B: NORMAL DISTRIBUTION STATISTICS

Statistics

		Verbal Information	Nonverbal Information	Decision Support Tools
N	Valid	200	200	200
	Missing	0	0	0
Mean		4.2738	4.2463	4.1750
Median		4.2500	4.2500	4.2500
Mode		4.25	4.25	4.25

Verbal Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.50	9	4.5	4.5	4.5
	3.75	4	2.0	2.0	6.5
	Agree	30	15.0	15.0	21.5
	4.25	83	41.5	41.5	63.0
	4.50	67	33.5	33.5	96.5
	4.75	4	2.0	2.0	98.5
	Strongly Agree	3	1.5	1.5	100.0
	Total	200	100.0	100.0	

Nonverbal Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.25	1	.5	.5	.5
	3.50	5	2.5	2.5	3.0
	3.75	5	2.5	2.5	5.5
	Agree	46	23.0	23.0	28.5
	4.25	88	44.0	44.0	72.5
	4.50	41	20.5	20.5	93.0
	4.75	11	5.5	5.5	98.5
	Strongly Agree	3	1.5	1.5	100.0
	Total	200	100.0	100.0	

Decision Support Tools

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.25	1	.5	.5	.5
	3.50	4	2.0	2.0	2.5
	3.75	15	7.5	7.5	10.0
	Agree	55	27.5	27.5	37.5
	4.25	93	46.5	46.5	84.0
	4.50	26	13.0	13.0	97.0
	4.75	3	1.5	1.5	98.5
	Strongly Agree	3	1.5	1.5	100.0
	Total	200	100.0	100.0	

Appendix C: Correlations of Gender on IVs to DV

Notes

Output Created		02-JUN-2015 15:00:46
Comments		
Input	Data	D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav
	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	Gender
	N of Rows in Working Data File	200
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=X1 X2 X3 Y5 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

[DataSet0] D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav

Correlations

Gender			Verbal Information	Nonverbal Information	Decision Support Tools	E-commerce Consumers Purchase Decision
Male	Verbal Information	Pearson Correlation	1	.736**	.698	.812**
		Sig. (2-tailed)		.000	.000	.000
		N	95	95	95	95
	Nonverbal Information	Pearson Correlation	.736**	1	.684**	.812
		Sig. (2-tailed)	.000		.000	.000
		N	95	95	95	95
	Decision Support Tools	Pearson Correlation	.698**	.684**	1**	.821**
		Sig. (2-tailed)	.000	.000		.000
		N	95	95	95	95
	E-commerce Consumers Purchase Decision	Pearson Correlation	.812**	.812**	.821**	1**
		Sig. (2-tailed)	.000	.000	.000	
		N	95	95	95	95
Female	Verbal Information	Pearson Correlation	1	.497**	.361	.679**
		Sig. (2-tailed)		.000	.000	.000
		N	105	105	105	105
	Nonverbal Information	Pearson Correlation	.497**	1	.553**	.748
		Sig. (2-tailed)	.000		.000	.000
		N	105	105	105	105
	Decision Support Tools	Pearson Correlation	.361**	.553**	1**	.642**
		Sig. (2-tailed)	.000	.000		.000
		N	105	105	105	105
	E-commerce Consumers Purchase Decision	Pearson Correlation	.679**	.748**	.642**	1**
		Sig. (2-tailed)	.000	.000	.000	
		N	105	105	105	105

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix D: Correlations of Age on IVs to DV

Notes

Output Created		02-JUN-2015 15:02:49
Comments		
Input	Data	D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav
	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	Age
	N of Rows in Working Data File	200
	Definition of Missing	User-defined missing values are treated as missing.
Missing Value Handling	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=X1 X2 X3 Y5 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.11
	Elapsed Time	00:00:00.14

