IDENTIFYING CONSUMERS' INFORMATION ADOPTION CRITERIA ON VARIOUS ONLINE CONSUMER REVIEW PLATFORMS: A CASE OF THAI HOSPITALITY SECTOR

A thesis submitted for the degree of Doctor of Philosophy

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Abstract

The dynamics of use and adoption of information on various online review platforms remain elusive and complex, indicating the importance of more research on electronic word of mouth (eWOM) and online consumer reviews (OCRs). Existing theoretical models do not fully explicate the role of the influential factors and their interrelations in information adoption. This research offers a more holistic model of information adoption. The Information Adoption Model (IAM) and the Elaboration Likelihood Model (ELM) are utilised as the theoretical foundations for the conceptual model while examining the factors that influence consumers' perceptions of and information adoption decisions from Independent and E-merchants' websites. Information usefulness is employed as a mediator. This research examines various COPs (consumer opinion platforms) by categorising consumers into four groups on the basis of their engagement behaviour and investigating their information adoption decisions.

The research undertook quantitative methodology and conducted a survey on 635 respondents from Thailand. All hypotheses were developed and tested using data collected via an online questionnaire and were analysed with Structural Equation Modelling (SEM), with multigroup analysis techniques. Additionally, the research used two step cluster analysis and identified four groups of consumers on the basis of their engagement behaviour *Quicker, Explorer, Confidant and Passionate.*

The findings are 1) A positively significant relationship between information usefulness and information adoption has been approved 2) Consumer adopt different information adoption criteria for different types of COPs 3) Consumers' assessment of different factors of OCRs varies due to the difference in the level of online engagement. The results offer useful implications for marketers by identifying and analysing the criteria that consumers adopt from specific platforms and underlining the effect of the level of consumer engagement on information adoption of OCRs.

Keywords: *Online consumer reviews (OCRs); electronic word of mouth (eWOM); consumer opinion platforms (COPs); online review websites; consumer engagement; information adoption.*

Dedication

To my parents, THANABOON and SUTTHINAN SIRITHANAPHONCHAI

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PhD research is a long-term endeavor. My journey at Brunel University was a magnificent but challenging experience.

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Declarations

I hereby declare that this is my original work; no portion of the work referred to in the thesis has been submitted for a degree in this or any other university, or institute of learning.

I also declare that all information in this thesis has been acquired and presented in accordance with academic rules and ethical conduct.

Some of the material displayed herein has already been published in the form of the following publication:

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CHAPTER ONE: INTRODUCTION

1.1 Research Background

Historically, research on word of mouth (WOM) analyses social and familial dynamics, as WOM sources are deemed to be decision-makers' close associates, such as friends and family members (Bone, 1995; Brown and Reingen, 1987; Buttner and Goritz, 2008). With the advent of technologies such as the Internet and Web 2.0, consumers' opinions on products/ services may reach far beyond their acquaintances, as they can now take to various e-platforms to express and communicate their consumption experiences. The widespread use of the Internet has created a new era of Word of Mouth, termed as Electronic Word of Mouth (eWOM) (Chen and Xie, 2008; Hu, *et al*., 2011; Yeh and Choi, 2011), which is defined as "any positive or negative statement made by potential, actual or former customers about a product or company which is made available to a multitude of people and institutes via the Internet" (Hennig-Thurau *et al*., 2004, p. 39). Hence, eWOM facilitates consumers' informed decision-making processes by empowering them with wider access to information and networks (Litvit *et al*., 2008).

It is noticed that eWOM involves consumer online reviews and remains as a key aspect of consumers' social media and web 2.0 engagement behavior (Robinson *et al.,* 2012). Existing scholarly works have looked at the effectiveness of eWOM communication (Cheung and Lee, 2012; Duan *et al.,* 2008; Riegner, 2007; Chevalier and Mayzlin, 2006), the motives behind posting (Lee *et al*., 2006; Hennig-Thurau *et al.,* 2004) and conceptualization of eWOM communication (Litvin *et al.,* 2008, Brown *et al.,* 2007). The rapidly growing online communities add new dimension to eWOM and constitute online consumer reviews (OCRs). Mudambi and Schuff (2010, p. 186) defined OCRs as "peer-generated product evaluations posed on company or third party websites". The existing studies have noted OCRs is one of the most popular types in eWOM (Purnawirawan *et al*., 2012). These studies conform to the growing body of literature that recognizes the importance of OCRs. It is because OCR not only provides benefits for consumers but also offers valuable information to businesses for improving their operational efficiency (Litvin *et al*., 2008). In fact, OCR is a communication tool which guides marketers on customers' actual and potential needs and enables them to satisfy those needs by developing appropriate products/ services.

eWOM and OCRs are basic information transfer which known as one of the most important information sources when consumers need to make a decision and they mostly make offline decision based on online information (Godes and Mayzlin, 2004; Dellarocas, 2003; Lee *et al*., 2008). The influence of information may change from individual to individual. In other words, the same content can evoke different notions among receivers because it depends on individual's perception and his/her experience (Chaiken, 1980; Cheung *et al.,* 2008; Erkan and Evans, 2016a; Erkan and Evans, 2016b). In order to understand how people process the information that they receive, existing studies have focused on information adoption process (Cheung *et al.,* 2008; Filieri and McLeay, 2014).

1.2 Research Problem

In the field of consumer behaviour, consumers' information adoption is one of the most popular topics (Wang, 2017). Prior studies have attempted to investigate the factors that contribute to information adoption because the likelihood of adopting information may cause changes in consumers' attitudes, perceptions and decision-making (Eagly and Chaiken, 1993) and different consumers have different concerns/needs (Hassain *et al*., 2016; Filieri, 2015b). Consumers' decision-making and information processing are not simple linear phenomena; therefore, understanding the dynamics of consumer decision-making remains as a major challenge for academics and marketers. It is interesting to explore and analyse the ways in which consumers adopt certain information and make their decisions (Litvin, 2008).

Many studies have found different perspectives which affect information adoption and consumer's decision-making process. For example, Zhang and Watts (2003) mentioned that information adoption is operational as its effectiveness influences individuals' decisions or problem solving. Indeed, Information adoption considers the information process from external sources to facilitate the decision by assessing the potential outcomes (Sussman and Siegal, 2003). This is important for the marketers to know as they face the challenge of learning what factors affect consumers' decision processing. In terms of eWOM and OCR, the adoption of information from eWOM and OCRs also relates to consumers' acceptance of a review after purposefully assessing its validity and using it to make a purchase decision (Zhang and Watts, 2003). In addition, it is

difficult to verify the authenticity and source of OCRs (McKnight and Kacmar, 2006). Therefore, eWOM and OCRs have drawn research attention for studying the information adoption process and understanding its influence on consumers' decision making (Filieri and McLeay, 2014).

Existing literature shows evidence of research on the process of OCRs communication behavior and antecedents of consumers' adoption of information from online reviews (Cheung *et al.,* 2008; Zhang and Watts, 2008; Cheung *et al*., 2009; Lee *et al*., 2011a; Liu, 2006; Floh *et al*., 2013; Filieri and McLeay, 2014; Tseng and Kuo, 2014; Erkan and Evans, 2016a; Erkan and Evans, 2016b; Tseng and Wang, 2016). However, the literature on information adoption has provided inconsistent findings. This is because there are different perspectives that can be explained by different factors (Wang, 2017). This research finds a need to fill a gap stemming from the absence of a comprehensive framework that collectively investigates the critical factors that influence consumers' information adoption. Therefore, the first research question of this research is as follow:

RQ1. What factors of OCRs influence consumers' adoption of information?

Internet era, due to the increase in the number of consumer opinion platforms (COPs) is considered as a development from consumers' point of view (Boush and Kahle, 2001; Khammash, and Griffiths, 2011; Chatterjee, 2001). As there is a sharp rise in the number of platforms and the volume of review comments, it has been increasingly difficult for consumers to select and adopt various platforms and assess their credentials. Several studies have investigated the power of eWOM and OCRs (Hennig-Thurau *et al.,* 2004; Mudambi and Schuff, 2010; Racherla and Friske, 2012; Zhu and Zhang, 2010) but they focus mostly on single platforms. There is scant research on the comprehensive factors from online reviews that influence consumers' information adoption from different COPs with the outcome of information adoption. A few studies (such as Senecal and Nantel, 2004; Lee and Youn, 2009; Luo *et al.,* 2014b) have discussed the factors affecting information adoption from different COPs. However, there is more to do in this area, because it is not clear which factors influence such information adoption (Filieri and McLeay, 2014). Different COPs have different characteristics and that might affect the information adoption processing decision. This study attempts to investigate consumers' information adoption criteria from OCRs that

consumers consider as important while choosing and using different COPs. Therefore, this research attempts to address this gap and answer the following question:

RQ2. Do consumers' adoption criteria vary between COPs in terms of OCR factors?

Consumers' perspectives may vary because of the differences in their backgrounds and different websites on which OCRs is posted (Filieri, 2016). Researchers and practitioners need to be aware of the type of information that motivates consumers in information adoption process. They need to identify the various patterns in consumer characteristics (Tseng and Wang, 2016). Referring to consumer behaviour in the online context, one of the most important and necessary research requirements is to identify groups of consumers (Chang, 1998; Brengman *et al*., 2005). Consumers show different behaviours and responses to information; therefore, segmenting groups of consumers has been highlighted as a key requirement (Mathwick, 2002). In fact, it is necessary to understand the needs of the potential consumers in each segment in order to create competitive advantage or opportunity to provide products/services appropriately to the potential consumers (Pickton and Broderick, 2005; Rodriguez Diaz *et al*., 2015).

In the marketing field, Armstrong and Kotler (2005, p. 54) defined market segmentation as "dividing a market into distinct groups of buyers who have distinct needs, characteristics or behaviour and who might require separate products or marketing mix". The information obtained from each segment of consumers is of benefit to the marketers (Engal *et al*., 1972). Indeed, segmenting groups of consumers helps marketers to provide products/services to meet consumers' needs (Pickton and Broderick, 2005). Moreover, Hunt and Arnett (2004) stated that segmenting of consumers allows the creation of effective marketing strategies to reach each segment.

According to Kolter *et al*. (2005) stated that consumers have traditionally been segmented based on four major variables, which consist of geographic, demographic, psychographic and behavioural aspects. However, previous research has suggested different ways to select segmenting variables and has produced inconsistent findings, suggesting weaknesses in the above variables: for example, geographic segmentation is not appropriate to predict consumer behaviour (Haley, 1968), demographic segmentation does not clearly capture the drivers of consumer behaviour (Schultz,

2002), psychographic segmentation is unable to clearly forecast consumer decisions (Yankelovich and Meer, 2006) and it is difficult to use behavioural segmentation to predict consumer behaviour (Schoenwald, 2001).

Among these variables, behavioural segmentation is the most widely used to segment groups of consumers. (Bose and Chen, 2010; Wu and Chou, 2011; Brengman *et al.,* 2005; Ye, Li and Gu, 2011; Giboa, 2009). However, this study considers the use of behavioural divisions to segment groups of consumers to confirm the findings of previous research, as behavioural segmentation can be appropriate to use in consumer behaviour areas. This study will advance the scholarship by identifying factors that vary in terms of consumer behaviour. Thus, groups of consumers will be segmented in terms of their behaviour with various platforms to identify the key factors of OCRs in each group that constrain their influence on information adoption criteria. Therefore, this research addresses the following question:

RQ3. Do consumers' adoption criteria vary between groups of consumers in terms of OCR factors?

Furthermore, OCRs have emerged as a very special form of eWOM that can offer useful insights and experiences on travel products/ services (Zhang *et al*., 2010c; Filieri and McLeay, 2014; Schuckert *et al*, 2015; Fili and Krizaj, 2017). The nature of travel products/services makes it difficult for consumers to estimate/evaluate the quality of products/services (Weathers *et al*., 2007; Israeli *et al.,* 2017). Qu and Lee (2011) claimed that the increasing number of active participants in the online travel community has a positive impact on the sense of belonging. Travel websites are examples of platforms that allow consumers who are making plans to find multiple travel products/ services at the same time (Susskind *et al.,* 2003; Filieri, 2015b). Indeed, the websites can help consumers to substitute many traditional information sources and reduce their problems in terms of making the right decisions for their trip (D'Ambra and Wilson, 2004; Xiang *et al*., 2015a; Xiang *et al*., 2015b). Consumers' decision-making processes are influenced by other OCRs (Goldenberg *et al.,* 2001). For example, when consumers have hotel reservation intentions, they are highly influenced by online reviews (Sparks and Browning, 2011). When booking hotel rooms, consumers search OCRs more than any other information source (Kim *et al.,* 2011). In other words, consumers are likely to

consult peers and rely on personal experiences in evaluating products/services in which interaction processes are dominant (Zhang *et al.,* 2010a). It can be seen that OCRs have an important role in the travel industry (Mauri and Minazzi, 2013). Zhang *et al.* (2010c) and Schuckert *et al.* (2015) have suggested that OCRs are very powerful, particularly in relation to experience products (that have fewer tangible criteria for pre-purchase assessment) in the travel industry. Additionally, Murray (1991) stated that communication has influences on consumers' purchase behaviour, particularly in experience products such as hospitality services. OCRs provide ideas and help readers to make decisions more easily (Filieri, 2015b). This might be because reviews increase confidence by reducing risks when consumers imagine what the places will be like (Gretzel and Yoo, 2008). This research therefore focuses on the effect of OCRs on information adoption in the travel industry.

Despite growing research interest and managerial implications, there is dearth in the current scholarship on the following areas.

- Thorough conceptual understanding: More comprehensive understanding of how individuals process information gathered from OCRs need to be developed, as current literature does not fully capture and explain the factors that influence consumer' likelihood of information adoption.
- Role of different platforms: Current scholarship mostly focuses on analysing single platform. Due to the competing nature of various platforms, there is theoretical and managerial impetus for understanding how consumers' information adoption varies in relation to the use of different platforms.
- Identification of consumer segments: There is a lack of research on segmenting behaviour regarding eWOM and OCRs. Consumers may have differences in behaviour and responses, and thereby may vary in terms of their information adoption criteria.
- Contextual and sectorial understanding: There is a lack of study that examines consumers' information adoption criteria from OCRs and analyse the different characteristics of COPs in the travel industry.

This study is motivated by the above gaps in the literature. It attempts to address a knowledge gap: its aim and objectives are introduced in the next section.

1.3 Research Aim and Objectives

The aim of this study is to identify and analyze the OCR factors that influence consumers' likelihood to adopt information from various platforms in the travel industry. Thereafter, this study extends the knowledge in terms of consumer behaviour beyond the generation of OCRs by segmenting groups of consumers and investigating the effect of such segmentation on information adoption criteria.

This study attempts to identify consumers' information adoption criteria from OCRs, undertaking an analysis of the different characteristics of COP in the travel industry. To achieve the research aim, the following list of research objective is addressed:

1 To identify the critical factors that influence consumers' information adoption by reviewing the existing literature.

2. To develop a theoretical model for information adoption focusing on online consumer reviews for various types of online consumer review platforms, investigating their effects on information adoption criteria.

3. Segmenting groups of consumers with regard to their behaviour to identify the key factors of OCRs and their effect on information adoption criteria.

4 To empirically validate the theoretical model by assessing the hypotheses' relationships.

5 To provide theoretical and practical contributions of the key results and offering suggestions for future research directions.

1.4 Research Methodology

To achieve the abovementioned aim and objectives, this study has been developed on the basis of an existing literature review and theoretical model. The theoretical model was developed based on the integration of the Information Adoption Model (IAM) and the inclusion of the Elaboration Likelihood Model (ELM). A theoretical model is introduced in this study, along with twenty-six hypotheses based on existing literature. Thus, a positivist approach is selected (Collis and Hussey, 2014) as an attempt to increase the predictive understanding of factors under the central route and the peripheral route from OCRs on information adoption. To accomplish the aim of this research, a quantitative method that follows a deductive approach has been chosen (Bryman, 2012). A survey method was chosen because it enables the researcher to capture the complexity of the field-based phenomenon of information adoption. In others words, it is the most appropriate methodology, as it minimizes the data collection period, is lower in cost than other methods and makes it easy to collect data while offering flexibility to the respondents (Evans and Mathur, 2005). This study has used an online questionnaire to collect data. The questionnaire items were constructed based on the related literature. A total of 635 responses to a survey were collected. Structural Equation Modelling (SEM) in AMOS 20 software, using multigroup analysis, was the statistical technique used to analyse the relationships between variables, validate the hypotheses and propose the theoretical model (Hair *et al*., 2010).

1.5 Rationale of the Research Study

In an attempt to achieve the research aim of this study, the researcher will investigate the factors in different platforms that influence when consumers adopt information from online consumer reviews. This knowledge will be beneficial to both academics and practitioners in the field of marketing and information system. This study provides a contribution to the theoretical that it advances the scholarship on information adoption, particularly in OCRs to enrich the industry's knowledge and understanding of consumers. One major contribution of this study is the identification of the factors of OCRs implemented by COPs that influence information adoption.

In terms of implications for practice, this study provides a guide as new understanding that enables marketers help to understand which influence make consumer adopt the information. The result of this study is beneficial to marketers to know how to handle OCRs from different types of COP. In other words, marketers should take the lead in understanding and utilizing OCRs in order to create advantage rather than merely adopting their competitors' strategies (Livin *et al.,* 2008; Rodriguez Diaz *et al*., 2015). In the travel industry, marketers need to understand the dynamics of the technology to manage their business (Erdem and Cobanoglu, 2010). They should know which factors influence and make consumers adopt information because it can be easier to create marketing strategies for implementation. In fact, it guides marketers to understand the influential factors that affect potential consumers, so that they can exploit these factors to create advantage. If marketers fail to take advantage of consumers' online reviews, they may miss the chance to reach potential consumers, as well as to improve their service (Fili and Krizaj, 2017). Moreover, segmenting groups of consumers can improve marketers' understanding of the potential consumers in each group and make their marketing strategies more effective (Armstrong and Kotler, 2005). Therefore, this study highlights the important factors of OCRs and consumers' concerns in order to create a relationship between marketers as well as guiding the priority criteria on information adoption from different COPs.

1.6 Structure of the Study

Philips and Pugh (2010) suggest that a thesis should include four elements: background theory, focal theory, data theory and contribution. Chapter 2 presents the background theory, focusing on the research area based on the review of the literature. Then, in Chapter 3, the focal theory is used to develop a theoretical model. Next, in Chapters 4 and 5, data theory is discussed. Finally, the results and their contribution to knowledge are presented in Chapters 6 and 7. The chapters are explained in more detail as follows:

- Chapter 1 – Introduction: This chapter starts by providing the background and research problem. Research questions are set and the aim and objectives of the research are identified. After that, a summary of the research methodology is defined. Finally, the rationale of the research study is provided with a brief description.

- Chapter 2 – Literature review: This aim of this chapter is to provide an overview of the research area of the literature in the area of the evolution of OCRs. It begins with WOM and eWOM, providing definitions and background by initially discussing the updating and role of eWOM, OCRs, types of product and types of COP, particular in the travel industry. Following on from the review of the literature on the theory upon which this work is built, the connection between theory and practice is discussed. The mechanism of OCRs is explored by reviewing the dimensions of the OCRs in relation to information adoption. Finally, the research gaps in the literature are identified and discussed.

- Chapter 3 – Theoretical model and hypothesis development: This chapter aims to address the gaps in the literature, starting by explaining the theoretical foundation. It then develops a theoretical model for OCRs' factors and their effect on information adoption, which arose from the literature review in Chapter 2.

- Chapter 4 – Research methodology: This chapter provides the selection and justification of the research philosophy, research approach, strategy and methodology used in this study. A detailed roadmap of the research process is provided. The sampling method, data collection technique and the development of the survey questionnaire are discussed, along with ethical considerations. Moreover, this chapter explains how validity and reliability were ensured. Finally, the data analysis techniques, used in this study, are proposed.

- Chapter 5 – Data analysis and research findings: Having assessed the proposed theoretical model, this chapter present the results of the demographic profile, descriptive statistic, reliability and validity tests. Thereafter, it describes the findings through analysing the collected data using SPSS version 21 and AMOS version 20 to conduct Structural Equation Modelling (SEM), and in particular, multigroup analysis. It also presents the results from the multisample confirmatory factor analysis, invariance testing and structural model fit. Finally, findings of the overall hypothesis testing are presented.