[DataSet0] D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav

Correlations

Age			Verbal Information	Nonverbal Information	Decision Support Tools	E-commerce Consumers Purchase Decision
Below 17 years old	Verbal Information	Pearson Correlation	1	.721	.569	.865
		Sig. (2-tailed)		.000	.003	.000
		N	25	25	25	25
	Nonverbal Information	Pearson Correlation	.721**	1**	.758**	.830**
		Sig. (2-tailed)	.000		.000	.000
		N	25	25	25	25
	Decision Support Tools	Pearson Correlation	.569**	.758**	1**	.731**
		Sig. (2-tailed)	.003	.000		.000
		N	25	25	25	25
	E-commerce Consumers Purchase Decision	Pearson Correlation	.865**	.830**	.731**	1**
		Sig. (2-tailed)	.000	.000	.000	
		N	25	25	25	25
17 to 26 years old	Verbal Information	Pearson Correlation	1	.586	.557	.715
		Sig. (2-tailed)		.000	.000	.000
		N	117	117	117	117
	Nonverbal Information	Pearson Correlation	.586**	1**	.543**	.752**
		Sig. (2-tailed)	.000		.000	.000
		N	117	117	117	117
	Decision Support Tools	Pearson Correlation	.557**	.543**	1**	.725**
		Sig. (2-tailed)	.000	.000		.000
		N	117	117	117	117
	E-commerce Consumers Purchase Decision	Pearson Correlation	.715**	.752**	.725**	1**
		Sig. (2-tailed)	.000	.000	.000	
		N	117	117	117	117

27 to 36 years old	Verbal Information	Pearson Correlation	1	.590	.535	.707
		Sig. (2-tailed)		.008	.018	.001
		N	19	19	19	19
	Nonverbal Information	Pearson Correlation	.590**	1**	.744**	.829**
		Sig. (2-tailed)	.008		.000	.000
		N	19	19	19	19
	Decision Support Tools	Pearson Correlation	.535*	.744*	1*	.836*
		Sig. (2-tailed)	.018	.000		
		N	19	19		
	E-commerce Consumers Purchase Decision	Pearson Correlation	.707	.829	.836	1*
		Sig. (2-tailed)	.001**	.000**	.000**	
		N	19	19	19	19

Correlations

Age			Verbal Information	Nonverbal Information	Decision Support Tools	E-commerce Consumers Purchase Decision
37 years old and above	Verbal Information	Pearson Correlation	1	.632	.462	.753
		Sig. (2-tailed)		.000**	.003**	.000**
		N	39	39	39	39
	Nonverbal Information	Pearson Correlation	.632	1	.624	.776
		Sig. (2-tailed)	.000**		.000**	.000**
		N	39	39	39	39
	Decision Support Tools	Pearson Correlation	.462	.624	1	.750
		Sig. (2-tailed)	.003	.000		.000
		N	39	39	39	39
	E-commerce Consumers Purchase Decision	Pearson Correlation	.753	.776	.750	1
		Sig. (2-tailed)	.000**	.000**	.000**	
		N	39	39	39	39

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix E: Correlations of Living Environment on IVs to DV

Notes

Output Created		02-JUN-2015 15:11:48
Comments		
Input	Data	D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav
	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	LivingEnvironment
	N of Rows in Working Data File	200
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=X1 X2 X3 Y5 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.05

[DataSet0] D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav

Correlations

Living Environment			Verbal Information	Nonverbal Information	Decision Support Tools	E-commerce Consumers Purchase Decision
Urban Area	Verbal Information	Pearson Correlation	1	.536**	.415	.705**
		Sig. (2-tailed)		.000	.000	.000
		N	78	78	78	78
	Nonverbal Information	Pearson Correlation	.536**	1	.477**	.701
		Sig. (2-tailed)	.000		.000	.000
		N	78	78	78	78
	Decision Support Tools	Pearson Correlation	.415**	.477**	1**	.633**
		Sig. (2-tailed)	.000	.000		.000
		N	78	78	78	78
	E-commerce Consumers Purchase Decision	Pearson Correlation	.705**	.701**	.633**	1**
		Sig. (2-tailed)	.000	.000	.000	
		N	78	78	78	78
Rural Area	Verbal Information	Pearson Correlation	1	.669**	.595	.772**
		Sig. (2-tailed)		.000	.000	.000
		N	122	122	122	122
	Nonverbal Information	Pearson Correlation	.669**	1	.686**	.820
		Sig. (2-tailed)	.000		.000	.000
		N	122	122	122	122
	Decision Support Tools	Pearson Correlation	.595**	.686**	1**	.783**
		Sig. (2-tailed)	.000	.000		.000
		N	122	122	122	122
	E-commerce Consumers Purchase Decision	Pearson Correlation	.772**	.820**	.783**	1**
		Sig. (2-tailed)	.000	.000	.000	
		N	122	122	122	122