- Chapter 6 – Results and discussion: This chapter evaluates the research findings and discusses the hypotheses by positioning the results within the relevant literature. The outcomes derived from the data analysis help to validate and develop a comprehensive set of factors for the research model.

- Chapter 7 – Conclusion: This chapter presents a summary of the research conducted and the key findings. It also offers conclusions, brought together with the background and discussed in relation to the research aim and objectives, and then sets out the theoretical and practical contribution of the research. It also highlights the study's limitations and provides guidance for future research.

1.7 Chapter Summary

In brief, this chapter has provided the background and research problem to this research and set out the research questions, aim and objectives. It has given a brief account of the methodology, rationale of the research study and structure of the study. The literature review will be presented next in Chapter 2.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to review elements of the long traditional study on electronic word of mouth (eWOM), with particular attention to the influence of eWOM on information adoption from COPs. In particular, this chapter highlights a number of gaps in the current body of literature and the knowledge surrounding information adoption.

This chapter begins by reviewing the literature on word of mouth (WOM), electronic word of mouth (eWOM) and online consumer reviews (OCRs) to discuss how they differ from each other. Then, product types and types of COP are discussed. After that, the relationship between OCRs and information adoption will be presented. Next, the literature investigating OCRs and typologies of COPs and the differences in characteristics between COPs. The second part of the literature review demonstrates the theoretical foundation, and particularly on the dimensions of OCR factors that influence information adoption. Finally, this chapter will highlight the need for this research and the importance of the conceptual model before presenting a conclusion.

2.2 From Word of mouth (WOM) to Electronic Word of Mouth (EWOM)

2.2.1 Word of Mouth (WOM)

Word of mouth (WOM) refers to information communication behaviour produced and received face to face (Arndt, 1967). It is personal conversations and the informal exchange of information among consumers and it might help to shape consumer expectations (Anderson and Salisbury, 2003). WOM is an informal mode of communication to exchange information between individuals regarding the evaluation of products and services (Godes *et al*., 2005; Chung and Darke, 2006; Berger, 2014). WOM is a communication behaviour that is interactive and occurs through face to face discussion, without commercial motives. WOM is perceived as credible, reliable and trustworthy because the communications happen face to face and it is consumers who provide the information, opinions and comments, which are independent from the marketer, without a hidden agenda (Arndt, 1967). Similarly, Allsop *et al.* (2007) noted

that WOM generated by other consumers rather than by marketers could be more credible. When consumers make their decisions, they prefer to perceive WOM, which plays a much more critical role than marketing tools (Herr *et al.,* 1991; Gilly *et al*., 1998). Traditional WOM communication happens within the close bond between friends and family members that can be trusted (Keller, 2007). Thus, WOM effectively decreases the perceived risks and uncertainty (Derbaix and Vanhamme, 2003). This is because people are reporting on their own experiences and have no reason to lie (Yoo and Gretzel, 2009).

Throughout discussion surrounding information within social science and preliminary WOM research, Katz and Lazarsfeld (1995) studied interpersonal influence and described how information and influence moved between individuals within social systems. A field of research subsequently appeared describing the many aspects of this important social phenomenon (Weimann, 1994) and extending the knowledge of WOM in the research area of marketing and consumer behaviour. Several researchers have shown that WOM is one of the most influential resources of information transmission in human society (Godes and Mayzlin 2004; Maxham and Netemeyer, 2002; Swanson, 2004; Cakir and Cetin, 2013).

In this research area, WOM has been studied from the consumer perspective, in which sources of WOM are close to the decision-maker, such as family and friends (Brown and Reingen, 1987; Bone, 1995; Buttner and Goritz, 2008). Some scholars, such as Bansel and Voyer (2000) investigate the significance of the link between the sender and the receiver by focusing on WOM influences on the receiver's buying decisions. WOM has more impact to the receiver when they are interested to search for the information (Sweeney *et al*., 2012). Moreover, the previous research has confirmed that personal sources of information such as WOM are the least biased sources of marketing information (Cheung *et al*., 2009) and WOM is more persuasive and credible than information from company sources (Bickart and Schindler, 2001).

With the advent of new technologies and the extensive use of the Internet, WOM has evolved into electronic word of mouth (eWOM), spread over the Internet (Sun *et al.,* 2006). Consumer opinion from eWOM tends to be more influential than traditional WOM because of its scope (Duan *et al.,* 2008; Sung *et al*., 2010 and Sparks *et al*.,

2013). It extends customer choices when gathering information about products or services (Litvin *et al.,* 2008). Additionally, eWOM is more influential because it is more link and close to making the purchase decision (Chevalier and Mayzlin, 2006; Chen *et al*., 2008; Lee and Lee, 2009; Rui, 2011; Bartikowski and Walsh, 2014; Erkan and Evan, 2016a; Erkan and Evan, 2016b).

2.2.2 Electronic Word of Mouth (eWOM)

The definition of electronic word of mouth (eWOM) defined by Hennig-Thurau *et al.* (2004, p. 39) as "any positive or negative statement made by potential, actual or former customers about product and/or services or company which is made available to multitude of the people and institutes via the internet". However, Litvin *et al*. (2008, p. 461) identified the eWOM concept as "all informal communications directed at consumers through Internet-based technology related to the usage or characteristics of particular goods and/or services". In a sense, these definitions provide an understanding of eWOM. People can use the Internet to browse webpages and look for the information that they need, which is provided by others (Hennig-Thurau *et al.,* 2004).

In the early stage, Coffman and Odlyzko (1998) stated that, the rapid development of Internet technology since the 1990s, a new type of WOM has been introduced, known as eWOM. Blythe (2000) suggested that communication is a transactional process between two or more parties with the intention to bring about a response. The topic of eWOM was first investigated from a relationship marketing perspective, which aimed to discuss the various threats and opportunities for business resulting from the increase in online consumers (Stauss, 2000). However, the Internet creates new ways to communicate between consumers who have never met (Gruen *et al.,* 2006). eWOM can be either positive or negative statements made by prospective, current and former consumers and it can be a great way to receive such information and thus to decrease decision time (Schiffman and Kanuk, 2000). eWOM is becoming more popular and is more frequently performed by consumers (Akehurst 2009). It has become one of the major sources of information on products and services, as consumers have realized that it provides rich information (Cheung *et al.,* 2009; Kim and Gupta 2009; Pai *et al*., 2013; Liu and Park, 2015). This is one reason why most offline decisions are based on online information (Mayzlin, 2006). Additionally, eWOM offers multiple ways to exchange

information in asynchronous mode and online review websites provide a free platform for consumers to share their opinions (Hung and Li, 2007; Zhong *et al*., 2013). In other words, eWOM can take place in various platforms through consumers posting their opinions, comments and reviews of product on review websites, discussion forums, bulletin-board systems and social network sites (Lee *et al*., 2006).

2.2.3 Similarities and Differences between WOM and eWOM

Trusov *et al.* (2009) claimed that consumers perceive eWOM as having more long-term value to the firm than traditional marketing channels. However, there are five main differences between the traditional concept of WOM and eWOM. First of all, traditional WOM usually involves opinions with strong ties or groups of people who have a relationship, such as family and friends. On the other hand, eWOM often happens between people who have little or no relationship (Bronner and Hoog, 2011; Jeong and Jang, 2011). Thus, eWOM has a disadvantage in that people who spread the word through online platforms feel little responsibility when posting their comments. Indeed, WOM can identify senders who are known to provide the receiver with credible information, but in eWOM, the messages are provided by unknown senders: therefore, the onus is on the receiver to make judgements and ensure the credibility of these messages (Lee and Youn, 2009).

Secondly, the key characteristic of WOM is that it is spread by oral communication in a face-to-face or interpersonal situation (Jeong & Jang, 2011). Mazzarol *et al.* (2007) pointed out that some researchers have found WOM to be more effective and credible because it is usually provided face to face in communication between people who are familiar with each other, such as close friends, family members and relatives, with express body language and voice tones. However, eWOM is usually in the form of written feedback, which lacks any nonverbal cues (Cheung and Thadani, 2012).

Thirdly, eWOM communication is available to large numbers of users with wider geographic reach, while WOM is restricted to sharing of information between small groups of individuals (Li and Hitt 2008; Steffes and Burgee 2009). With regard to the Internet, eWOM can surmount location constraints. In fact, messages from one reviewer

posted on a website are seen by millions from a wider geographical range (Yildirim, 2011) and remain available for long periods of time (Libai *et al.*, 2010; Jeong and Jang, 2011). Furthermore, eWOM uses various electronic technologies on multiple platforms to exchange information, such as blogs, online review websites and social networking sites (Goldsmith 2006; Hung and Li 2007).

Fourthly, because of the development of the Internet, eWOM is more accessible than traditional WOM. It is faster, saveable, instant to receive, and time independent (Hennig-Thurau *et al.,* 2004). Consumers can express their opinions easily to others (Dellarocas, 2003). Messages posted on the Internet are available 24 hours a day (Hennig-Thurau *et al.,* 2004; Sen, 2008; Hung and Li, 2007). In fact, eWOM is available for indefinite periods of time. Consumers can write their reviews on websites and then others can read and consult these reviews months or even years later (Breazeale, 2009).

Finally, the structure and format of eWOM on the Internet can be observed, ranked, noted and etc., making it easier to measure than WOM (Park and Kim 2008; Chatterjee, 2001). Written opinions or review information seems more formal and is transmitted interactively (Sun *et al.,* 2006).

Nevertheless, many researchers have found that WOM and eWOM have some characteristics in common, as they are both forms of communication which provide consumers' opinions about products, services and brands, whether they have had extremely good or bad experiences and that have motivated them to spread the word to others (Hennig-Thurau *et al.,* 2004; Livin *et al.,* 2008; Andreassen and Streukens, 2009; Pan and Zhang, 2011). Many researchers have found that WOM and eWOM have more effect on the decision process than marketing carried out by companies (Lee *et al*., 2008; Steffes and Burgeee, 2009; Karakaya and Barners, 2010). As discussion above, it can be seen that eWOM could overcome the limitations of WOM due to the methods of communication (Godes and Mayzlin, 2004; Mazzarol *et al.,* 2007; Beak *et al*., 2017). Hence, it has been widely studied in the field of information systems and marketing (Yan *et al*., 2016).

2.2.4 Impact of eWOM

eWOM is becoming a popular source of information for marketers and consumers (Hu *et al.*,2008; Lee *et al.,* 2011b; Cui *et al.,* 2012). Bickart and Schindler (2001) claimed that information from online platforms has greater credibility to the consumer than information on marketers' websites. They collected product/service information from eWOM and the results revealed that COPs as a forum presents readers' interested on eWOM more than traditional or marketing information. However, they claimed that the results do not refer only to consumers who are seeking knowledge about products/ services but also to consumers who are interested in finding more information about these products/services. It could be the reason why eWOM have been drawn much attention from academics and practitioners as one of the most influential sources of information (Lee and Shin, 2014).

There are two aspects of eWOM: individual and population aspects (Yan *et al.,* 2016). eWOM in individual aspect is treated as an interactive process between consumers. It involves communication between senders and receivers of eWOM and its impact on the receiver's decision-making process. In terms of the individual aspect, many researchers have studied factors related to consumers' psychological processes, such as their attitude (Park and Lee, 2008; Doh and Hwang, 2009), trust (Sen 2008; Awad and Ragowsky, 2008), awareness (Davis and Khazanch, 2008), loyalty (Litvin *et al.,* 2008; Gauri *et al.,* 2008; Chen, 2011) purchase intention (Bichart and Schindler, 2001; Park and Lee, 2008, Sher and Lee, 2009; Lee and Lee, 2009; Huang, 2010; Zhang *et al.,* 2010c; Chan and Ngai, 2011; See-to and Ho, 2014; Lerrthairakul and Panjakajornsak, 2014; Tsao and Hsieh, 2015; Elwalda *et al.,* 2016, Erkan and Evans, 2016a; Erkan and Evans, 2016b), persuasive of communication (Ismagilova and Dwivedi, 2017) and information adoption (Cheung *et al.,* 2008; Cheung *et al*., 2009; Zhang and Watts, 2008; Filieri and McLeay, 2014). In contrast, the population aspect highlights the relationship between eWOM and product sales. Most previous research has focused on the impact of eWOM on consumer purchasing decisions in terms of sales (Chevalier and Mayzlin, 2006; Yang and Mai, 2010; Sharma, 2012; Bae and Kim, 2013; Moon *et al.*, 2014; Chern *et al*., 2015). However, a number of researchers have studied the eWOM area using secondary data collected from the Internet and observed from actual

product performance rather than services. For example, Chevalier and Mayzlin (2006) have investigated the characteristics of online reviews that influence subsequent book sales, conducting their research on Amazon.com and Barnes&Noble.com. They found that the impact of negative online reviews is greater than the impact of positive online reviews. Yang and Mai (2010) studied the impact of online reviews on sales of video games, using data collected from two popular third party websites, Gamespot.com and Mmogchart.com. They found that negative reviews effect on sales.

2.2.5 From Electronic Word of Mouth (eWOM) to Online Consumer Reviews (OCR)

Online consumer reviews (OCR) are one type of eWOM that can be either positive or negative, depending on the perspective of the writer (Sen and Lerman, 2007). Mudambi and Schuff (2010, p. 186) defined OCRs as "peer-generated product evaluations posed on company or third party websites". Additionally, OCRs refer to an interaction between consumers for sharing personal opinions, recommendations and complaints in regard to products, services and company (Chatterjee, 2001). OCRs, by sharing their experiences, are helpful to others when making purchase decisions (Park *et al.,* 2007). More details in reviews seem to provide more helpful information to the readers (Ku *el al.,* 2012). Supported by Dellarocas *et al*, (2006), Houser and Wooders (2006) claimed that consumers seriously search for information or online feedback from others when making purchasing decisions. In fact, when consumers are unable to judge a product or service in person, they often rely on OCRs (Werbler and Harris, 2008).

The above discussion has explained that OCRs are one type of eWOM. OCRs are more easily accessibility than eWOM because they are normally posted on company or e-retail websites without restricted access, whereas social media such as Facebook have control over the users who access the information. Only friends on Facebook can use the information posted (Erkan and Evans, 2016a). OCRs play two roles in social influence: from a consumer perspective, they are informants and recommenders (Lee *et al.,* 2008). As an Informant, OCRs deliver additional user oriented information. Park *et al.* (2007) identified three aspects of information provided by OCRs. Firstly, consumer reviews provide information without hiding inferior aspects. Instead, they evaluate the strengths and weaknesses of products/services from consumers' own experience.

Secondly, consumers focus on product attributes and benefits rather than on sales objectives. Finally, there is no standardisation of contents and format for consumers when posting their reviews. Thus, they can express their feelings through words. On the other hand, as recommenders, they provide either a positive or a negative signal regarding the product (Bearden and Rose, 1990). Recommendations from fellow consumers provide more value than those from professional reviewers because consumers perceive fellow consumers' opinions to be free of sales purposes (Bickart and Schindler 2001). In other words, OCRs do not require huge advertising investment (Trusov *et al.,* 2010).

Chen and Xie (2008) noted that OCRs are considered as a new element of the marketing mix and work as free sales assistance. OCRs have become a major source of support for consumers' consumption (Xiang and Gretzel, 2010; Lee *et al.,* 2011b; Bissell, 2012). The number of consumers relying on online reviews to assess services prior to purchase has been increasing due to the evident rise of websites' popularity (Senecal and Nantel, 2004). Forman *et al.* (2008) suggested that consumers have to deal with the uncertainty of online reviews. This might because services are intangible and thus difficult to qualify in terms of features and function. Thus, consumers look to reviews presented by others which provide comments on their levels of satisfaction (Hu *et al.,* 2009). Many reviewers who post negative reviews may have aggressive complaints and wish to alert others to avoid the risk of the products/services (Cheng *et al.,* 2006). OCRs have attracted researchers to investigate this topic area as an important form of eWOM (Purnawirawan *et al.,* 2012). Several studies have investigated the effect of OCRs on consumers' decisions: for example, Kumar and Benbasat (2006) found that OCRs on company websites can improve customers' perceptions of the websites' usefulness and social presence. Elwalda *et al*. (2016) studied perceived derived attributes of OCRs and indicate that OCRs have positive influence on trust and purchase intentions. Nevertheless, as mentioned, OCRs reflect consumers' experience after using products/services (Pai *et al.,* 2013). They seem to provide an opportunity for firms/companies to improve their performance (Wei *et al.,* 2010). Thus, Stringam and Gerdes (2010) suggested that practitioners should monitor OCRs in order to serve and satisfy customers' needs.

2.2.6 eWOM, OCRs and the Different Product Types

Bone (1995) suggested that the value of available information for the purpose increases when consumers find it difficult to judge the products/services. A product can be categorized as either search goods or experience goods. Nelson (1974) defined search goods as products whose quality can be estimated based on previous purchases, whereas experience goods are characterized by attributes that are difficult to assess before purchase. In fact, the different nature of search goods and experience goods lead consumers to judge the product's quality before purchase (Huang *et al.,* 2009). Similarly, Park and Lee (2009) stated that searching for the attribute of search goods on the web 2.0 is much easier than searching for the attributes of experience goods. This might be because consumers post more detail and rich cognitive information about search products rather than experience products. In other words, consumers know about search goods based on their specifications and other attributes, and are thus more likely to buy search goods than experience goods over the Internet (Chiang and Dholakia, 2003).

Park and Lee (2009) suggested that the impact of eWOM depends on product type. Several studies have found eWOM to have more effect on experience goods rather than search goods. For instance, Senecal and Nantel (2004) found that when consumers select experience goods, they are likely to choose products based on recommendations from others. Similarly, Park and Lee (2009) found that negative eWOM has a more positive impact on consumer' purchase intentions toward experience goods compared to search goods. This might be because experience goods cannot be evaluated prior to purchase (Hanson, 2000). Moreover, Park and Lee (2009) claimed that when people intend to buy experience goods rather than search goods, eWOM may have a greater effect on the consumer decision-making process. Hu *et al.* (2008) stated that consumers perceived that the product uncertainty of experience goods is higher than that of search goods. Additionally, reviews of experience goods are more likely than reviews of search goods to be highly ambiguous, personal and subjective, based on consumer judgments (Nelson, 1974). This study intends to focus on experience goods for which consumers seek information from OCRs.

2.3 OCRs and Information Adoption

OCRs has been found to be influential on consumer's information adoption by a considerable number of researchers (Filieri and McLeay, 2014; Cheung *et al*., 2008; Zhang and Watts, 2008; Cheung *et al.*, 2009; Park and Lee, 2009). The adoption of information from OCRs refers to a process in which people purposefully engage in using information (Cheung *et al.,* 2008). Previous studies show that OCRs influence on information adoption in both products and services (Duan *et al.,* 2008; Zhu and Zhang, 2010).

Many researchers have studied the relationship between OCRs and information adoption. For example, Zhang *et al.* (2010b) investigated the impacts of information processing behaviour on consumer decision-making in the context of online review platforms by using the dual process theory to investigate behavioural intention. They studied the direct impact of consumers' adoption of information processing on their behavioural intentions. Zhang and Watts (2008) investigated how members of online communities adopt information from other members to help solve their problems. They developed a framework by using Heuristic Systematic Model (HSM) linked with the information adoption model. They applied disconfirming information and focused on searching as moderators. Survey data collected from two online communities showed that OCRs have a greater impact on information adoption and there is a strong relationship between focused searching and information adoption. Cheng *et al.* (2009) explored how informational and normative determinants influence the perceived credibility and adoption of OCRs. They used an online survey method to collect data in China. They found that OCRs impact on credibility and reputation and are significant to information adoption. However, the survey sample was limited to a single online platform and users might not be interested in filling out an online survey. This was demonstrated when response bias was tested and revealed that 25 percent of respondents showed no difference in the answer. Fang (2014) explored how users of social networking sites adopt information from other users. This study applied the stimulus-organism-response model and effect-as-information theory in its research model. The result showed that the cognitive and affective paths contribute to the adoption of OCRs.

Furthermore, previous researchers extended their knowledge by using the original model of Sussman and Siegal, which was the first to explain the adoption of information in terms of information usefulness, quality of argument, and source credibility. Sussman and Siegal (2003) applied the Elaboration Likelihood Model (ELM) to study consumers' changes in attitude, and while several researchers studied and extended the knowledge of the relationship between eWOM and information adoption in an online context, they all developed their frameworks from Sussman and Siegal (2003). For example, Cheung *et al.* (2008) investigated how OCRs in online communities impact on consumers' decision-making by discovering which factors encourage adoption using information usefulness as a moderator. They applied the ELM and the IAM to explain the factors affecting information adoption in an online customer community. Their model was tested by customers who had experience with this community. They found that eWOM has an impact on information adoption, with the most effective component being argument quality.

Filieri and McLeay (2014) investigated the factors that influence the adoption of information from online reviews. They used the ELM and the IAM to understand the communication route and explore the factors that influence information adoption. In addition, they introduced the concept of product ranking, which summarizes the proportion of consumers' reviews in numeric form. Their framework was tested in the tourism industry and data was collected via online questionnaires from a sample comprising mainly Italian respondents. All questionnaires were sent to academic and administrative staff of three Italian Universities, workers and part-time students. They hypothesised the factors of OCRs and information adoption and confirmed that information accuracy is the strongest factor; they also showed that product ranking is significant to information adoption. However, a growing body of literature on OCRs and information adoption attempts to understand how consumers adopt information which relates to consumer decisions.

2.4 OCRs and Type of Consumer Opinion Platforms (COPs)

The Internet provides new forms of communication platforms that empower both providers and consumers, enabling sharing of information and opinions from businesses

to consumers and consumer-to-consumer. It is convenient to consumers by providing a rich and accessible platform for sharing consumption experiences (Hennig-Thurau *et al.,* 2004). Cox (1967) identified three types of information source: marketer dominated, consumer dominated and neutral: (1) marketer dominated sources refer to sources that are fully controlled by firms' marketers, such as company websites; (2) consumer dominated sources are sources which have interpersonal rather than marketing control, such as online forums; (3) neutral sources refer to sources that are controlled by an independent third party, such as consumer reports. Online opinion platforms became consumer opinion platforms (COPs) as consumer-dominated information sources when consumers started to become involved and posted their opinions on the internet (Akerhurst, 2009; Shao, 2009). COPs refer to Internet platforms which make it possible for consumers to read the opinions and experiences of other consumers in many different areas of consumption (Hennig-Thurau and Walsh, 2003). According to Cheung and Thadani (2012), more than ninety percent of respondents use online review websites, blogs and other form of COPs before they decide to buy products/services. However, consumers might not know about the people who have posted the online reviews. Thus, it is difficult for them to determine the credibility or usefulness of online reviews. The choice of online opinion platforms is one of the cues that consumers consider when deciding whether to use the information from those platforms (Jeong and Koo, 2015). Several types of platform have an impact upon interpersonal relationships, as each possesses different characteristics (Litvin *et al.,* 2008). COPs have become one of the most popular sources for Internet consumers. They are available for Internet products such as electronic products (shopping.com), services (tripadvisor.com; Booking.com; Hotels.com), music and books (Amazon.com) and other products (ebay.com). COPs enable consumers to create and develop activities and provide powerful capabilities to bring consumers, potential consumers and resources together in a virtual environment (Kim and Hardin, 2010; Erden and Cobanoglu, 2010). It has been claimed that types of COP help to support the decision-making process (Helm, 2001).

Nowadays, the number and type of platform are increasing and playing roles that influence information adoption and decision-making (Yaep *et al.,* 2014). From a consumer perspective, the growth in the number of COPs has increased the opportunity for consumers to provide information, complaints and opinions about products and services, and to read product reviews (Perry, 2000; Boush and Kahle, 2002; Chatterjee,

2001; O'Leary, 2002). Consumers search for information using search engine websites in order to fulfil their unique searching needs (Jansen and Spink, 2006). At the beginning of the Internet era, online discussion forums encouraged consumers to discuss their opinions with others. Over time, blogs have been introduced. Consumers can share their experience and comments on their blogs and leave them open for others to read (Chu and Kamal, 2008). Therefore, marketers consider blogs as one type of COP which provide the opportunity to gather feedback directly from consumers (Hsu and Tsou, 2011). With the rapid advancement of technology, online review websites have become one of the most popular platforms which encourage consumers to exchange their experiences and knowledge about products/services (Purnawirawan *et al.,* 2012). Again, the information from online review websites, which is generated by other consumers instead of marketers, is more reliable (Willemsen *et al.,* 2011). Nowadays, consumers have started to use their own identities on the Internet in order to determine the reliability of the information such as social networking sites (Erkan and Evans, 2014).

Social media represent one of the major platforms. Kaplan and Haenlein (2010, p. 61) defined social media as " the group of Internet-based applications that build on the ideological and technological foundations of web 2.0 and that allow the creation and exchange of User-Generated Content". In previous studies, researchers investigated consumer behaviour through different form of social media such as discussion forums (Chiou and Cheng, 2003; Huang and Chen, 2006; Bickart and Schindler, 2001; Zhang and Watts, 2008) blogs (Chu and Kamal, 2008; Hsu and Tsou, 2011; Kozinets *et al.,* 2010, Lee and Youn, 2009; Lin *et al.,* 2012; Chen *et al.,* 2014), consumer review websites (Purnawirawan *et al.,* 2012; Gauri *et al*., 2008; Cheung *et al.*, 2008; Elwalda *et al.,* 2016; Filieri and McLeay, 2014) and social networking sites (Kaplan and Haenlein, 2010; Wang *et al*., 2012; Canhoto and Clark, 2013; Kim *et al.,* 2014; See-To and Ho, 2014; Knoll and Proksch, 2015; Erkan and Evans, 2016a; Yan *et al.*, 2016).

2.4.1 OCRs and COPs in Travel Industry

The advance of the Internet allows consumers to share and receive information from others (Hjalager, 2001). In travel industry, before or during their trips, consumers increasingly use web 2.0 applications to obtain information (Parra *et al.,* 2011).

According to Chau and Xu, (2012) and Oz (2015), social media has been recognised as an innovative knowledge-sharing platform where consumers can connect and interact with others.

COPs are interactive platforms that attract consumers and influence their travel planning process (Pan *et al.,* 2007; Leung *et al*., 2013; Gretzel and Yoo, 2013; Benchendorff *et al*., 2014; Law *et al*., 2014), particularly in the form of social media, such as social networking sites (Facebook, Twitter and Instagram) and consumer review websites (TripAdvisor and Booking.com) are widely used as COPs by travellers (Kim and Park, 2017; Harrigan *et al*., 2017; Israeli *et al.,* 2017). According to previous researchers in the tourism field, consumer review websites such as TripAdvisor is the most used of these social media platforms (Sotiriadis, 2017).

Kucukusta *et al*. (2015) observes that online websites promote tourism products and help to reach potential customers without geographical or time limitations and are a cost-effective way to increase performance. The main purpose of OCRs on COPs, specifically online travel websites, is to provide and recommend alternative choices for consumers (Yoo and Gretzel, 2008). However, De Ascaniis, (2013, p. 150) defined OCRs in travel industry as "travel advice about a destination is given, in the form of a direct or indirect visit recommendation, by expressing an opinion on the destination. A constellation of arguments is put forward to support the opinion, which is based on a personal previous travel experience. Those aspects of the experience or the destination itself that are considered the most relevant are described, and suggestions are provided to help the reader to get the most from her trip. Narratives of the personal travel story and trip details constitute additional elements which contribute shaping prospective tourists' expectations".

The importance of personal recommendations within the travel industry has long been established (Cohen, 1972; Butler 1980; O'Neill *et al.,* 2002; Morgan *et al.,* 2003; Wang *et al.,* 2012; Filieri, 2015b). In other words, consumers tend to plan a trip by seeking opinions from family and friends or talking to a travel agency: this is known in the marketing literature as word of mouth (Carl, 2006; Li and Liu, 2014). For services, consumers cannot try the product before they buy it, or return it if they are unsatisfied. That is why WOM seems especially important in service marketing according to the heterogeneity of service quality and the intangible nature of services (Bansal and Voyer,

2000). However, consumers prefer to read and share travel experience posted by other consumers than to received the reviews from travel service providers (Gretzel *et al.,* 2007). Cantoni and Tardini (2010) suggested that OCRs on travel websites support consumers' decision-making by providing optional information. Hence, OCRs have become an important source of information for consumers and influence their travel intentions (Yun and Good 2007; Pan *et al.,* 2007; Yoo and Gretzel, 2011; Jalilvand and Samiei, 2012; Pietro, Virgilio, and Pantano, 2012).

The phenomenon of OCRs is receiving growing research attention, with many researchers studying their effects in the travel industry (Xiang and Gretzel, 2010; Fotis *et al.,* 2012; Jacobsen and Munar, 2012; Pantelidis, 2010; Zang *et al*., 2010; Vermeulen and Seegers, 2009; Schamel 2012; Cantallops and Salvi, 2014; Israeli *et al.,* 2017). For example, Pantelidis (2010) found that positive comments outweighed negative electronic reviews for restaurants. Zang *et al*. (2010) studied the impact of eWOM on the online popularity of restaurants. Vermeulen and Seegers (2009) studied the impact of online reviews on travel-related decision-making processes. Schamel (2012) investigated the effect of popularity rating on the hotel room price. Israeli *et al.* (2017) investigated consumer's social media reporting behaviour after service failure experiences.

The travel industry consists of five main sectors: the hospitality sector, the attraction and events sector, the transport sector, the travel organizers' and intermediaries' sector, and the destination organization sector (Middleton *et al.,* 2009). See figure 2.1

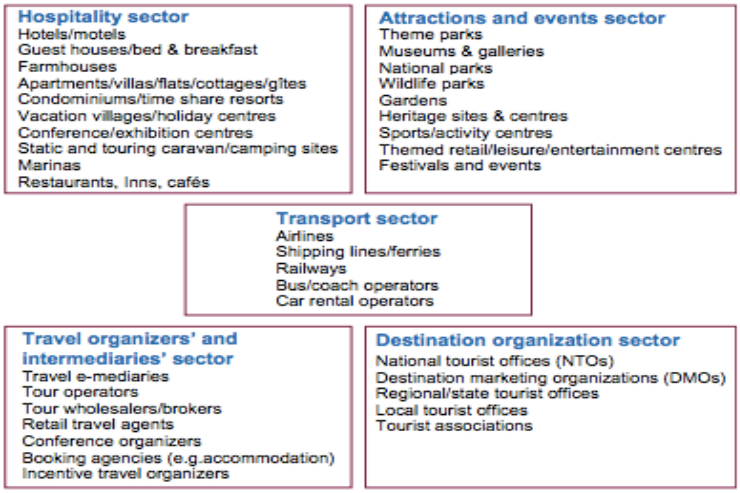

Figure 2.1: Five main sectors in travel industry (Middleton *et al.*, 2009)

Recently, as aforementioned, OCRs have been found to strongly affect the travel industry, particularly in the hospitality sector (Cantallops and Salvi, 2014). The hospitality sector has undergone some of the fastest growth in the global economies and its significant contribution is seen to represent the fastest growth in online industries (Kangogo *et al.,* 2013). Canhoto and Clark (2013) stated that the popularity of OCRs is specifically emphasized within the hospitality sector. This might because OCRs help consumers in their decision-making (Litvin *et al*., 2008; Cox *et al.,* 2009). Most prior literature in the hospitality sector has tended to simply investigate the valence, consequences and the way in which OCRs affect consumers' attitude toward; the sale of hotel rooms (Ye *et al*., 2009; Blal and Struman, 2014), consumer decision making (Gretzel and Yoo, 2008; Cheung and Loi, 2014), hotel performance (Anderson 2012;Xie and Zhang, 2014; Kim *et al*., 2015).

Moreover, many researchers have studied the impact of OCRs on travel-related decision-making (Vermeulen and Seegers, 2009). For example, Sparks and Browning (2010) found that hotels with good reviews are more trusted. Papathanassis and Knolle (2011) and Ye *et al.* (2011a) found that OCRs have been studied in the travel industry, particularly with reference to searching, holiday planning and purchase decisions. Moreover, the importance of OCRs in the hospitality sector was confirmed by Mauri and Minazzi (2013), who studied the influence of OCRs on consumers' purchase intentions and expectations by focusing on independent review websites. They found that more than 75% of respondents from their research consulted reviews from other consumers before booking a hotel. In the same view, Gretzel *et al*. (2007) confirmed the importance of OCRs during the planning step, with consumers visiting travel websites to gather information and evaluate alternatives. Sites such as Tripadvisor and Lonely Planet were used by 92.3% of respondents, whereas online travel agencies or E-merchants were the most used for travel booking. Therefore, it can be seen that OCRs on travel websites are confirmed to be important sources of information which affect consumers' decision-making process.

It is easy for consumers to find information and observe hotel attributes by searching and matching without cost. For example, Law, Chan and Goh (2007) and Law and Hsu (2006) conducted research to investigate comparisons of room rates between travel

websites and hotel websites. They found that hotel websites provide higher rates compare to travel websites. As a result, consumers may look for information from various online sources before making any decision. Indeed, consumers can make bookings directly with the hotel or online travel agency, or via E-merchants' websites such as Expedia.com and Booking.com, or make indirect/direct bookings from independent websites such as Tripadvisor. Thus, consumers can select and compare the price and hotel attributes that are most suitable for them (Yacouel and Fleischer, 2011). Additionally, OCRs not only have an impact on consumers' behaviour and decision-making but also affect business models, as OCRs are strategic and cost-effective marketing tools for business (Hajli, 2015); therefore, travel service providers need to monitor, respond to and understand the impact of OCRs to develop their business (Haussman, 2005; Ye *et al.,* 2011a).

2.4.2 OCRs and Comparison of COPs

Law and Huang (2006) found from their study that search engine sites are more important sources for consumers to find information than personal sources. However, Ascaniis and Gretzel (2013) suggested that people do not go through all sources yielded from their search but only select the sources they think might match their needs. However, there are numerous studies investigating the power of eWOM and OCRs on various COPs: for example, Hennig-Thurau *et al.,* (2004); Mumdambi and Schuff (2010); Zhu and Zhang (2010); Racherla and Friske (2012). Most of them have focused on single platform. Only a few studies of eWOM communication have been investigated across various types of online review platforms. Senecal and Nantel (2004) studied consumers' usage of online recommendation sources and their impact on online product choices. Their study compared three different types of online review websites: those of sellers, commercially linked third parties and non-commercially linked third parties. Their results indicated that types of website do not influence perceived trustworthiness or consumers' propensity to follow the product recommendations. Lee and Youn (2009) studied how eWOM communication from different online platforms influenced consumers' judgments of the products reviewed. Their study examined the effect of personal blogs, product review websites and brands' websites on product judgments. They found that there was no difference in the influence of branded review websites and independent websites.

Luo *et al.* (2014b) compared two types of website, namely commercial and third party websites, using ELM and the principle agent theory approach. They found central factors of OCRs have a significant effect on information adoption. Yeap, Ignatius and Ramayah (2014) investigated consumers' most preferred eWOM platforms for movie reviews and examined the criteria that form an effective eWOM platform. The Fuzzy Analytic Hierarchy Process was employed to evaluate four types of eWOM, including personal blogs, review sites, social networking sites and instant messaging sites. They found that review sites are the most influential in spreading eWOM compared to other platforms.

Tsao and Hsieh (2015) investigated the influence of eWOM on purchase intention using eWOM platform types (specifically, independent websites and corporate websites) and product type as moderators. They found that types of posting platform did not significantly influence purchase intention. Erkan and Evans (2016a) have recently compared information adoption across various electronic platforms. Their study compared social media such as Facebook and shopping websites in the context of purchase intention. They found that eWOM on shopping websites has more influence on consumers' online purchase intentions than social media. Baek *et al*. (2017) investigated the impact of eWOM through different types of social media (Twitter, Yahoo!Movies, YouTube, and Blogs) on box office revenue across different phases of movie screenings based on Roger's innovation diffusion model. They found that eWOM through Twitter was the most influential in the initial stage of the movie's opening, whereas Yahoo!Movies had a stronger impact on box office revenue in the later stage. Moreover, there was no different impact of blogs and YouTube on box office revenue. They were consistent from the initial stage until the last stage.

However, particularly in the travel industry, to the author's knowledge, Inversini and Masiero (2014) explored the reason for hoteliers' adoption by comparing the influential factors across online travel agencies and social media websites in terms of online sales. They also investigated the technology related to these two practices. The findings showed that, in terms of online sales, hoteliers perceived that there was a relationship between social media and online travel agencies, in which social media had a stronger effect on online travel agencies than online travel agencies had on social media. The

probability that hoteliers would perceive social media and online travel agencies to be important for sales varied according to several factors and was different across the two variables investigated. However, from consumers' perspective, only Manthiou and Schrier (2014) have examined tourists' perception, comparing traditional review guidebooks and online travel review websites in Greek. They found that there are a number of factors that influence information adoption. Table 2.1 shows the different typologies in classifying online review platforms in previous studies.

Table 2.1 the different typologies in classifying online review platforms

Authors	**Typology**
Senecal and Nantel (2004)	Sellers' website
	Commercially linked third party websites
	Non commercially linked third party websites
Lee and Youn (2009)	Personal blogs
	Company brand's websites
	Independent product review websites
Luo *et al*. (2014b)	Commercial websites
	Third party websites
Manthiou and Schrier (2014)	Traditional review guidebooks
	Online travel review websites
Yeap *et al.* (2014)	Personal blogs
	Review sites
	Social networking sites
	Instant messaging sites
Inversini and Masiero (2014)	Social media
	Online travel agency
Tsao and Hsieh (2015)	Independent websites
	Corporate websites
Erkan and evan (2016a)	Social media
	Online shopping websites
Baek *et al*. (2017)	Twitter
	Yahoo!Movies
	Youtube
	Blogs

Based on the above discussion, there has been relatively little attention in academic research in terms of comparison between COPs. Additionally, in the online context, the information adoption approach has its limit to capture the impacts of OCRs between the different types of consumer review websites (Filieri and McLeay, 2014). Consumers rely on different information sources to support their decision process (Buhalis and Law, 2008; Inversini and Buhalis, 2009; Inversini and Masiero, 2014). Therefore, different from prior studies, this study will acknowledge the influence of OCRs on

information adoption by attempting to identify the factors of OCRs from different types of consumer review website that influence information adoption.

2.5 The Main Types of Consumer Review Website in the Travel Industry

For the last few years, online travel websites have been available for consumers who need to search for information for decision-making purposes (Law and Cheung, 2010). From a review of the literature on the travel industry, there are two main types of online review website which provide OCRs for consumers: (1) independent websites which consist exclusively of consumer reviews of hotels and services, such as TripAdvisor and Yelp, and (2) E-merchants' websites, which allow consumers to share their opinions and consult online reviews and also to book hotels, such as booking.com and Expedia (Filieri and McLeay, 2014). This study focuses only on these two types of consumer review website. Consumer review websites were selected among the other COPs because reaching consumers from these websites are more convenient when compared to other platforms. In other words, these two kinds of website have different purposes, providing information to consumers with unique attributes in the same industry. Additionally, these platforms are becoming an important focus into marketing, ecommerce and eTourism (Inversini and Masiero, 2014).

2.5.1 Independent Websites

Independent websites are not used for commercial purposes but are platforms where travellers share a common interest related to products and services (Kiecker and Cowles, 2002). Independent websites are a type of platform that is non-transactional in nature. This means that travellers cannot purchase services directly from these websites, which only offer reviewing and trip planning information (Mauri and Minazzi, 2013). In fact, independent websites are a kind of non-commercial third party that facilitates travellers' searching for information (Senecal and Nantel, 2004). Independent websites play a role in sharing opinions in communities for the exchange of consumer reviews about products/services (Ku *et al.,* 2012). Some authors consider the anonymity offered by these sites as an advantage for OCRs because it encourages travellers to share their opinions more comfortably (Goldsmith and Horowitz, 2006). However, independent

review websites only require reviewers to provide personal identifying information such as an email address, name, gender and place of residence in order to determine the credibility of the messages (Xie *et al*., 2011). Even though OCRs on independent websites come from strangers, they are still more credible than hotel websites (Cheung *et al*., 2009; Truong and Simmons, 2010).