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix F: Regression of Gender on IVs to DV

Notes

Output Created		02-JUN-2015 15:10:48
Comments		
Input	Data	D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav
	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	Gender
	N of Rows in Working Data File	200
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Y5 /METHOD=ENTER X1 X2 X3.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.09
	Memory Required	2372 bytes
	Additional Memory Required for Residual Plots	0 bytes

[DataSet0] D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav

Variables Entered/Removed[a]

Gender	Model	Variables Entered	Variables Removed	Method
Male	1	Decision Support Tools, Nonverbal Information, Verbal Information[b]	.	Enter
Female	1	Decision Support Tools, Verbal Information, Nonverbal Information[b]	.	Enter

a. Dependent Variable: E-commerce Consumers Purchase Decision

b. All requested variables entered.

Model Summary

Gender	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Male	1	.909[a]	.827	.821	.11745
Female	1	.860[b]	.739	.731	.11770

a. Predictors: (Constant), Decision Support Tools, Nonverbal Information, Verbal Information

b. Predictors: (Constant), Decision Support Tools, Verbal Information, Nonverbal Information

ANOVA[a]

Gender	Model		Sum of Squares	df	Mean Square	F	Sig.
Male	1	Regression	6.004	3	2.001	145.071	.000[b]
		Residual	1.255	91	.014		
		Total	7.259	94			
Female	1	Regression	3.966	3	1.322	95.442	.000[c]
		Residual	1.399	101	.014		
		Total	5.365	104			

a. Dependent Variable: E-commerce Consumers Purchase Decision

b. Predictors: (Constant), Decision Support Tools, Nonverbal Information, Verbal Information

c. Predictors: (Constant), Decision Support Tools, Verbal Information, Nonverbal Information

Coefficients[a]

Gender	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Male	1	(Constant)	.154	.198		.775	.440
		Verbal Information	.291	.067	.305	4.350	.000
		Nonverbal Information	.298	.064	.322	4.682	.000
		Decision Support Tools	.388	.065	.388	5.956	.000
Female	1	(Constant)	.160	.246		.651	.516
		Verbal Information	.335	.053	.375	6.361	.000
		Nonverbal Information	.370	.060	.406	6.144	.000
		Decision Support Tools	.265	.058	.282	4.594	.000

a. Dependent Variable: E-commerce Consumers Purchase Decision

Appendix G: Regression of Age on IVs to DV

Notes

Output Created		02-JUN-2015 15:07:56
Comments		
Input	Data	D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav
	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	Age
	N of Rows in Working Data File	200
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Y5 /METHOD=ENTER X1 X2 X3.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.08
	Memory Required	2372 bytes
	Additional Memory Required for Residual Plots	0 bytes

[DataSet0] D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav

Variables Entered/Removed[a]

Age	Model	Variables Entered	Variables Removed	Method
Below 17 years old	1	Decision Support Tools, Verbal Information, Nonverbal Information[b]	.	Enter
17 to 26 years old	1	Decision Support Tools, Nonverbal Information, Verbal Information[b]	.	Enter
27 to 36 years old	1	Decision Support Tools, Verbal Information, Nonverbal Information[b]	.	Enter
37 years old and above	1	Decision Support Tools, Verbal Information, Nonverbal Information[b]	.	Enter

a. Dependent Variable: E-commerce Consumers Purchase Decision

b. All requested variables entered.