TripAdvisor is a prominent example an OCR platform within the travel industry (Buhalis and Licata, 2002; Vermeulen and Seegers, 2009; Jeacle and Carter, 2011). TripAdvisor was created in response to travellers' demands for unbiased information (D'Ambra and Wilson, 2004). According to Litvin *et al*. (2008), TripAdvisor is a good example of a COP where consumers share their opinions online. It is the largest platform for travellers to post unbiased opinion reviews and give the real story about hotels, restaurants and attractions (Jalivand *et al*., 2013). TripAdvisor produces valuable information for travellers (Hajli, 2016). The website collects reviews from large numbers of travellers and is relatively impartial, independent and less biased than travel agency websites (Law, 2006; Ye *et al*., 2009). More than seventy percent of travellers usually or always reference OCRs from TripAdvisor reviews before selecting a hotel and it stands out as a website that consists exclusively of customer reviews of the travel industry, including hotels, restaurants and transportation (TripAdvisor, 2016). Tham *et al.* (2013) mentioned that TripAdvisor is a travel-specific source of COPs where travellers can examine OCRs about tourism products/services. In addition, consistent information or suggestions that are relevant to the finding increase the likelihood that travellers will follow the OCRs' advice. This website does not allow consumers to make bookings but provides link to travel agencies, service providers and hotel websites (Rabanser and Ricci, 2005).

2.5.2 E-Merchants' Websites

Web 2.0 provides alternative ways of gathering information and undertaking transactions in the hotel market. Online transactions are conducted rapidly, especially with online E-merchants' websites (Buhalis and Licata, 2002; Kuom and Oertel, 1999). E-merchants' websites are third party companies that play a crucial role in the travel industry and are more powerful than hotel websites (Morosan and Jeong, 2008). Law *et al.* (2007) claimed that E-merchants' websites have become a common way to make

travel plans and arrangements. It could to be said that E-merchants' websites are third parties that provide an increasingly important service in the travel industry. However, most of them have no physical outlets. They provide their services via Internet websites. Hence, the number of E-merchants' websites is increasing, while consumers are increasing in their confidence in searching for OCRs from online review websites (Kim *et al.,* 2009).

The advantage of E-merchants' websites is that they provide a one-stop shop for consumers to book and buy the entire holiday (O'Connor, 2008). Consumers tend to buy travel products from E-merchants' websites rather than hotel websites (Inversini and Masiero, 2014). This might because these websites build their success on economies of scope by offering consumers cheaper prices or great deals (Gazzoli *et al*., 2008; Kim *et al.,* 2009). As a business model, E-merchants and hotel comparison websites purchase hotel rooms at a cheaper price and mark them up for sale at a profit on their websites and still undercut the hotel (Tso and Law,2005; Tranter *et al.,* 2009) or E-merchants earn commission from the hotel when they sell hotel rooms (Garrigos-Simon *et al.*, 2017). In addition, these websites usually provide packages of complementary products/services reduce the risk and facilitate the searching and matching process (Jin and Kato, 2006). Therefore, the reach of travel E-merchants is quite large.

There are many types of E-merchants websites, such as Booking.com, Expedia, Agoda, Hotel.com etc. Among these websites, Booking.com is the most popular platform (Inversini and Masiero, 2014). Booking.com is the world's leading online travel agency. It contains a large number of online consumer reviews, which subsequently attract individuals to make reservations (Garrigos-Simon *et al.,* 2015). In addition, Booking.com focuses more on hotels (Chaves *et al*., 2012). Yacouel and Fleischer (2011) claimed that E-merchants' websites are more reliable sources of experiences for prospective consumers. Also, the reviews encourage hotels' marketers to put effort into improving goods and service quality in order to increase the profitability of both hotels and E-merchants' websites. E-merchants only publish reviews from existing consumers who have booked the services through their websites. Web marketers make efforts to encourage their real customers to provide their experience through reviews. They email consumers after their stay in order to ask them to provide reviews (Gretzel and Yoo,

2008). Moreover, the hotel descriptions on websites are monitored by marketers to ensure that the information and reviews are accurate. E-merchants have relationships with both hoteliers and consumers. Thus, the websites need to provide reliable information to keep their customers and guarantee their websites' credibility (Yacouel and Fleischer, 2011).

2.5.3 Similarities and Differences between Independent and E-merchants' Websites

This study investigates how consumers adopt information from independent and E-merchants' websites as COPs. One question that arises is what are the similarities and differences between independent and E-merchants' websites. The key similarity is that online reviews from both types of site are only created by consumers, not marketers (O'Connor, 2008; Ku *et al.,* 2012). Both types are third party websites that facilitate consumers to search for the information they need (Senecal and Nantel, 2004). In fact, these websites provide and evaluate information about travel choices contained in online consumers' reviews, and offer promotions to consumers (Law *et al*., 2015).

However, independent websites differ from E-merchants' websites in a number of respects. Firstly, the main function of independent review websites is to collect and spread OCRs without engaging in commercial transactions (O'Connor, 2008). Consumers are not able to make a hotel booking on these websites, but they provide links to various travel agencies and hotel websites (Rabanser and Ricci, 2005), whereas E-merchants' websites present a one-stop shop where travellers can read OCRs and purchase the products/services from them. Secondly, OCRs on Independent websites can be from anyone who wishes to provide their opinion to others, but OCRs on E-merchants' sites are generated by consumers who have bought the products/services from their websites (Gretzel and Yoo, 2008). In fact, their reviews are submitted by consumers after their stay at any hotels booked through their websites (Garrigos-Simon *et al*., 2017). Moreover, independent websites only require reviewer to provide identifying details such as email, name, gender and age when they register before providing their reviews. In contrast, OCRs on E-merchants' websites are created by existing consumers who have made purchases from the website and have therefore

provided more detailed personal information purchasing products/services from the websites (Yacouel and Fleischer, 2011). Nonetheless, OCRs on Independent websites cannot be modified or deleted by marketers, whereas on E-merchants' websites, marketers can monitor, control, modify or delete the negative reviews (Xue and Phelps, 2004). Moreover, due to their financial relationship, E-merchants' websites earn commission from the hotel depending on the number of rooms they sell. The average commission charged by websites such as Booking.com and Expedia is more than eighteen percent of the price of the hotel room (Garrigos-Simon *et al.,* 2017) but independent websites earn only a single fixed fee from each hotel when it provides its contact details. It can be seen that the two types of platform have different purposes. The purpose of E-merchants is to improve sales performance to earn more profit/commission through the use of OCRs, whereas independent websites need to enhance the value of the forum, provide a great amount of reviews, by attracting high visitor volume (Gretzel *et al*., 2007; Luo *et al.,* 2014b).

Given such differences, a unique characteristic of independent websites compared to E-merchants is that they are constructed from the accumulated opinions of fellow consumers. The different characteristics of independent and E-merchants' websites could provide different factors of OCRs that influence whether consumers adopt the information, or not.

2.6 Theoretical Foundation

2.6.1 Information Adoption Model (IAM)

Adoption theories propose to explain the process that people go through when they decide to perform an activity. The Information Adoption Model (IAM) was introduced by Sussman and Siegal (2003) and is an extension from the related components of the Technology Acceptance Model (TAM: Davis, 1989). However, the TAM originated from the Theory of Reasoned Action (TRA: Fishbein and Ajzen, 1975). The TRA focuses on behaviour intention, whereas the TAM is more widely used in the context of information systems (Ozkan, Bindusara and Hackney, 2010).

The TRA postulates that individuals' behaviour is driven by their intention to perform that behaviour. It is a function that consists of a person's attitude towards behaviour and subjective norms (Fishbein and Ajzen, 1975), as seen in Figure 2.1. Attitude towards behaviour (personal expectations) is a function of prior beliefs about the consequences of performing the target behaviour and the evaluation of those consequences. On the other hands, subjective norms (personal expectations) are the individual's perception of whether most people who are important to them will approve or disapprove of the untended behaviour (Fishbein and Ajzen, 1975. Moreover, behavioural intention is applied to measure the level of intention or motivation (Ajzen, 1991).

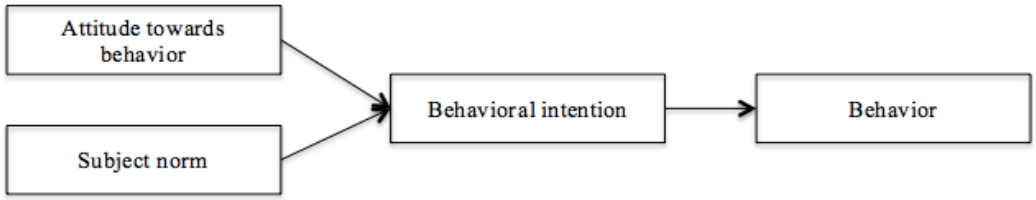

Figure 2.2: Theory of Reasoned Action (Fishbein and Ajzen, 1975)

The Technology Acceptance Model (TAM) is an adaptation to the TRA proposed by Davis (1989), and was developed to predict and explain computer-based technology usage behaviour. It has been applied to identify any behavioural issues of the user in the acceptance of new technologies (Yui, Grant and Edgar, 2007; Lee, Kim and Hackney, 2011; Erkan and Evans, 2015) and it has been widely accepted as a model to explain online consumer behaviour (Gefen *et al.,* 2003). The TAM consists of two main components that influence users' attitudes towards adoption, namely perceived usefulness and perceived ease of use. Perceived usefulness refers to " the degree to which people believes that using particular system would enhance his or her job performance", (Davis, 1989, p. 320). While, perceive ease of use refers to "the degree to which a person believes that using a particular system would be free of effort", (Davis, 1989, p. 320), see as figure 2.3.

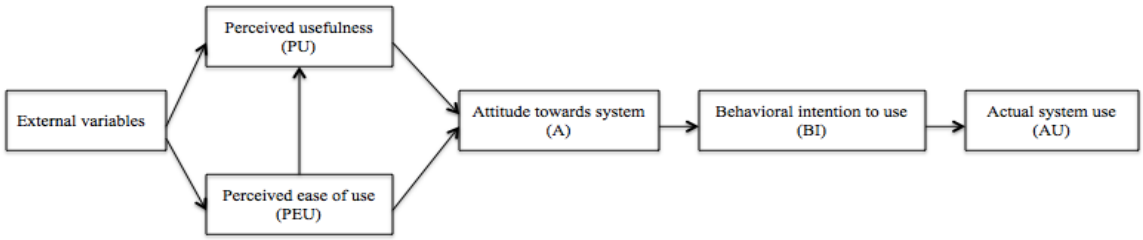

Figure 2.3: Technology Acceptance Model TAM (Davis, 1989)

Although the TAM has been widely used by researchers within the online context (Rauniar *et al.,* 2014; Alenezi *et al.,* 2015; Elwalda *et al.,* 2016) it has been criticized for its limited explanatory power (Riffai *et al.,* 2012; Elwalda *et al.,* 2016; Erkan and Evans, 2016b). It neglects the essential social processes of information development and implementation and mostly focuses on individual perceived usefulness (Raffai *et al.,* 2012). Additionally, the TAM cannot deliver a satisfactory understanding of customer intentions (Ayeh, 2015).

Extended from the TAM, Sussman and Siegal (2003) proposed the IAM, which was developed by integrating the TAM (Davis, 1989) with dual process models of information influence (e.g. Petty and Cacioppo, 1986; Chaiken and Eagly, 1976). The IAM is underpinned by four constructs: argument quality (presented as the central route), source credibility (presented as the peripheral route), information usefulness and information adoption, as shown in Figure 2.5. Argument quality refers to the persuasive strength of arguments embedded in an informational message (Bhattacherjee and Sanford, 2006). Source credibility refers to the extent to which an information source is perceived to believable, competent and trustworthy by information recipients (Petty and Caciopo, 1986). Information usefulness refers to the extent to which the reader perceive the received information as valuable and it can helps them to make a better purchasing decision (Sussman and Siegal, 2003). Information adoption refers to a process in which people purposefully engage in using information (Cheung *et al.,* 2008).

Sussman and Siegal's study investigated how consultants are influenced to adopt information that they receive in knowledge transfer using computer-mediated communication. They found that the ELM plays a positively significant role in the relationships between information construction and information adoption. Moreover, they also found that information usefulness has a positive and significant effect on the information influence process. The IAM is widely accepted in the field of information systems and marketing as being applicable to eWOM studies to explain how people process persuasive information (Cheung *et al.,* 2008; Jin *et al.,* 2009; Filieri and McLeay, 2014; Zhang *et al.*, 2014; Shu and Scott, 2014; Zhu, Chang and Luo, 2016).

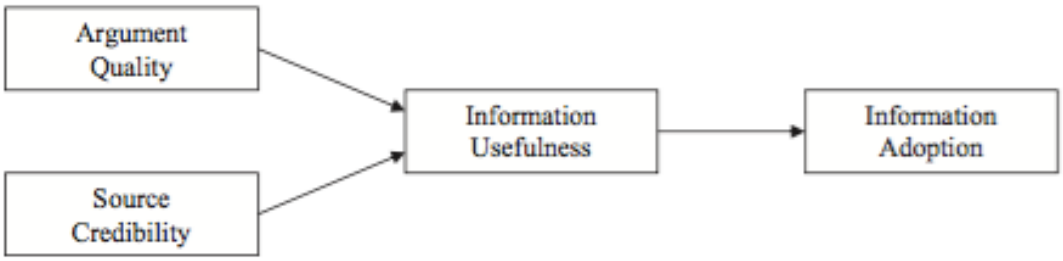

Figure 2.4 Information adoption model, Sussman and Siega (2003)

Sussman and Siega (2003) have stated that the TRA and the TAM are useful in the first step of understanding that consumers form intentions to adopt technology or behavioural intentions based on their beliefs towards adopting the message. In fact, adoption models such as the TAM and the TRA can explain the first step in understanding intentions towards adopting information, but they cannot explain the influence process. Moreover, the TAM has been used to investigate the acceptance of new technology (Hossain and de Silva, 2009; Kwon and Wen, 2010; Sparks and Browning, 2010; Elwalda *et al*., 2016) whereas the IAM was constructed in an effort to better understand how people form intentions toward adopting knowledge in specific advocated ideas, behaviour or technology (Sussman and Siegal, 2003). Additionally, the IAM is able to explain the motivation for users' intention to use information (Jin *et al.,* 2009). Therefore, this study draws upon the IAM to understand how consumers process information from OCRs on online review websites.

2.6.2 Dual process Theory (DPT)

Several theoretical foundations from previous studies have investigated how consumers are influenced by the received eWOM, such as dual process theory (Cheung *et al.,* 2009; Sussman and Siegal, 2003; Park and Lee, 2009; Li and Zhan, 2011; Lis, 2013; Gupta and Harris, 2010; Zhang and Watts 2008; Filieri and McLeay, 2014; Filieri 2015a), interpersonal theory (Bickart and Schindler, 2001; Wathen and Burkell, 2002; Lee *et al.,* 2008), attribution theory (Qiu and Li, 2010; Lee and Youn, 2009), social presence theory (Kumar and Benbasat, 2006), social ties (Brown *et al.,* 2007), and cognitive fit theory (Park and Kim, 2008; Wu and Wang, 2011). Among these various theories, most of the existing eWOM studies have employed dual process theory as a theoretical base in order to study the impact of eWOM communication on consumers' decision processes. It might because DPT provides a powerful foundation to explain the

persuasive process and its effect on consumer attitude change (Cheung and Thadani, 2012).

According to Chaiken and Eagly (1976), eWOM is a message that is created by individuals for individuals. The same contents might elicit different responses in different recipients. Thus, it is interesting for researchers to study the process of information transfer to understand the adoption of information and its influence on people (Nonaka, 1994). Dual process theory (DPT) is one of the original persuasion theories under the principle of psychology. It can be used to explain how different types of determinants influence the persuasiveness of information. Thus, this study adopts DPT as the theoretical framework to investigate the influence of OCRs and information adoption.

In the field of psychology, a number of models have been developed to understand and explain consumers' attitude formation and change in persuasive settings. Many theories have been applied to explain how people are influenced by received information. From a review of the literature, dual process theories have long been proposed to understand individuals' persuasive communications (Chaiken, 1980; Petty and Cacioppo, 1986) and also to provide comprehensive discussion on how individuals process information before they make a decision (Eagly and Chaiken, 1993). Additionally, dual process theories (DPTs) can describe the process and condition when people accept information (Watt and Wyner, 2011). However, in Information System (IS) research, a number of existing studies, such as the works of Sussman and Siegal (2003), Zhang and Watts (2008), Cheung *et al.,* (2009), Zhang *et al.,* (2010b) and Filieri and McLeay (2014) have applied dual process theory to understand how individuals' information processing behaviour can influence their decision outcomes after they have received a message from COPs. The various DPTs may differ on a number of dimensions but they all present the basic consumption, including two different modes of information processing related to the decision-making process (Chaiken and Trope, 1999). In the literature on DPTs, there are three prominent theories: the theories of informational social influence and normative social influence (Deutsch and Gerrard, 1995), the elaboration likelihood model (ELM: Petty and Caciopo, 1986) and the heuristic-systematic model (HSM) Eagly and Chaiken, 1993).

Deutsch and Gerard (1995) posited that there are two different types of social influence upon individual judgment. These are informational social influence and normative social influence, which are used as two components of social influence on the persuasiveness of received messages. Deutsch and Gerard (1995, p. 629) defined information social influence as " an influence to accept the information obtained from another as evidence about reality" and normative social is defined as "an influence to conform with the positive expectations of another".

Moreover, Petty and Cacioppo (1986) developed the ELM, which posits two different routes – the central route and the peripheral route – by which a message can affect attitudes among individuals. The central route requires the individual to think about issues related to the argument in the information, whereas the peripheral route refers to issues that are indirectly related to the subject matter of the information.

Furthermore, Eagly and Chaiken (1993) developed the HSM, which posited two ways of information processing when people consider the validity of the information: systematic processing and heuristic processing. Systematic processing is used when people examine all information and incorporate it into what they already know, whereas heuristic processing is used when people consider a few informational cues and form a judgment based upon on these cues.

Both the ELM and the HSM are useful and commonly used for understanding the effect of eWOM on consumers. Cheung and Thadani (2012) stated that these theories are widely used to investigate eWOM communication. Chen and Chaiken (1999) stated that the HSM and ELM maintain that the central route and systematic processing require consumers' motivation and capacity. In contrast, peripheral and heuristic might occur processing with low motivation or capacity. Gupta and Harris (2010) have claimed that eWOM serves as an additional argument when the motivation to process the information is high, whereas simple decision-making by cue happens when the motivation to think about the information is low.

However, HSM and ELM have many of the same common concepts and ideas. Gupta and Harris (2009, p. 2) have mentioned that ELM and HSM theories are based on "the amount of thought devoted to an argument, proposing a continuum of elaboration".

They both provide similar mechanisms to explain the processing of information: that is, they have similar conceptions of the central route and systematic processing, peripheral and heuristic processing and similar views on the antecedents and consequences of the processing mode. However, ELM differs from HSM in the number of respects. ELM assumes inverse relationship between central and peripheral route along the elaboration continuum whereas HSM assumes the systematic and heuristic processing occur simultaneously in either independent or interactive effects (Chen and Chaiken,1999). ELM has been used specifically to model persuasive communication, while HSM is applicable to a wide range of validity-seeking contexts (Chaiken *et al.,* 1989).

In keeping with the aim of this research, the researcher utilizes the ELM in this study for three reasons. Firstly, the ELM explains how individuals are influenced by OCRs and information adoption is the outcome of the process. In fact, this theory can predict the extent to which an individual will be influenced by the information rather than trying to explain the processes by which that individual processes the information (Ferran and Watt, 2008; Zhang and Watts, 2008). Second, the ELM is the most widely used and accepted model in the field of consumer information processing (Ham *et al.,* 2008). Finally, in marketing research, the ELM has been widely adopted in order to understand what makes information most persuasive (Tam and Ho, 2005; Luo *et al.*, 2014b; Luo *et al.*, 2014c; Baek *et al.,* 2015).