Model Summary

Age	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Below 17 years old	1	.925[a]	.856	.835	.13336
17 to 26 years old	1	.870[b]	.756	.750	.11555
27 to 36 years old	1	.917[a]	.841	.810	.11124
37 years old and above	1	.900[a]	.809	.793	.11370

a. Predictors: (Constant), Decision Support Tools, Verbal Information, Nonverbal Information

b. Predictors: (Constant), Decision Support Tools, Nonverbal Information, Verbal Information

ANOVA[a]

Age	Model		Sum of Squares	df	Mean Square	F	Sig
Below 17 years old	1	Regression	2.212	3	.737	41.452	.000
		Residual	.373	21	.018		
		Total	2.585	24			
17 to 26 years old	1	Regression	4.684	3	1.561	116.934	.000
		Residual	1.509	113	.013		
		Total	6.192	116			
27 to 36 years old	1	Regression	.985	3	.328	26.545	.000
		Residual	.186	15	.012		
		Total	1.171	18			
37 years old and above	1	Regression	1.923	3	.641	49.570	.000
		Residual	.452	35	.013		
		Total	2.375	38			

a. Dependent Variable: E-commerce Consumers Purchase Decision

b. Predictors: (Constant), Decision Support Tools, Verbal Information, Nonverbal Information

c. Predictors: (Constant), Decision Support Tools, Nonverbal Information, Verbal Information

Coefficients[a]

Age	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Below 17 years old	1	(Constant)	-.122	.422		-.289	.775
		Verbal Information	.553	.122	.544	4.545	.000
		Nonverbal Information	.258	.140	.278	1.841	.080
		Decision Support Tools	.239	.145	.210	1.650	.114
17 to 26 years old	1	(Constant)	.203	.219		.926	.356
		Verbal Information	.274	.058	.289	4.727	.000
		Nonverbal Information	.370	.057	.392	6.477	.000
		Decision Support Tools	.316	.053	.351	5.952	.000
27 to 36 years old	1	(Constant)	.487	.471		1.035	.317
		Verbal Information	.271	.130	.270	2.089	.054
		Nonverbal Information	.281	.132	.348	2.126	.051
		Decision Support Tools	.348	.126	.433	2.768	.014
37 years old and above	1	(Constant)	-.226	.382		-.591	.558
		Verbal Information	.332	.081	.394	4.110	.000
		Nonverbal Information	.269	.103	.283	2.601	.014
		Decision Support Tools	.464	.113	.391	4.118	.000

a. Dependent Variable: E-commerce Consumers Purchase Decision

Appendix H: Regression of living environment on IVs to DV

Notes

Output Created		02-JUN-2015 15:13:10
Comments		
Input	Data	D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav
	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	LivingEnvironment
	N of Rows in Working Data File	200
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT Y5 /METHOD=ENTER X1 X2 X3.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.03
	Memory Required	2372 bytes
	Additional Memory Required for Residual Plots	0 bytes

[DataSet0] D:\Users\Win_7\Desktop\HCH SPSS\HCH2.sav

Variables Entered/Removed[a]

LivingEnvironment	Model	Variables Entered	Variables Removed	Method
Urban Area	1	Decision Support Tools, Verbal Information, Nonverbal Information[b]	.	Enter
Rural Area	1	Decision Support Tools, Verbal Information, Nonverbal Information[b]	.	Enter

a. Dependent Variable: E-commerce Consumers Purchase Decision

b. All requested variables entered.

Model Summary

LivingEnvironment	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Urban Area	1	.844[a]	.712	.701	.11529
Rural Area	1	.905[a]	.818	.813	.11907

a. Predictors: (Constant), Decision Support Tools, Verbal Information, Nonverbal Information

ANOVA[a]

Living Environment	Model		Sum of Squares	df	Mean Square	F	Sig.
Urban Area	1	Regression	2.436	3	.812	61.090	.000
		Residual	.984	74	.013		
		Total	3.420	77			
Rural Area	1	Regression	7.526	3	2.509	176.931	.000
		Residual	1.673	118	.014		
		Total	9.199	121			

a. Dependent Variable: E-commerce Consumers Purchase Decision

b. Predictors: (Constant), Decision Support Tools, Verbal Information, Nonverbal Information

Coefficients[a]

Living Environment	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Urban Area	1	(Constant)	.274	.298		.917	.362
		Verbal Information	.352	.068	.393	5.201	.000
		Nonverbal Information	.309	.070	.345	4.407	.000
		Decision Support Tools	.287	.068	.305	4.204	.000
Rural Area	1	(Constant)	.118	.181		.652	.516
		Verbal Information	.303	.051	.323	5.920	.000
		Nonverbal Information	.350	.056	.376	6.235	.000
		Decision Support Tools	.327	.055	.333	5.972	.000

a. Dependent Variable: E-commerce Consumers Purchase Decision

Appendix I: Survey Questionnaire

The Moderating Roles of Information Quality Enabling E-Commerce Consumer's Purchase Decision

Measurement of Information Quality (IQ) influences on E-commerce consumer's purchase decision.