2.6.3 Elaboration Likelihood Model (ELM)

The Elaboration Likelihood Model is one of the most popular theories of the past 30 years and can explain consumers' reactions to online consumer reviews by focusing on information processes. The Elaboration Likelihood model was developed by Petty and Cacioppo (1983; 1986), who provided a theoretical framework for understanding the effectiveness of persuasive communication and consumer information processing. The likelihood of elaboration is influenced by the individual's motivation and ability to process information (Petty and Cacioppo, 1983). Chaiken *et al.* (1980) have claimed that the ELM is generally based on modelling persuasive communication. When information is being communicated, many steps occur before persuasion is achieved (Kasulis and Zaltman, 1977). A persuasive communication model that postulates

information which thought about or elaborated impact to persuasion has presented in figure 2.2 (Petty and Wegener, 1999).

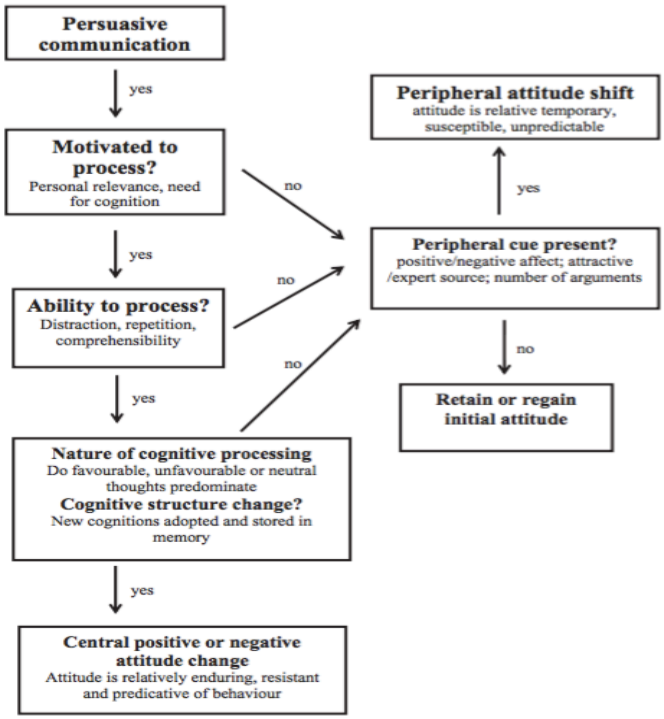

Figure 2.5 The Elaboration Likelihood Model (ELM) (Petty and Wegener,1999)

According to Petty and Cacioppo (1986), the ELM is an informational processing theory that exploits the influences of information when consumers receive it in persuasive communication. They posited two major routes of elaboration: the central route and the peripheral route. If an attitude change requires high amounts of cognitive processing, it requires the central route, whereas other attitude changes require little cognitive effort and use the peripheral route. In detail, the central route is activated mainly in two cases: (1) when consumers make more effort in thinking about the argument; (2) when the receiver of the information can draw upon past experience and knowledge to scrutinise and evaluate the information presented. In other words, consumers use the central route when their motivation and ability to consider persuasive information are high. Consumers judge the information based on their cognitive effort of elaboration in developing a thoughtful evaluation of the information (Petty and Cacioppo, 1996). Consumers using the central route, thinking critically and in a state of high elaboration likelihood, are more likely to find the information and to be persuaded by argument quality. However, people cannot always think critically about all the information that they receive. Hence, consumers who lack critical thinking ability and

are in a low elaboration state tend to take shortcuts using peripheral cues. In fact, consumers use the peripheral route based on cues rather than on the information itself to judge persuasive information (Petty and Wegener, 1999).

The central route is differentiated from the peripheral route on the basis of three perspectives. The first is cognitive effort: the central route involves more cognitive effort than peripheral route. In other words, central route requires more thoughtful comprehension, evaluation of the quality of arguments and using both of supporting and conflicting arguments to make a judgment, whereas the peripheral route focuses less on the quality of the argument (Petty *et al.,* 1981). Secondly, information processing via the central route is based on arguments as information, but peripheral processes are based on cues. Finally, in terms of perception, the central route has more stable and long term perception and behaviour because the individual has already engaged in deliberate and thoughtful consideration of arguments, while the peripheral route tends to be based on less thought and is less predictive of long-term behaviour (Petty and Cacioppo, 1986).

The ELM is often used in eWOM studies (Cheung and Thadani, 2012). It has been applied to investigate the effect of eWOM on consumer scepticism (Sher and Lee, 2009), consumer expertise (Park and Kim, 2008) and consumer involvement (Park *et al.,* 2007). It can help to explain the process and reaction of consumers to eWOM by focusing on the information processing procedures and the consumer's response (Lee *et al*., 2008).

Based on the above, the ELM is concerned with the degree to which the issue evokes an individual either to elaborate or think about the issue and to use critical steps in achieving attitude change (Petty and Wegener, 1999). Moreover, Tubb (2003) stated that elaboration tends to increase long-term storage of the information and leads to strengthening of the existing attitude (Petty and Wegener, 1999) and guidance for future behaviour (Bagozzi *et al.,* 2002).

2.6.4 IAM and ELM

Sussman and Siegal (2003) validated that the ELM and the IAM provide understanding of explanations for information adoption behaviour in the context of information adoption such as Cheung *et al.,* (2008), Tseng and Kuo (2014), Filieri and McLeay (2014), and Shu and Scott (2014). Cheung *et al.,* (2008) applied multiple dimensions of information quality and source credibility, which are the key factors in the mediating effect of information usefulness in information adoption. Moreover, particularly in the travel industry, the ELM and the IAM can be used for understanding information. Tseng and Kuo (2014) extended Sussman and Seigal's (2003) model to explain consumers' intention to adopt information from travel websites. Filieri and McLeay (2014) investigated consumers' use of online reviews influenced by information adoption. Shu and Scott (2014) investigated the influence of argument quality or source credibility of social media content on destination attractiveness among Chinese students and argued that the ELM and IAM perspectives could help to understand information adoption in social media. Table 2.2 shows the previous studies of the ELM and the IAM.

Table 2.2 : The studies of the ELM and the IAM in prior studies

Study	Title	Methodology	Key findings and conclusion
Sussman and Siegal (2003)	Informational Influence in organizations: An integrated approach to knowledge adoption	Interview and survey	This research offer the process models use to understand information adoption which hightlights information usefulness as a mediator of information adoption process.
Lee, Park and Han (2007)	The effect of negative online consumer reviews on product attitude: An informative processing view	Experiment	High quality of OCRs has more influential than low quality OCRs in consumer's attitudes.
Park, Lee and Han (2007)	The effect of online consumer reviews on consumer purchasing intention: the moderating role of involvement	Experiment	Consumers' purchasing intention increase along with review quantity. Moreover, review quantity has more effect to low invovement conusmers than review quality whereas both of review quantity and quality has effected to high involvement.
Cheung, Lee and Rabjohn (2008)	The impact of electronic word of mouth: The adoption of online opinions in online customer communities	Survey	Relevance and comprehensiveness are positively significants on information usefulness whereas source expertise and source trustworthiness were not found significant to information usefulness. Moreover, information usefulness has a strong influence on consumers' adopt the information with in onlne communities
Fan, Miao, Fnag and Lin (2013)	Establishing the adoption of electronic word of mouth through consumers' perceived credibility	Survey	Source credibility, eWOM quality and eWOM quantity significantly affect consumer's perceived eWOM credibility. Consumer's perceived eWOM credibility positively influences consumer's information adoption.
Filieri and McLeay(2014)	E-WOM and accommodation: An analysis of the factors that influence Travelers' adoption of information from online reviews	Survey	Information acuuracy , information value-add and information relevance have grater impact to travelers. Product ranking was found to be strongest predictor of travelers' adoption of information from online reviews.Moreover, the results indicated that high involvement travellers adopt both of central and peripheral routes when they process information from OCRs.
Cheuan, Li , Zeng abd Yao (2014)	Managing uncertainty on eWOM: Acomparison study between commercial and third part websites	Survey	argument strenght, consistency , comprehensiveness and quantity were found positively significant on onformation adoption.
Shu and Scott (2014)	Influence of social media on Chinese students' choice of an oversea study destination: An information adoption model perspective	Experiment	The characteristics of the message (argument quality and source credibility) have a strong influence on consumer adoption of information.
Manthiou and Schrier (2014)	A comparison of traditional VS electronic word of mouth in the greek hotel market: An exploratory study	Survey	information relevance, understandability, sufficiency, objectivity, timliness, accracy, persuasiveness, trustworthiness, expertise significantly effect to informaition usefulness and led to a stronger information adoption from online travel review websites. In contrast, the analysis of the printed travel guidebooks shows objectivity and timeliness were found not to be significant to information usefulness. In addtition, accuracy and trustworthiness has negative effect to information usefulness.
Tseng and Kuo (2014)	Investigating the Effects of Information Quality and Perceived Risk on Information Adoption on Travel Websites	Survey	Argument quality, source credibility and visual design attractively persuadecustomers to adopt information adoption via both perceived usefulness and perceived enjoyment.

2.6.5 Dimensions of the OCRs

In terms of OCRs, Argument quality defined as "the audience's subjective perception of the arguments in the persuasive message as strong and cogent on the one hand versus weak and specious on the other (Petty and Cacioppo, 1981, p. 264-265)". In marketing research, online communication context, argument quality is known as information quality. Information quality refers to the level of content of the information and how it is fit for the consumer purpose and it has been described as the strength of meaning embedded for the information (Yeap *et al*., 2014). From the perspectives of the central and the peripheral route, information quality is represented by the central route. It plays an important role in consumers' evaluation of products/services (Erkan and Evans, 2016a; Erkan and Evans, 2016b). Numerous studies have extended the components of information quality (Chung *et al*., 2015). On the other hand, source expertise and source trustworthiness are two well-established components of source credibility and have been used as important determinants of OCRs as peripheral route (Dou *et al*., 2012). Source credibility refers to the extent to which the reviewer is perceived as a credible source for product/service information and can be trusted to give an objective opinion on the product (Goldsmith *et al*., 2000). In addition, existing research has extended several factors within the peripheral route to evaluate consumers' decision processes (Filieri and McLeay, 2014). However, most researchers have identified different factors of the central and the peripheral route to evaluate the different levels that influence consumers' decision processes. Table 2.3 presents the most widely used dimensions from previous studies.

Table 2.3: The most widely used dimensions of OCRs in prior studies.

Dimensions	Definitions	Studies
Timeliness	The information are curreny, timely and up to date	Bailey and Person (1983);Doll and Torzadeh (1988);Negash et al (2002);Wixon and Todd (2005); DeLone and McLean (2003); Filieri and McLeay (2014); Manthiou and Schrier (2014); Bandyopadhyay (2016)
Accuracy	The reliability of the information	Bailey and Person (1983);DeLone and McLean (2003); Doll and Torzadeh (1988); Negash et al (2002); Wixon and Todd (2005); Filieri and McLeay (2014)
Relevance	The extend to which the information are applicable, What the consumer want and what is provided by the information	Bailey and Person (1983); DeLone and McLean (2003); Negash et al (2002); Wiman and Todd (2005); Filieri and McLeay (2014);Manthiou and Schrier (2014)
Understandability	Clarify of information	DeLone and McLean (2003); McKinney et al., (2002); Filieri and Mcleay (2014); Wang and Strong (1996); Filieri and McLeay (2014), Manthiou and Schrier (2014)
Completeness	The complete of information	Bailey and Person (1983); DeLone and McLean (2003); Wixon and Todd (2005); Negash et al (2002); Wnag and Strong (1996); Filieri and McLeay (2014)
Source expertise	The knowledge and skill of information source	Cheung, Lee and Rabjohn (2008); Senecal and Nantel (2004);Cheung and Thadani (2012);Manthiou and Schrier (2014)
Source trustworthiness	The accuaracy and truthful of information source	Cheung, Lee and Rabjohn (2008); Senecal and Nantel (2004);Cheung and Thadani (2012); Chu and Kamal (2008);Manthiou and Schrier (2014)
Review quantity	Total number of posted reviews	Lee, Park and Han (2008); Gupta and Harris (2005); Park and Lee (2009); Park and Kim (2008) ; Gauri, Bhatnagar and Rao (2008); Sher and Lee (2009); Park, Lee and Han,2007; Filieri and McLeay 2014; Park et al.,(2007); Bandyopadhyay (2016)
Product ranking	The overall rating given by other readers on an eWOM	Cheung,Luo,Sia and Chen (2009); Filieri and McLeay (2014)
Review consistency	Whether the current eWOM recommendation is consitent with other contributions' experiences comcerning the same product/service evaluation	Cheung, Sia and Kuan (2012); Luo, Wu , Shi and Xu (2014), Cheuan, Li,Zhang and Yao (2014)
Review framing (Valence)	The valence of eWOM message and whether it is positive or negative	Lee and Lee (2009); Gauri, Bhatnagar and Rao(2008); Lee and Youn(2009); Park and Lee (2009); Sen and Lerman (2007); Wixon and Todd (2005)
Review sidedness	A two sided message includes both positive and negative elements	Cheung, Sia and Kuan (2012)
Value -Add information	Discover special offers (both of positive and negative)	Filieri and McLeay (2014)
Objectivity	The impartiality and fairness of the sender of massage	Manthiou and Schrier (2014)

Information quality measures the semantic success of the information in conveying the intended meaning. Therefore, the selection of dimensions depends on the objectives and context of the decision (Chen, Shang and Li, 2014). Given the number of studies using several determinants of information quality, this study focuses mainly on the basic determinants from Cheung *et al.* (2008), namely information timeliness, information accuracy, information relevance and information completeness. These dimensions are the most widely studied in the literature to measure information quality in the field of eWOM. Additionally, information understandability and value-added information from the studies of Filieri and McLeay (2014) are employed to represent the central route.

2.6.5.1 Information Timeliness

Timeliness is one characteristics of information quality (Bailey and Pearson 1983; Rainer and Watson 1995). Malone and Crowston (1994), Wakayama *et al.* (1998) and Browning (2002) defined timeliness as information that is available when needed. The information is sufficiently up-to-date for the task at hand (Lui and Arnett 2000). Ashill and Jobber (1999) stated that timeliness refers to whether the information could be received in time to make a decision. People are likely to perceive information is up-to-date (Nahapiet and Ghoshal, 1998). A major feature of the review websites is that the information is provided over time and websites are always being updated to provide accurate information to the consumer. Clewley *et al*. (2009) suggested that information on websites could be used to make a decision and customers need to know when the information was posted and whether it is still current.

In previous research, information timeliness has been used as a basic measure of the quality of information in the context of computing use (Doll and Torkzadeh, 1998). Wangpipatwong *et al.* (2005) investigated information timeliness as one of the factors for the adoption of eGovernment websites and found that timeliness is a significant factor that influences information adoption from these sites. Xiaoping (2008) also found a significant link between timeliness and online purchasing behaviour. In contrast, Cheung *et al.* (2008) focused on which factors encourage consumers to use online consumer reviews in the adoption of information. They found that information timeliness does not have a significant effect on information usefulness. They explained that this might because their research was conducted in the food and restaurant industry, in which people are not particularly concerned about whether information is up-to-date. Similarly, Fillieri and McLeay (2013) found that consumers do not adopt only current information from online consumer reviews. Despite such mixed results, this study still considers it important to clarify the impact of information timeliness on information usefulness and information adoption from OCRs.

2.6.5.2 Information Accuracy

Information accuracy is defined as the correctness in the mapping of stored information to the real world that the information expresses (Nelson *et al.,* 2005). In other words, information accuracy refers to whether consumers perceive that information is correct (Shen *et al.,* 2013). Information accuracy refers to whether information from websites is based on the truth and the degree to which it is free of errors (Flanagin and Metzger, 2000). The main concept of information accuracy is linked to lack of bias in the way in which subject matter is represented (Boritz, 2005). In the eWOM literature, accuracy is widely used as a primary dimension of information quality (Haddow, 2003). Several researchers agree that eWOM can facilitate consumers' product evaluation prior to purchase (Mudambi and Schuff, 2010). Mizerski (1978) claimed that consumers will accept information on products/services if they believe the eWOM about the product/services being described. Particularly with intangible products, readers need to obtain clear information from reviewers in order to reduce uncertainty when they make a decision (Laroche *et al.,* 2005). In addition, accuracy may be supported when online consumers perceive information to be consistent with what they already know to be true. They may have confidence in the received information and use it to make a decision (Zeithml, 1988; Zhang and Watts, 2003). Filieri and McLeay (2014) found that information accuracy is the strongest predictor of information adoption from OCRs. Nonetheless, Wixon and Todd (2005) claimed that accuracy is concerned with reliability and can show the consumer's perception that the information is correct.

2.6.5.3 Information Relevance

Information relevance refers to the extent to which a review is applicable and helpful for the task at hand and depends on different customers' needs in specific situations (Wang and Strong, 1996). Since the 1970s, information relevance has been used as a measure of information quality through judging whether information is related to the consumer's need (Chen, Shang and Li, 2014). Relevance is one of the dimensions of information quality and is a key variable that affects consumer decisions (Dunk, 2004).

Consumers are likely to spend more time and effort to read OCRs when they perceive them as being important and relevant to their target (Xu and Chen, 2006). Cheung *et al.*

(2007) suggested that consumer might not read all of the reviews in detail but prefer to scan the pages and search for the information they need. In other words, consumers might read a review faster if they think it is irrelevant, whereas they will slow down their reading and processing when they find relevant information (Kaakinen *et al*., 2003). Chen *et al.* (2014) tested the effect of perceived relevance of travel blogs' content on behavioural intention to visit a tourist destination. Their study found that relevance influences behavioural intention when people are searching for a destination. Moreover, in previous research, Cheung *et al.* (2008) investigated the impact of eWOM within online customer communities, focusing on dining experiences on Openrice.com. They found that information relevance has a significant impact on information adoption. However, Spark *et al*. (2013) claimed that the specificity of information is more influential when people are planning a trip in the near future. They pay more attention to the information that they are looking for and then carefully evaluate and adopt it.

2.6.5.4 Information Completeness

Information completeness is defined as the degree to which the information source provides all necessary contents (Shen *et al.,* 2013). In other words, information completeness refers to the breadth, depth and scope of information (Wang and Strong, 1996). Wixon and Todd (2005) stated that the completeness of the information plays an important role in information quality. If the information on a website is complete and comprehensive, this can serve as a measure of the website's quality **(**Doll and Torkzadeh, 1988). Cheung *et al.* (2008) suggested that information that is complete is more likely to be useful. More detailed information with greater breadth of consumer categories on the website might lead to a greater likelihood of influencing consumers' decisions (Sullivan 1999).

Shen *et al.* (2013) found that information completeness has a significant effect on information usefulness. Cheung *et al.* (2009) claimed that consumers who read both positive and negative reviews could perceive the completeness of information because all products or services have strengths and weaknesses. Cheung (2014) studied the impact of eWOM on information adoption behaviours in online communities and investigated how it affects purchase intention. Incomplete information may not provide

the whole picture, missing necessary and relevant details, and can thus mislead the consumer (Bergman, 2006). Therefore, it is necessary to identify information completeness, as this might be one of the important criteria that consumers expect to read from OCRs.

2.6.5.5 Information Understandability

Information understandability refers to readability and ease of understanding, including the language, semantic and lexical expressions used by reviewers (Wang and strong, 1996). Lee and Kozar (2006) stated that information understandability refers to the degree of ease with which the information can be understood. In the same view, Xu and Chen (2006) mentioned that information understandability refers to the extent to which the receiver perceives information to be easy to read and understand. Ease of understanding includes three dimensions that address whether information is easy to understand, readable and clear (Wang and Strong, 1996).

Information understandability is concerned with the clarity and quality of information. Therefore, high information quality should involve concise presentation of information that is easy for consumers to understand (Cheung and Lee, 2005). On the other hand, the use of jargon or technical language may negatively affect the acceptance of information (Dwyer, 1999; Elsbach and Elofson, 2000). Similarly, Filieri and McLeay (2014) mentioned that the use of jargon, dialect or poor writing skills might undermine the clarity of reviews. Brown *et al*. (1978) noted that the use of jargon in documents is sensitive to expert and non-expert readers. This means that a lack of understandability may create knowledge uncertainty about products/services among consumers (Chen *et al.,* 2014). Therefore, information clarity could be reduced by the use of jargon and technical language (Dwyer, 1999). In terms of OCRs, the review content is a key factor in determining perceived understandability (Chau, 2000), which means that writing skills can affect understandability (Bateman, 1998). However, if OCRs provide information in a way that is clear, logical and interpretable, it will be easy to understand (Filieri and McLeay, 2014). Thus, in this study, information understandability is related to the extent to which information from OCRs is clear and comprehensible.

2.6.5.6 Value-Added Information

Value-added information refers to the extent to which information is beneficial and its use provides advantages to readers (Wang and Strong, 1996). In terms of online communication, OCRs can help readers to discover special offers and better evaluate quality (Filieri and McLeay 2014). The reader may find out the details of the information by reading OCRs and thus discover information on both positive and negative aspects (Sparks *et al.,* 2013). In fact, readers may discover different aspects, either positive or negative, when they spend time reading OCRs and discovering new information that they have not previously come across (Li *et al.,* 2013). However, value-added information has attracted very little attention in previous studies. In the online context, Filieri and McLeay (2014) applied value-added information to their model in order to test its relationship to information adoption. Their study found that value-added information has a strongly significant effect on information adoption. The discovery of unexpected information could be beneficial and advantageous to their decision-making process. This is why value-added information is considered as a dimension of information quality in this study.

Furthermore, in previous literature, the peripheral route has been represented in numerous factors to evaluate the consumer decision process. This study will identify the importance of comprehensive factors that can represent the peripheral route from OCRs. It will review the factors employed in existing research, namely review quantity, product ranking, review sidedness and review consistency. Moreover, this study considers source credibility to be an important factor that affects consumers' persuasion process (Cheung *et al.,* 2008). Source credibility consists of two main constructs: source expertise and source trustworthiness (Dou *et al*., 2012). The components of the peripheral route are presented as follows.

2.6.5.7 Information Quantity

Information quantity refers to the extent to which the quantity or volume of available data is appropriate for a particular task (Wang and Strong, 1996). The number of OCRs that have been posted and replied plays a role in consumers' judgment (Chen and Ku, 2012). Chatterjee (2001) noted that consumers cannot read all online reviews from

others. In contrast, they may consider products/services which have large numbers of reviews because the number of OCRs makes the consumers easier to notice (Cheung and Thadani, 2010). In fact, people take the quantity of reviews as an indicator of a product's popularity (Duan *et al.,* 2008). The number of reviews can represent the number of consumers who have experienced a product and then expressed their views by posting about their experience (Chatterjee, 2001). Lee and Koo (2012) suggested that consumers reduce their risk by assessing the number of messages when they are dealing with information uncertainty. In other words, consumers read online review by other reviewers because they believe that they could be useful and reduce discomfort and risk before making a decision because they can see that many others have purchased the products/services (Chatterjee, 2001). Similarly, Buttle (1998) claimed that the number of reviews could increase consumers' confidence by reference to others.

Previous studies of OCRs have reported that information quantity has a positive relationship with sales (Duan *et al.,* 2008; Zhang *et al*., 2013), consumer awareness (Liu, 2006; Vermeulen and Seegers, 2009), and consumer decision outcomes (Anderson and Salisbury, 2003; Ye *el al.,* 2011; Sher and Lee, 2009). For example, the number of consumer reviews has a positive relationship with box office sales (Duan *et al*., 2008). Ye *et al.* (2011a) found a positive relationship between the review quantity and the number of hotel bookings. Lui (2006) and Vermeulen and Seegers (2009) also found that the quantity of online reviews increased consumers' awareness of the offering. Anderson and Salisbury (2003) found that review quantity on eWOM is significant in predicting consumers' behaviour. Zhang *et al.* (2013) conducted a study in the restaurant industry and found that the quantity of reviews has a positive effect on the number of buyers. Sher and Lee (2009) investigated the effect of positive online reviews on the attitude of online consumers by using scepticism as a moderator. They found that online consumers with low scepticism could be persuaded by the quantity of online reviews. Indeed, they suggested that low scepticism consumers are likely to be persuaded by peripheral cues such as the number of consumer reviews and source credibility. Additionally, Cui *et al*. (2012) stated that the number of consumer reviews has a greater impact for experience products than for search products. It can be concluded that information quantity is an important factors that affects consumers' decision-making process, as it is a signal of the popularity of products/services. In this

study, information quantity represents the number of OCRs per hotel/accommodation. A hotel with a large number of reviews is more likely to attract consumers. Therefore, information quantity can possibly be discussed as one of the important factors in the peripheral route when consumers process information from OCRs.

2.6.5.8 Product Ranking

Chen and Ku (2012) stated that when people are dealing with very large quantities of information, credibility of sources such as product ranking seem very useful and can help to justify and make decisions. Huang *et al.* (2009) have suggested that people are willing to use numerical information such as ratings or rankings to save time and cognitive resources and to reduce energy. A ranking is a type of statistic that represents a summary of the proportion of positive, negative and neutral reviews from consumers who review products and services (Filieri, 2015a). The product ranking refers to an overall (average) evaluation and is often displayed as a number provided by all reviewers about a specific product or service (Filieri, 2014). Typically, online consumer platforms allow consumers to rate products and/or services and the ranking (overall product rating) is computed from the rating. Some websites such as TripAdvisor are exceptions, being designed to allow reviewers to provide a product ranking for a hotel and they also give it a specific rating in each category, such as cleanliness, location, value, etc. (Schuckert *et al.,* 2015).

Many previous studies have found a significant positive relationship between consumer review ratings and product sales (Clemons *et al.,* 2006; Dellarocas *et al*., 2007; Sun, 2012; Phillips *et al.*, 2015), hotel performance (Blal and Sturman, 2014; Kim *et al.,* 2015). In addition, Ye *et al.* (2011a) studied online ratings in the context of hospitality and found a positive relationship between online consumer ratings and hotel performance. Moe and Trusov (2011) and Liang *et al.* (2014) claimed that positive ratings from others could influence consumers' purchasing behaviour. Filieri (2015a) found that both product ranking and rating are important predictors of information diagnostics. However, Schuckert *et al.,* (2015) claim that product ranking seems to be a greater evaluation of reviewers than specific rating. Similarly, Filieri and McLeay (2014), they found that product ranking is the strongest influence on information adoption from online reviews and also has more influence than information quality

dimensions. Product ranking bring the best product which become the form to show satisfy of several aspects from consumers opinions. Product ranking bring the best products/ services which is highly rated with satisfaction (Dalal, Sengamedu and Sanyal, 2012).

2.6.5.9 Review Sidedness

Valence refers to whether reviews are positive or negative, and is one of the most important factors in the study of online reviews (Chen *et al.,* 2004). Positive reviews refer to favourable experiences and recommend the product to others, whereas negative reviews refer to unfavourable experiences and discourage others from buying the product (Qiu *et al*., 2012). Purnawirawan *et al.* (2012) defined the valance of reviews as their direction of evaluation, which could to be positive, negative or neutral. In prior research, Zhang, Craciun and Shin (2010) examined the effect of eWOM valance on eWOM persuasive power from two software products and found that consumer do not assign the same weights to positive and negative reviews. Several researchers have identified that negative reviews have a stronger influence on consumers than either positive or neutral reviews (Xue and Zhou, 2010).

Fiske (1980) suggested that individuals pay more attention to negative information than positive, so negative reviews are more influential. This might because consumers are scared to face bad experiences in a real situation. Thus, they are wary and concerned about negative information (Chiou and Cheng, 2003). Previous research has shown that positive information is perceived as less useful than negative information (Ahluwalia, 2002). On the other hand, positive information has also been found to affect consumers (Lee *et al*., 2009; Clemon *et al*., 2006; Gershoff *et al.,* 2003). Doh and Hwang (2009) found that positive reviews have a positive effect on consumers' attitude and purchase intentions. However, Litvit *et al.* (2008) and Hu *et al.* (2009) mentioned that some online reviews present biased information from extremely satisfied or unsatisfied customers. Several researchers have identified that when consumer are dissatisfied, they are more likely to post reviews to convey negative messages to others (Tax *et al.,* 1998). In addition, it is possible to find fake positive reviews posted by companies to improve their reputation and negative reviews posted by competitors in order to discredit the reputation of their rivals (Hu *et al.,* 2012). Moreover, Walther *et al*. (2010)

claimed that if the first review is positive and the positive message continues in the next two or three reviews, then readers are likely to have favourable attitudes. Cheung *et al.* (2009) posited that two-sided reviews are perceived as being more detailed. Mauri and Minazzi (2013) stated that review sidedness refers to whether the contents of messages contain one-sided or two-sided information. Similarly, Purnawirawan *et al.* (2012) claimed that in real life, consumers are likely to find information from both sides (positive and negative online reviews). Therefore, review sidedness is considered as one of the peripheral routes in this study.

2.6.5.10 Review Consistency

Review consistency refers to whether information from one source is consistent with other sources (Barry and Schamber, 1998). Luo *et al.* (2013) suggested that consumers tend to obtain a lot of information from various reviews, and sometimes many reviews express similar viewpoints towards products and services (Barry and Schamber, 1998): therefore, the consistency of reviews is high. In contrast, consumers often find different viewpoints and attitudes from others towards the same products and services. This means that the reviews are inconsistent. However, Cheung *et al.* (2009) suggested that review consistency among consumers would increase the perceived credibility of the information. In contrast, if there are many inconsistent pieces of information, the reader might struggle to evaluate whether the reviews are correct or not (Pan and Zhang, 2011). Therefore, a review that is inconsistent with most of the others may lead consumers to perceive its information as less credible (Vandenbosch and Higgins, 1996). This might be because consumers prefer to follow and believe normative opinions and tend to accept wide opinions from others (Kelman, 1958; Zhang and Watts, 2003). In other words, consumers feel more comfortable if a consistent opinion is given by the crowd, whereas they may feel confused if the information is inconsistent (Cheung *et al.,* 2009).

2.6.5.11 Source Expertise

From existing studies, several definitions of source expertise have been provided. Hovland, Janis and Kelley (1953) defined source expertise as the extent to which a source is believed to be capable of making valid assertions. Ohanian (1990) defined source expertise as the perceived knowledge, skills or experiences of reviewers which

signal their capability to provide accurate information. Tseng and Fogg (1999) defined expertise as a knowledgeable, experienced and competent concept which captures the perceived knowledge and skill of the source. Senecal and Nantel (2004) stated that source expertise refers to the information sources that can provide the right answer to consumers. To conclude, source expertise represents the amount of knowledge about products/services from professionals as expert reviewers.

Source expertise is one of the factors that are often used to measure source credibility (Chen, 2008). Petty and Caicopo (1983) suggested that even if the contents are not relevant, information can persuade people if it is associated with source expertise. In online communication, the expertise level of the source could be presented through profile information or their identities (Cheung *et al.,* 2009). Source expertise has been found to be positively associated with consumer attitudes toward the brand and behaviours (Gilly *et al.,* 1998; Lascu *et al.,* 1995). Consumers tend to accept information from expert sources because they think sources with high expertise could provide high quality information. The information from sources with high expertise has a higher impact (Cheung *et al.,* 2009, Cheung *et al.,* 2012). In previous studies, Shen *et al*. (2013) found that if consumers feel that eWOM reviews are more credible and reliable than those from non-experts, they are likely to agree with experts and adjust their attitudes to suit these expert opinions. Manthiou and Schrier (2014) conducted a study to examine international tourists' perceptions of travel review guidebooks and online travel review websites in Greek hotels and found that source expertise has a positive effect on perceived information usefulness in both online travel reviews and travel guidebooks. Fang (2014) used source expertise as one of the factors to explore how users of social media adopt information from eWOM which is shared by others; their results showed that source expertise plays an important role in the eWOM adoption process. Source expertise is important in this study, as consumers obtained reviews about products/services from sources with professional experiences or formal education/training. Source expertise is considered as one of the dimensions in the peripheral route.

2.6.5.12 Source Trustworthiness

Beside source expertise, trustworthiness is another dimension of the credibility of information sources. In recent year, many researchers (e.g. Lee *et al.*, 2011b; Wu and Lin, 2015; Filieri, 2016) studied source trustworthiness with OCRs. Pornpitakpan (2004) claimed that source trustworthiness has more impact compared to expertise. Tseng and Fodd (1999, p. 40) defined trustworthiness as "a well-intentioned, truthful, unbiased concept which captures that perceived goodness or morality of the source". Moreover, source trustworthiness refers to the extent to which the receiver perceives assertions from the sender to be valid and believable (Hovland *et al.,* 1953). Trustworthiness is one dimension of credibility, which captures the perceived goodness or morality of the source and the unbiased and truthful nature of the information (Ko *et al.,* 2005). In fact, the concept of trustworthiness is closed linked with the concept of trust (McKnight *et al.,* 2002). O'Keefe (2002) suggested that a trustworthy source is expected to have a strong intention to express truthful information to consumers. Grewal *et al.* (1994) claimed that the level trustworthiness of a source is directly related to how individuals perceive and respond to information. In online communication, perceptions of source trustworthiness rely on the degree to which the consumer feels the justice and honesty of OCRs from reviewers. Additionally, consumers have the freedom to review their perceptions of products or services anonymously. Thus, if consumers believe that reviews are posted by sources with a high degree of trustworthiness, then they might perceive the information to be more useful (Tormala *et al.,* 2007) and are more likely to evaluate the information as having high validity and credibility (Cheung *et al.,* 2009). Moreover, Senecal *and N*antel (2004) noted that trustworthiness could be considered as the perceived information source's motivation to communicate the knowledge information without bias. If credible writers produce credible information, consumers will adopt it even if it is negative (Chang and Wu, 2014). In addition, trust in the information source has a positively significant effect on information adoption (Bickart and Schindler, 2001; Cheung, 2014).

2.6.5.13 Information Usefulness

In this topic, the concepts of review usefulness, review helpfulness and diagnosticity have attracted research interest in the area of online reviews in recent years. Davis *et al.*

(1989, p. 320) defined perceived usefulness as 'the degree to which a person believes that using a particular system would enhance his or her job performance'. This concept has been used to explain how individuals perceive that utilizing a new technology can improve their performance. In online communication, information usefulness refers to the extent to which the consumer perceives the received information as valuable and helpful in making a better purchasing decision (Sussman and Siegal, 2003; Luo *et al*., 2014a). Specifically, in eWOM studies, information usefulness refers to the perception that eWOM information is useful (Cheung and Thadani, 2012).

According to Mudambi and Schuff (2010, p.186) defined helpfulness as 'a peer-generated product evaluation that facilitates the consumer's purchase decision processes'. Review helpfulness refers to the degree to which other consumers believe that the review is helpful when making a purchase decision and is measured as the ratio of the number of positive answers (Baek *et al.,* 2014). In the online environment, review helpfulness is represented by the subjective valuation of the review as judged by others, and also in terms of the aggregate perceived utility of information contained in the review. Indeed, online review websites allow consumers to 'review the reviews' (Huang *et al.*, 2015). Helpfulness is simply a dummy variable indicating whether the review is helpful to readers or not. (Cao et al., 2015). The most commonly used from is the helpful vote, with reviews being rated as 'helpful' or 'not helpful' (Li *et al*., 2013). Reviews with a higher number of helpful votes lead to higher sales performance (Chen, 2013). Understanding what makes a review helpful could help to improve the success of Internet marketing.

Diagnosticity is determined by the perceived correlation between the information and the decision-making process (Qiu *et al*., 2012). Perceived diagnosticity is defined as the extent to which consumers believe the shopping experience is helpful to evaluate product (Kempf and Smith, 1998). In the online context, information diagnosticity represents consumers' perceptions of a website's ability to convey relevant product information that can assist them in understanding and evaluating the quality and performance of products sold online (Jiang and Benbasat, 2004). Kempf and Smith (1998) stated that if consumers perceived high diagnosticity, their understanding about products/services will be stronger, with reduced uncertainty and high confidence. In line with Mckinney *et al*. (2002), they suggested that improving the understandability of

information would increase consumers' satisfaction with systems and information. Information diagnosticity refers to a consumer's improved understanding or knowledge about a product and how it works as a consequence of adopting information from a specific website (Filieri, 2015).

Previous studies have investigated review usefulness, review helpfulness and review diagnosticity because these factors have been shown to efficiently and effectively influence the consumer decision process. As discussed above, although the definitions of usefulness, helpfulness and diagnosticity are different, these concepts are connected. Diagnosticity is often operationalized as the helpfulness and usefulness of information for making a purchase decision (Qiu *et al.,* 2012; Dick *et al.,* 1990; Skowronski and Carlston, 1987). Review helpfulness can be seen as a reflection of review diagnosticity (Mudambi and Schuff, 2010). Filieri (2015) pointed out that diagnosticity is often used to conceptualize the degree of helpfulness of information. Other researchers have examined helpfulness as a measure of perceived value in the consumer decision process in line with information diagnosticity (Jiang and Benbasat, 2007; Pavlou *et al.,* 2007; Weathers *et al.,* 2015). For example, Weathers et al. (2015) stated that the perception of review helpfulness could be understood through review diagnosticity. The main reason why consumers read online reviews is because they lead to purchase decisions. Thus, the reviews are seen as diagnostic, which helps to reduce perceived uncertainty about the products/services. Racherla and Friske (2012) pointed out that helpfulness is commonly used to access the usefulness and the effect of OCRs.

Rather than investigating helpfulness and diagnoscity, this study focused only on review usefulness. Among these factors, information usefulness refers to the diagnostic ability or helpfulness of the review in the consumer's decision process (Mudambi and Schuff, 2010). According to the information adoption model, information usefulness is the most important factor, but there are limited previous studies. According to TAM theory, perceived usefulness is the most important factor when people use system technology for utilitarian purposes. Sussman and Siegal (2003) extended TAM theory by introducing an information adoption model with users' intention to adopt information, using perceived information usefulness as a mediator, in the computer-mediated context. They claimed that information usefulness is key to information adoption. In support of this, Jamil and Hasnu (2013) stated that information usefulness

is considered as an imperative factor in the consumer decision-making process. Therefore, the framework of ELM and IAM should not ignore this factor.

Information usefulness is considered to be a further potential antecedent of information adoption and is a key construct in adoption theories, having been confirmed by numerous studies. Cheung *et al.* (2008) found that information usefulness is an important antecedent of information adoption from OCRs. They examined the factors of OCRs that encourage information adoption and found that information adoption is highly influenced by the significant role of information usefulness. Similarly, Wixon and Todd (2009) claimed that when consumers perceive information to be useful, they are more likely to make the decision to adopt that information. Indeed, if people consider an online opinion to be useful, then they will have greater intention to adopt the information. Choi and Ok (2011) investigated how online restaurant reviews affect customers' decisions and found that information quality and source credibility of online reviews affect their perceived usefulness.

Purnawirawan *et al.* (2012) noted that consumers screen out information if they perceive it not to be useful, and only adopt useful information. Park *et al.* (2014) conducted a study to explain the different antecedent factors that lead to both information sharing and information seeking behaviour. They found that perceived information usefulness is one of the most important factors in the seeking and sharing of the information. Awad and Ragowsky (2008) stated that consumers are concerned with the correctness and usefulness of eWOM. Morrison (1995) investigated newcomers' perceptions of the usefulness of various types of information when they need to get information about their role, performance, job and organization's culture. Moreover, Kim *et al.* (2014) conducted research in the travel industry, claiming that users tend to be sensitive and concerned about information's usefulness and specificity, using high cognitive accuracy when conducting direct searches for information for a trip in the near future. Additionally, although information usefulness is determined by argument quality and source credibility, it is more strongly related to information adoption than either of these factors (Sussman and Siegal, 2003). OCRs have been the centre of attention for many researchers (e.g. Hennig-Thurau *et al.*, 2004; Mudambi and Schuff, 2010; Racherla and Friske, 2012; Elwalda *et al*., 2016).

Nonetheless, according to the IAM, information usefulness is an important factor that influences information adoption. It refers to consumers' willingness to adopt information after they have processed it (Sussman and Siegal, 2003). Investigation of information usefulness is valuable for understanding consumer priorities: what information do consumers see as useful and they are going to adopt the information. Therefore, information usefulness cannot be ignored when studying OCRs and information adoption theories.

2.6.6 Segmentation of Consumers

In the field of marketing research, identifying groups of consumers has long been recognized as an important marketing tool (Vilnai-Yavetz and Tifferet, 2015). Many marketing strategies are successful because the marketers can identify the needs of a particular segment of consumers (Wedel and Kamakura, 2002).