DEMOGRAPHIC PROFILE

1. Gender

- ○ Male
- ○ Female

2. Age

- ○ Below 16 year old
- ○ 17 - 26 year old
- ○ 27 - 36 year old
- ○ 37 and above

3. Living Environment

- ○ Urban Area
- ○ Rural Area

4. Did you personally make, influence, or participate in any purchases on Internet?

- ○ Yes
- ○ No

5. How many times do you participate in online shopping for a month?

- ○ 1 to 5 times
- ○ 6 to 10 times
- ○ More than 10 times
- ○ Never

CUSTOMER PREFERENCES

6. Online Shopping offers more or better selections.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

7. Online shopping offers better quality products and services

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

8. Online Shopping provides more information of products and services.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

9. Online Shopping provides faster response rate.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

VERBAL INFORMATION

The verbal information (VI) refers as the writing or story telling product information such as textual product descriptions along the product such dimensions as completeness, accuracy, format, and whether it is up to date.

10. Verbal Information during online shopping, I must read the textual product description before purchase the products

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

11. Relevant information of product description is very important in online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

12. Detailed information of product description make me disburn in online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

13. Supportive and correct information of product make me more confident in online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

NON-VERBAL INFORMATION

The nonverbal information (NVI) refers to the perceived quality of visual presentations of product information such as the images or pictures for the product appearance. It helps consumers evaluate a product and enhance their understanding about the provided information.

14. Non-verbal Information during online shopping, I prefer looking at the picture of product before purchase the product.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

15. Related and attractive image or picture within the website make me more likely to buy the product through online.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

16. The design of the website and the background make me more interest with online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

17. The combination of the colour and theme of the website attract me to purchase via internet.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

DECISION SUPPORT TOOLS

The decision support (DS) tools refer as a wide range of computer-based tools with simulation models and techniques to develop a support decision analysis and participatory processes. Moreover, the decision support (DS) tools help consumers to construct comparisons among alternative of products, searching similar products with the brands, searching a product's best price and showing product reviews by others. In principally, this tools can facilitate comparisons among the products alternative and exchange of information among the consumers or internet users. In addition, it may providing insights to non-experts and support them in the exploration of new products to fulfill their needs and wants. Decision support (DS) tools provide consumers additional verbal and nonverbal product information in order to help consumers to make a better decision in online purchase.

18. Decision Support Tools Decision support tools provide me more accurate and precise result in online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

19. I prefer using decision support tool to comparing among alternative products before purchase via internet.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strong Agree

20. I'll rely on decision support tools while I engaging in online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

21. Using decision support tools, i can make more effective decision in online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

ONLINE PURCHASE DECISION

22. Insufficient or indistinct information of a product make me do not use online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	◉	Strongly Agree

23. Valid and updated information is very important for online shopping.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

24. High trustfulness of information make me purchase via internet.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

25. Precise and correct information is very important for me to purchase via internet.

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Appendix J: Gantt Chart (PSM 1)

Table A: Gantt Chart of PSM 1

Tasks	Weeks												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Idea of Topic													
Searching Information													
Form the Topic													
Setting Research Questions & Research Objectives													
Discussion for Chapter 1													
Discussion for Chapter 2													
Form Theoretical Framework													
Discussion for Chapter 3													
Revise Full Chapter													

Appendix K: Gantt Chart (PSM 2)

Table B: Gantt Chart of PSM 2

Tasks	Weeks												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Idea of Questionnaire													
Set Up Questionnaire													
Correction on Questionnaire													
Conduct Pilot Test													
Discussion for Chapter 4													
Distribute Questionnaire													
Collecting and Analyze Data													
Discussion for Chapter 5													
Finalize and Review													