In previous studies, researchers have claimed that consumers have different responses and lifestyles; therefore, it is important to identify homogenous consumer groups by segmenting consumers into different clusters (Gill *et al*., 2000; Wedel and Kamahura, 2002; Verain *et al*., 2012). Categorization of groups/types of consumer has been developed in marketing research. In the online context, existing scholarly works have segmented consumer groups/types from different perspectives (Barner *et al.*, 2007): for example, shopping behaviour (Bose and Chen, 2010; Wu and Chou, 2011), lifestyle (Brengman *et al.,* 2005; Ye, Li and Gu, 2011), activities (Giboa, 2009) attitudes and beliefs (Strizhakava *et al*., 2012), motivations and demographics (Sin and Tse, 2002; Source *et al*., 2005; Gibert and Warren, 2005; Farrag *et al.*, 2010), consumer engagement (Sashi, 2012) and impression management (Underwood *et al*., 2011; Alarcon-del-Amo *et al*., 2011; Vilnai-Yavetz and Tifferet, 2015).

Matheick (2001) categorized Internet users into four segments based on relational norms and online activities: transactional community members, socializers, personal connectors and lurkers. Bose and Chen (2010) classified consumers into different groups according to mobile service usage data. They aimed to provide useful knowledge from categorizing groups of consumers and their results showed the key attributes and characteristics of each group and the relationship between the different

groups: usage, usage characteristics, revenue and service subscription. They also claimed that the results of clustering the groups of consumers were linked to several interesting facts about consumers that could be of benefit to mobile service providers. Ye *et al.* (2011b) identified eight segments of Internet users based on lifestyle drivers. They were divided into four groups on the basis of their online shopping behaviour: inexperienced shoppers, shopping lovers, business users and suspicious shoppers. Another four groups in terms of non-shopping behaviour were surfing lovers, fearful browsers, negative technology muddlers and positive technology muddlers. The results showed that the eight segments are different. Sashi (2012) attempted to classify types of consumer in terms of their engagement with social media. His paper developed a model of the customer engagement cycle with connection. He categorized consumers according to the degree of relational exchanges and emotional bonds that categorize their relationships with the sellers, namely transactional customers, delighted customers, loyal customers and fans. Vilnai-Yavetz and Tifferet (2015) identified the different types of consumer, segmenting Facebook users based on their profile pictures as a first impression based on four constructs: emotion, status, activeness and total look. Then, they conducted a cluster analysis based on the data analysis and segments of consumers and related the types to Facebook user pattern, demographics and brand engagement as reflected in users' Facebook profiles. From their findings, they introduced five different categories of Facebook users, namely Aloof, Affectionate, Go-getter, Sociable and Cryptic.

It can be seen that many researchers have tried to divide consumers into groups by selecting a variety of segmentation approaches. Categorizing groups of consumers is a way of grouping the heterogeneity among consumers and can capture consumer needs and provide results that benefit marketers (Bose and Chen, 2010). From this perspective, it is interesting to identify and categorize consumers and divide them into groups to examine the differences in behaviour from one group to another, develop understanding and insight by serving consumer needs and create marketing strategies for goods and/or services more effectively. This research, therefore, considers the moderating factors that are related to OCRs and information adoption in order to identify the groups/segments of consumers, examines the effect of that factor on the criteria of information adoption from one group of consumers to other groups based on various platforms.

Nowadays, consumers are not passive recipients of information but active participants. Consumers engage in different styles; therefore, across groups, the typology of consumer response styles is expected to differ significantly (Singh, 1990; Schmitt, 2012). These differences could be used to divide consumers into different groups to see the variety of behaviour.

2.6.6.1 Consumer Engagement

In the online context, consumer engagement has been widely studied in academic disciplines such as education, advertising, psychology, marketing and information systems, and is well established within the academic literature as a key marketing construct.

As noted in the literature, "customer engagement" or "consumer engagement" or "user engagement" has been used to describe and assess engagement from the marketing perspective. However, "consumer engagement" is commonly used to describe online activities (Schamari and Schaefers, 2015).

The concept of consumer engagement has attracted rapidly growing attention from marketing researchers in recent years (Brodie *et al.,* 2013; Hollebeek *et al.,* 2014; Cheung *et al.,* 2015; Harrigan *et al*., 2017). Many different objects of consumer engagement have been studied in the literature, including products and organizations (Patterson *et al.,* 2006), consumer brand communities (Algesheimer *et al*., 2005; Hamilton and Alexander, 2013), brands (Sportt *et al.,* 2009; Van Doom *et al*., 2010), engagement cycle (Sashi, 2012), engagement value (Kumar *et al.,* 2010), consumer engagement behaviour (Grissemann and Stokbuger-Sauer, 2012; Cabiddu *et al.,* 2013), and user-generated hotel reviews (Wei *et al.,* 2013), In addition, some researchers have studied consumer engagement in relation to psychological state (Mollen and Wilson, 2010; Vivek, Beatty and Morgan, 2010).

Research into online consumer engagement is not new: it has been studied since before 2005, when it was known as "engagement", but it is still limited in the academic field of

marketing (Brodie *et al*., 2011). More recent studies have developed to investigate the concept of consumer engagement in the online environment (e.g. Tsai and Men, 2013; Brodie *et al.,* 2013; Cheung *et al.,* 2015; Harrigan *et al.,* 2017). However, in terms of marketing, when discussing online consumer behaviour, engagement has been introduced as a construct from academics' and practitioners' perspectives. In the online environment, there are different meanings for academics and practitioners. The academic perspective focuses on attention, mind or energy (Mollen and Wilson, 2010; O'Brien, 2010), whereas practitioners focus on the act of sharing (Swedowsky, 2009; Wong, 2009). Moreover, engagement goes beyond involvement: involvement refers to mental readiness to consume information but is passive, while, engagement is more active and dynamic both cognitively and affectively towards the brands or websites (Mollen and Wilson, 2010). Parent *et al*. (2011) stated that consumer engagement is considered as a dynamic involvement of a consumer with a brand, product, service or company which is expressed through interaction with the brand.

Consumer engagement is a sub-concept under the concept of engagement. Prior studies in the literature have attempted to define the concept of consumer engagement but there is still a lack of consistency, as shown in Table 2.4.

Table 2.4 Consumer engagement definitions in prior studies

Authors	Definitions
Algesheimer *et al.* (2005)	The consumer's intrinsic motivation to interact and cooperate with community members
Patterson *et al.* (2006)	The level of a customer's physical, cognitive and emotional presence in their relationship with a service organization
Webster and Ahuja (2006)	A subset of flow and a more passive state representing the extent of pleasure and involvement in an activity
Bowden (2009)	A psychological process that leads to consumer loyalty to the service brand
Calder *et al*. (2009)	A collection of experiences with the site, and they defined experience as experience as a consumer's beliefs about how a site fits into his/her life
Higgins and Scholer (2009)	A state of being involved, occupied, fully absorbed, or engrossed in something (i.e., sustained attention), generating the consequences of a particular attraction or repulsion force.
Sprott *et al.* (2009)	Individual difference representing consumers' propensity to include important brands as part of how they view themselves
Van Doorn *et al.* (2010)	The customer's behavioral manifestation toward the brand or firm, beyond purchase, resulting from motivational drivers
Cheung *et al.* (2011)	The level of a customer's physical, cognitive, and emotional presence in connections with a particular online social platform
Gambetti *et. al* (2012)	Customer-brand engagement appears as a multi-dimensional concept combining such elements as attention, dialogue, interaction, emotions, sensorial pleasure, and immediate activation aimed at creating a total brand experience with consumers.
Vivek *et al.* (2012)	The intensity of an individual's participation and connection with the organization's offerings and activities initiated by either the customer or the organization.
Baldus *et al.* (2014)	The compelling, intrinsic motivations to continue interacting with an online brand community
Chan *et al.* (2014)	The level of a person's cognitive, emotional and behavioral presence in brand interactions with an online community
Hollebeek *et al.* (2014)	A consumer's positively valenced cognitive, emotional and behavioral brand-related activity during, or related to, specific consumer/brand interactions

Consumer engagement includes consumer-to-firm interactions and consumer-to-consumer communications about brands (Gummerus *et al*., 2012). In addition, some scholars have stated that consumer engagement is characterised by repeated interactions between a consumer and an organisation that strengthen the consumer's emotional, psychological or physical investment in the brand and the organization (Phang *et al*., 2013; Hollebeek *et al*., 2014; Harrigan *et al.*, 2017).

Despite all these different definitions from previous studies, most studies conceptualize consumer engagement in the form of cognitive, emotional and behavioural components (So *et al*., 2014; Bowden, 2009; Brodie *et al.,* 2013; Dwivedi, 2015; Patterson *et al*., 2006). However, Cheung *et al.* (2015) stated that consumer engagement can be conceptualizing in three primary perspectives: the concept of consumer engagement consists of psychological processes, behavioural manifestation and psychological motivation. Hellebeek (2011) stated that there are differences between the three

dimensions of consumer engagement: behavioural activities represent the level of energy expressed while interacting with a brand, psychological activity represents the level of focus or concentration towards a brand and emotional activities represent the level of the individual's pride in or inspiration from a brand. Thus, several activities can be interpreted as forms of engagement (Wallance *et al.,* 2014).

Most of the prior research has studied consumer engagement in the range of behaviour related to trust, satisfaction, commitment, and customer/brand loyalty. (e.g. Hollebeek, 2009; Hollebeek, 2011; Van Doorn *et al.,* 2010; Patterson *et al*., 2006 and Yu and Ruyer, 2006, Gruen *et al.*, 2006; Brodie *et al*, 2011). According to Brodie *et al*. (2010) and Harrigan *et al*. (2017), the concept and definition of consumer engagement are broad, inconsistent and weak in explanatory power.

Previous studies have attempted to define this concept, such as Verhoef *et al.* (2010, p. 247), who stated that consumer engagement is "a behavioural manifestation toward the brand or firm that goes beyond transactions". Van Doorn *et al*. (2010, p. 254) defined consumer engagement as: "Behaviours that go beyond transactions, and may be classed as a customer's behavioural manifestations that have a brand focus beyond purchase resulting from motivational drivers". Given this inconsistency of definitions and concepts, consumer engagement therefore reflects a multi-dimensional construct which is used in varying ways across contexts (Hollebeek, 2011).

Based on the above-mentioned literature, the consumers' engagement should not be ignored and it is proposed as a moderator for segmenting group of consumers in this study.

2.7 Literature Gaps

The actual information received may vary from consumer to consumer. This means that by the same content may lead to different responses by different receivers depending on their perception, experience and source (Chaiken and Eagly, 1976). Information adoption theories attempt to describe how consumers' processing occurs when they receive information or technologies (Cheung, *et al.,* 2008; Filieri and McLeay 2014; Cheung *et al.,* 2012; Zang and Watts, 2008). However, consumers' adoption of the

information provided by OCRs is likely to be a key factor that influences their decisions (Elwalda *et al.,* 2016). Previous studies (Mazzarol *et al.,* 2007; Munnukka *et al*., 2015; Erkan and Evans, 2016a; Erkan and Evans, 2016b) have stated that OCRs represent one of the most useful information sources because they consist of peer opinions and experience instead of company-generated information. The influence of OCRs on information adoption has been justified by previous studies conducted in different types of platform.

From reviewing the literature, it appears that there has been little study investigation of the impact of consumer processing (central and peripheral route) in terms of enhancing the usefulness of the information and the intention to adopt it. It is very important to extend the growing body of literature on OCRs with studies that investigate such neglected factors in OCRs studies from the perspective of the central and peripheral route and explore the consequences of OCRs beyond information adoption. Overall, it is widely agreed that the assessment of information adoption involves a number of determinants of OCRs' factors which influence consumer processing.

Moreover, from the previous discussion of the relevant literature, the typology of COPs has an influence on consumers' decision-making processes. Online review websites are platforms for consumers to exchange their experiences and knowledge (Purnawirawan *et al.*, 2012). There are numerous studies investigating the impact of OCRs on consumers' information adoption in specific platforms. Little is known about the comparative effect of OCRs from different online review websites in the same industry. The existing literature investigates various types of COPs that have different appeals, utilities and engagement compared between various types of COPs (Senecal and Nantel, 2004; Lee and Youn, 2009; Luo *et al.,* 2009; Manthiou and Schrier, 2014; Yeap *et al.,* 2014; Inversini and Masiero, 2014; Tsao and Hsieh, 2015; Erkan and Evans, 2016a). The present study, in contrast, looks into the differences between two types of platform that have stronger and more direct relations with the travel industry. It attempts to clarify the factors of OCRs that affect each type of online review website separately.

This chapter has reviewed a number different theories and models of adoption use, such as the ELM and IAM, which are able to explain the likelihood of consumers' information adoption. Integration of an alternative model such as the Elaboration

Likelihood Model is useful for investigating some of the important impacts of the complex adoption process. In addition, it helps to understand the process by which consumers will be influenced by the message that they perceive (Sussman and Siegal, 2003). This study aims to investigate whether the different online review websites on which OCRs are communicated influence consumers' information adoption processes. However, the literature on eWOM and OCRs has not paid much attention to the role of information usefulness, which is of key importance in information adoption theories. Therefore, the present study considers information usefulness to extend the knowledge on information adoption. It applies some factors of OCRs that have not yet been empirically tested with information usefulness, including value-added information, product ranking, review sidedness, review consistency and review quantity. In addition, source trustworthiness and source credibility are presented for the first time as perspectives from the peripheral route. The current study develops the adoption model to provide a better picture of consumer processing in the different online review websites in order to identify the factors of OCRs that have differential influences on information adoption. To the best of the author's knowledge, there is limited studies have so far focused on examining the information adopted from Independent and E-merchants' websites from consumers' perspective. Therefore, this is the first study to empirically test the influence of OCRs from different types of online consumers' review websites in the travel industry, particularly the hospitality sector.

Furthermore, Mollen and Willson (2010) pointed out that there is a lack of research on online consumers showing support of consumer engagement and consumer behaviour such as eWOM. Moreover, according to Holbrook (1994, p. 22), consumer engagement is "the fundamental basis for all marketing activity". In the study of eWOM, behaviour manifestations should not be ignored because this might have a negative effect on marketers in terms of evaluating potential customers (Verhoef *et al.*, 2010; Kumar *et al.*, 2010). Moreover, many researchers (e.g. Cabiddu *et al*., 2014; Hudson *et al*., 2015; Harrigan *et al.,* 2017) suggest that there is still a call for the study of consumers' engagement with social media platforms in the travel industry. Therefore, this study encompasses an extended the finding to examine the role of consumers' engagement to identify consumer segmentation and investigate the criteria of information adoption on groups of consumers based on various platforms. Additionally, the previous studies in the area of OCRs, eWOM have so far been conducted in developed countries, and there

is limited research on consumers in developing countries (Chan and Ngai, 2011). Thailand offers an interesting context for studying the developing country due to its ever-growing market potential and unique socio-cultural constructs.

This study, to the best of the author's knowledge, is the first to investigate how consumer engagement with various online review websites can contribute to information adoption. In sum, this study draws insights from merging ELM and IAM theory, and verifies the effect of OCRs on the adoption of information from the two types of online reviews websites.

Table 2.5 Summary of research issue/problem

Key issues from literature reveiew	Description	References
Information Adoption / eWOM /OCRs	• eWOM/OCRs have attracted researchers to investigate this topic area as an important form of eWOM. Different consumers have different concerns/needs. The literature on information adoption and eWOM/OCRs has provided inconsistent findings. • Current literature does not fully capture and explain the factors that influence consumer' likelihood of information adoption. • There has been little study investigation of the impact of consumer processing (central and peripheral route) in terms of enhancing the usefulness of the information and the intention to adopt it.	Sussman and Siegal, 2003; Zhang and Watts, 2003; Cheung, *et al*. 2008; Zang and Watts, 2008; Cheung *et al*. 2012; Filieri and McLeay 2014; Hassain *et al.,* 2016; Wang, 2017

Platforms	• Current scholarship mostly focuses on analysing single platform. Little is known about the comparative effect of OCRs from different online review websites in the same industry.	Senecal and Nantel, 2004; Mazzarol *et al.* 2007;Lee and Youn, 2009; Luo *et al*. 2009; Manthiou and Schrier, 2014; Yeap *et al*. 2014; Filieri and McLeay 2014; Inversini and Masiero, 2014; Tsao and Hsieh, 2015; Munnukka *et al.* 2015; Erkan and Evans, 2016a; Erkan and Evans, 2016b; Elwalda *et al*. 2016
Consumer segmentation	• There is a lack of research on segmenting behaviour regarding eWOM and OCRs. • There is a lack of research on online consumers showing support of consumer engagement and consumer behaviour such as eWOM.	Wedel and Kamahura, 2002;Pickton and Broderick, 2005; Mollen and Willson 2010; Verain *et al.*, 2012; Cabiddu *et al.*, 2014; ; Hudson *et al*., 2015;Rodriguez Diaz *et al*., 2015; Tseng and Wang, 2016; Harrigan *et al*., 2017
Travel Industry	• There is a lack of study that examines consumers' information adoption criteria from OCRs and analyse the different characteristics of COPs in the travel industry. • eWOM/OCRs have been found to strongly affect the travel industry, particularly in the hospitality sector. • There is still a call for the study of consumers' engagement with social media platforms in the travel industry.	Filieri and McLeay 2014; Cantallops and Salvi, 2014 Inversini and Masiero, 2014; Hudson *et al*., 2015; Harrigan *et al.*, 2017
Context	• eWOM have so far been conducted in developed countries, and there is limited research on consumers in developing countries	Chan and Ngai, 2011

2.8 Chapter Summary

This chapter has presented the main critique of the study, which is developed from a critical review of the literature on the evolution of eWOM and OCRs and the advantages and disadvantages of eWOM. Then, the relationship between OCRs and information adoption was provided. The different types of COPs were presented. Next, the theoretical foundations were discussed and the theories employed were explained. In addition, the dimension of OCRs and various mediating and moderating effects were discussed. This study has found a need to investigate the characteristics of OCRs that influence information adoption, comparing two different online review websites. Finally, gaps in the literature were highlighted.

The next chapter builds upon this literature review, particularly in relation to how the research should be conducted. It provides a theoretical background for the research and how it is constructed and sets out the research hypotheses.

CHAPTER THREE: CONCEPTUAL FRAMWORK

3.1 Introduction

The review of the literature in the previous chapter leads to the creation of a conceptual framework that begins with a set of factors as antecedents. Twelve constructs are considered in this research, these being the components of the central route (six dimensions: information timeliness, information accuracy, information relevance, information completeness, information understandability and value-added information) and the peripheral route (six dimensions: information quantity, review sidedness, product ranking, review consistency, source expertise, source trustworthiness). Moreover, as an extension to the study; Consumers' engagement will also be used as a moderating factor for segmenting groups of consumers. Categorise groups of consumers according to their behaviour engagement with various platforms; to improve the researcher's understanding of the factors that influence information adoption criteria. This chapter will propose the study's theoretical and conceptual framework and identify research hypotheses.

3.2 Theoretical Background

In this section, an overview of the theoretical development for this study will be provided. This study develops a theoretical model to identify determinants of OCRs (via the central route and the peripheral route) on different COPs which influence consumers' information adoption. Specifically, the Elaboration Likelihood Model (ELM) and the Information Adoption Model (IAM) are discussed. The ELM is a specific dual process theory which was introduced by Petty and Cacippo (1983). This theory is appropriate for this study for the following reasons. Firstly, the aim of this study is to investigate consumers' likelihood of adopting information from different types of consumer review platform. The ELM can explain the influence processes and their impacts on consumers' perceptions and behaviour and why different users have different outcomes (Bhattacherjee and Sanford, 2006). In other words, the ELM integrates an array of variables, and also explains why and how the information is more or less likely to lead the consumer to information processing (Song, 2008). Secondly, prior studies have developed the ELM to study OCRs. The ELM is the most widely recognized and accepted model in this context. It has been applied to explain the influence of perceived information (Cheung and Thadani, 2012).

Perloff (2003, p. 130) defined Elaboration as " the extent to which the individuals engage in information contained in the communication and mentally modify or process the issue". Indeed, it links to consumer 's issue relevant thinking and consideration. In terms of Likelihood, it has been defined as " the probability that situation can be happen and used to illustrate whether the elaboration is likely or unlikely" (Perloff, 2003, p. 130). There are two ways in which consumers' thoughts about and reactions to information are processed, namely the "central route" and the "peripheral route". The central route is significant when elaboration is high. It occurs when individuals make more effort to examine and evaluate arguments related to their experiences or link them to other material (Petty *et al.,* 1983). On the other hand, individuals may reject the difficulties in processing and evaluating information via the central route. They might turn to alternative ways of processing via the peripheral route (Tang *et al*., 2012). Consumers may evaluate information via easy processes or might focus only on graphical information such as numerical and star ratings. Additionally, the routes of the ELM may be inversely related, as one increases while the other decreases (Larson, 2010).

From the review of the literature, the ELM reveals the importance of highlighting the understanding of the effect of eWOM and OCR on information adoption. This is because consumers perceive and act on information in different ways: for example, focusing on different factors that affect their elaboration. Moreover, the role of eWOM and OCR will vary according to the consumer's level of motivation and ability to process information in the given situation. The ELM focuses on consumers' motivation to examine information more carefully (Petty *et al.,* 1983).

The IAM was introduced by Sussman and Siegal (2003), who developed this model to identify which factors are important in driving individuals to adopt information in an organization context. Sussman and Siegal were among the very first researchers to study information adoption in an organization context (Jin *et al.,* 2009). They applied information usefulness as a mediator because they believe that this variable might drive people to adopt information. The IAM was adapted from the TAM (Davis, 1989) and the ELM (Petty and Cacioppo, 1986). There are two key propositions that influence consumers' attitude change when applied to the computer mediator context. The first

one is augmented quality, which presents as a central route, and the second is source credibility, which presents as a peripheral route (Sussman and Siegal, 2003).

As mentioned above, according to the aim of this research, drawing upon the ELM and the IAM, the researcher believes that consumers who adopt information from OCRs in different COPs will unite the information obtained into their mental models. Thereafter, they may take action or make decisions based on the recommendations that they receive from OCRs.

3.3 Conceptual Framework

Based on the above, this research will investigate the antecedents of information adoption from ELM and IAM perspectives. To understand the influence of OCRs on consumers' information adoption, it is necessary to identify the determinants of the central and the peripheral route from OCRs that influence consumers to adopt information.

The constructs of this framework are built upon the theoretical adoption of information model based on the main three studies by Sussman and Siegal (2003); Cheung *et al*. (2008) and Filieri and McLeay (2014).

Sussman and Siegal (2003) developed the information adoption model, integrating the Theory of Reasoned Action (Fishbein and Ajzen, 1975; Fishbein, 1980) and its derivative, the Technology Acceptance Model (TAM: Davis, 1989) with dual-process models of information processing (Chaiken and Eagly, 1976; Petty and Cacioppo, 1986). They applied the Elaboration Likelihood Model to study consumers' change in attitude. This model has been used to examine how individuals receive advice from computer-mediated communication (email) and translate it into action. Sussman and Siegal's (2003) model explains the adoption of information in terms of information usefulness, quality of argument, and source credibility. They proposed that the quality of the argument and the source credibility predict the perceived usefulness, leading to information adoption. The highlight in this model is information usefulness, which they used as a mediator in the information adoption process. The model was applied to obtain qualitative data first by using interviews in order to understand the phenomenon

and then quantitative data from another sample, with a questionnaire being used to measure respondents' perceptions.

Cheung *et al.* (2008) investigated which factors affect consumers who are seeking information from online consumer reviews and deciding whether to adopt it. Their research model is build upon the theoretical model of information adoption proposed by Sussman and Siegal (2003). They applied four dimensions – information relevance, information timeliness, information accuracy and information completeness – to measure argument quality, and measured source credibility using source expertise and source trustworthiness. Their model investigated the impact of argument quality and source credibility on information usefulness and linked it to the impacts of information adoption. Data was collected via questionnaire targeting respondents who had experience with OpinionRice.com (openrice.com), which is a consumer review website that is used to seek and share information about food and restaurants in Hong Kong and Macau. The questionnaire focused mainly on argument quality, source credibility and information usefulness. See figure 3.1

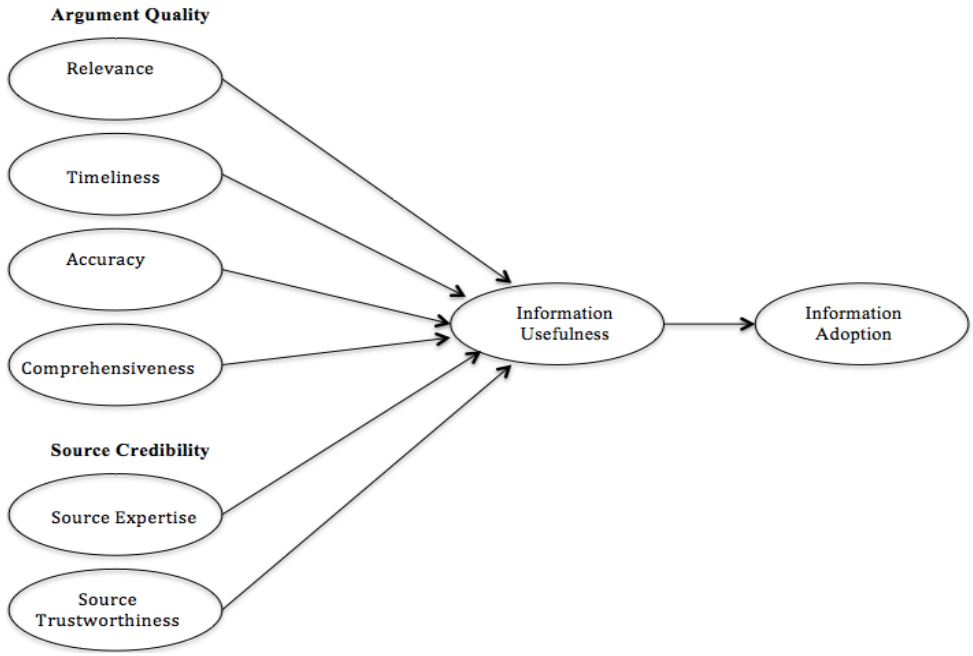

Figure 3.1 Information Adoption by Cheung *et al.* (2008)

Filieri and McLeay (2014) studied the factors that influence the adoption of information from online reviews in the travel industry. They employed the ELM and IAM models to explain the phenomenon of OCRs in the context of online reviews via the central and

peripheral routes. They introduced the concept of product ranking, which refers to information related to the overall evaluation of products/services. Their conclusion indicates that product ranking (peripheral route) was found to be the strongest predictor of information adoption from OCRs, and they claimed that this had a greater influence on consumers' decisions to adopt information than did information quality. In addition, they were the first researchers to investigate both central and peripheral cues on high involvement products. See figure 3.2

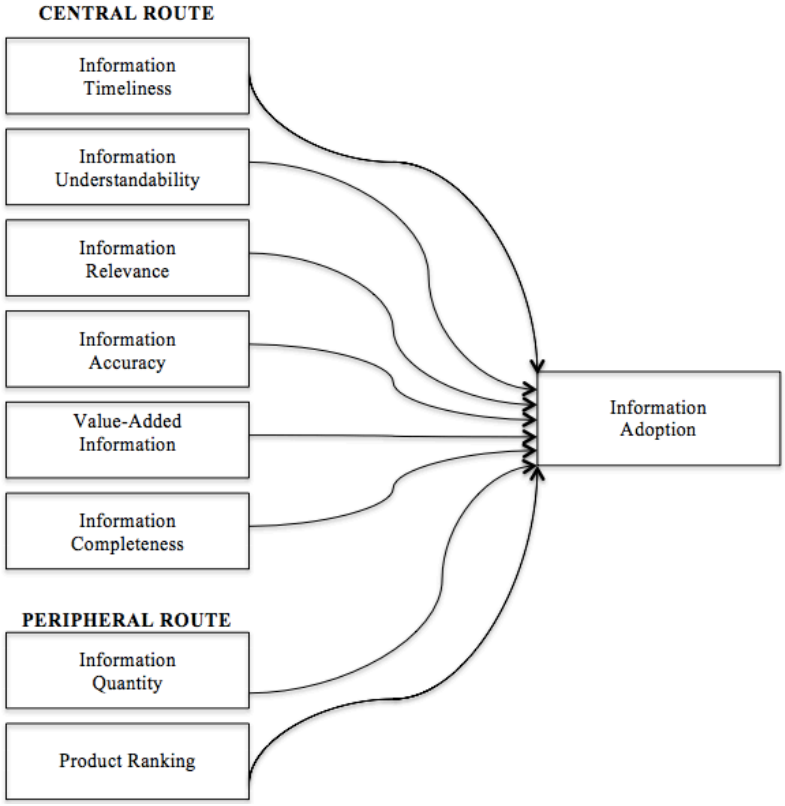

Figure 3.2 Information Adoption by Filieri and McLeay (2014)

Filieri and McLeay's (2014) framework has been mainly adopted in this study to investigate the antecedent of information adoption. The main reasons for adopting this framework are that the IAM and ELM models aim to investigate the factors that influence the adoption of information from OCRs, it has not yet received validation for various COPs, and it includes a number of relationships that have not been tested before, but which have been highlighted in the eWOM/OCR literature. Also, this framework does not consider information useful as a mediating factor, which has been highlighted in the information adoption literature of OCRs; thus, it has been adapted to fit this study.

From the literature reviewed in Chapter 2, this study attempts to develop and extend the research discussed above to identify what factors influence consumers to adopt information from OCRs, specifically from Independent and E-merchants' websites, a set of antecedents of information adoption are hypothesized, using information usefulness as a mediator and consumers' engagement will be added as a moderator for segmenting groups of consumers to extend the knowledge in terms of consumer behaviour.

As can be seen from Figure 3.3, the research model empirically tests and compares consumer review websites to investigate the influence of OCRs on information usefulness and information adoption. Hypotheses H1, H2, H3, H4, H5, H6 are concerned with the effects of the central route (information timeliness, information accuracy, information relevance, information, information completeness, information understandability and Value-Add information) on the usefulness of information from Independent and E-merchants' websites. Meanwhile, hypotheses H7, H8, H9, H10, H11, H12 are concerned with the effects of the peripheral route (information quantity, review sidedness, product ranking, review consistency, source expertise and source trustworthiness) on the usefulness of information from Independent and E-merchants' websites and hypothesis H13 shows the relationship between information usefulness and information adoption.

Moreover, this research model is used for extensive study by adding consumer' engagement as moderator for segmenting groups of consumers. The hypotheses are H14 to H25. Finally, the last hypotheses H26 examine the groups of consumers for whom perceived information usefulness has an influence on information adoption.

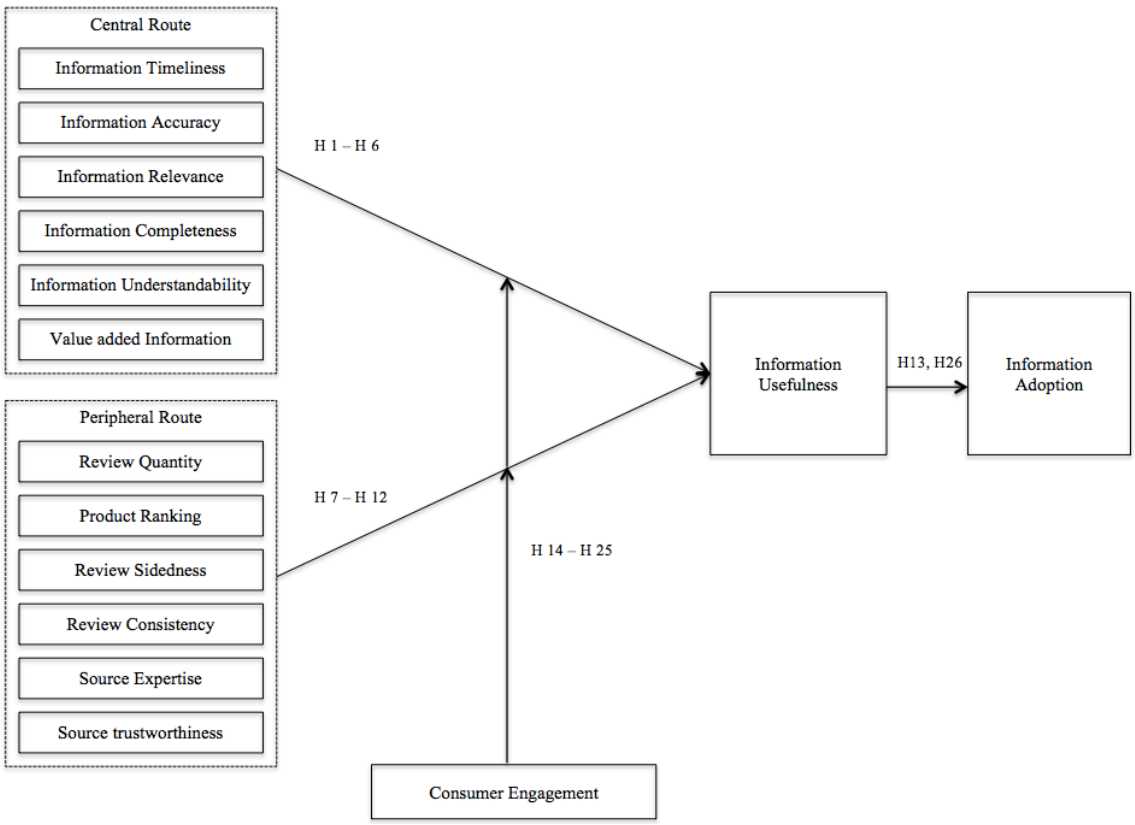

Figure 3.3 Research frameworks

3.4 Development of Hypotheses

The research model classifies the determinants of OCRs into two routes: the central and the peripheral route. It hypothesises that these two routes of consumer processing from OCRs affect consumers' perceived information usefulness and information adoption. This research has brought forward multi-group analysis approaches to test the differences between two types of consumer online review website (Independent and E-merchants' websites). Multi-group analysis is a type of moderator analysis where the moderator variable is categorical and is assumed to potentially affect all relationships in the conceptual model (Joe *et a*l., 2014).

As mentioned in the previous chapter, some factors of OCRs have not been tested with usefulness, including value-added information, product ranking, review sidedness, review consistency and review quantity. Specially, this study extends the meaning of the peripheral route by adding the concepts of review sidedness and review consistency.

These factors have only been tested in the area of credibility. To the best of the author's knowledge, this is the first study to take a comprehensive perspective of OCRs under the two routes of consumer processing to adopt information.

It also advances the scholarship by segmenting our groups of consumers which moderating by consumer engagement with the aforementioned platforms. This study introduces the influence of consumer engagement in terms of EWOM/OCRs. This is only study to date to categorise groups of consumers and identify the criteria for information adoption. A total of twenty-six hypotheses are formulated, as discussed below.

3.4.1 Central Route and Information Usefulness

In ELM theory, Petty and Cacioppo (1987, p. 264-265) defined argument quality as " the audience's subjective perception of the arguments in the persuasive massage as strong and cogent on the one hand versus weak and specious on the other". In marketing research, information quality refers to the level of content of the information and how it is fit for the user's purpose. It has been described as the strength of the meaning embedded in the information (Yeap *et al.,* 2014). As a central route, argument quality determines the attitude towards a message by focusing on and considering carefully the argument of the message presented. Information quality has been shown to be an important antecedent of information adoption, which is how people perceive and believe the information from websites (Wathen and Burkell, 2002).

According to prior research, most researchers consider that information quality is the most significant factor influencing the readers of OCRs (Yoo *et al.,* 2015; Reichelt *et al.,* 2014; Erkan and Evans, 2015). In the present study, the researcher has employed six dimensions of information quality in examining consumers' information adoption of information from OCRs, namely information timeliness, information relevance, information accuracy, information completeness, information understandibility and value-added information.

3.4.1.1 Information Timeliness

One of the information quality dimensions is information timeliness (Ashill and Jobber, 1999), which is an important factor in information quality (Bailey and Peason, 1983). *Information timeliness* is defined as 'information that is up to date, current and represents the state of the art of a product or service' (Nelson *et al.,* 2005). Wixom and Todds (2005) stated that information timeliness refers to the degree to which the system is sufficient by offering quick responses and up-to-date information. The most recent information is always displayed in the first online review and it is easy for readers to identify.

In this study, information timeliness is assumed to be a factor that is considered by consumers because they need up-to-date information for their current decision. In the Internet era, there are no limits on time, person or place: therefore, OCRs message will remain on the online review websites from the past to the present (Hennig-Trurau *et. al.,* 2004). The information should be up to date, and it should be easy for consumers to access reviews published in the last 24 hours. In fact, if a website is not up-to-date, its information cannot deliver the expected performance that consumers need (Madu and Madu, 2002). Hence, information timeliness may increase the likelihood of the usefulness and adoption of information from E-merchants and Independent websites.

H1a: Information timeliness from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H1b: Information timeliness from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.1.2 Information Accuracy

Information accuracy means that the information is free of errors (Dunk, 2004). Information accuracy is one of the most powerful information quality dimensions of consumers' adoption of information from OCRs. Consumers may have confidence in the information when the online consumer reviews are consistent or match their experience or a fact they already know (Peterson and William, 1987; Zeithaml, 1988; Zhang and Watts, 2003). In other words, consumers believe that opinions based on real consumers' experiences will lead to accurate information (Filieri and McLeay, 2014).

Accuracy of information represents consumers' perceptions and is concerned with reliability (Wixom and Todd, 2005). In fact, information accuracy reflects consumers' perceptions that information is correct. However, Cheung *et al.* (2008) claimed that accuracy is a dimension of information quality that may be difficult to adopt and evaluate in the context of OCRs. Confirmation or disconfirmation is required from consumers' knowledge and their direct or indirect experiences. Previous studies have shown that confirmation and disconfirmation influence the credibility, reception and adoption of information (Fogg 2003). It is anticipated that the more accurate the information on E-merchants' and Independent websites, the more useful it will be perceived to be and the more likely consumers will be to adopt it.

H2a: Information accuracy from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H2b: Information accuracy from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.1.3 Information Relevance

Information relevance is an important dimension of the decision-making process (Dunk, 2004). Ascaniis and Grezel (2013) have claimed that consumers need to collect relevant information to increase their knowledge and provide alternative choices. Online consumers usually scan the pages to find the information they need rather than reading all web pages (Madu and Madu, 2002). Their searching behaviour depends on the kind of information they are looking for or need from specific, rather than overall reviews (Wang and Strong, 1996). Thus, consumers adopt information from online reviews so that they can fulfil a specific need based on the opinions of others (Filieri and Mcleay, 2014). Chen and Chaiken (1999) suggested that consumers have their own attitudes and confidence when they are seeking information and assessing the validity of the messages contained in it. According to Kaakinen *et al*. (2003), the attention paid to information can be shown by the time spent reading. In fact, consumers spend less time reading when they perceive the information to be irrelevant, whereas they spend more time and high attention when they are reading relevant information. Nowadays, a large number of OCRs' information is displayed on COPs. Due to limited time, consumers generally cannot read all of the OCRs available, and thus look for the relevant information to help them to make a decision. Therefore, the online reviews on E-

merchants' and Independent websites will only be useful for consumers if they provide the kind of information they are looking for.

H3a: Information relevance from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H3b: Information relevance from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.1.4 Information Completeness

Information completeness refers to the extent to which eWOM information fulfils the consumer's need in the discussion of the products or services provided on the website (McKinney *et al.,* 2002). Wixon and Todd (2005) suggest that the completeness of the information serves as an important dimension of information quality. Consumers judge a review based on its degree of comprehensiveness (Wang and Strong, 1996). The completeness of information refers to whether it has sufficient breadth, depth and scope to enable consumers to obtain the main aspects of the information. In addition, Sullivan (1999) supported that the wider the breadth of consumer categories and the more complete the information, the greater the likelihood of user acquisition and retention of information. Consumers may judge online reviews as complete based on the breadth, depth and scope of the information they receive, which may affect their cognition (Luo *et al*., 2013). Hence, the completeness of information from Independent websites and E-merchants' websites may affect information usefulness. In other words, the more complete the information provided by the reviewer, the more useful it is for consumers' decision-making.

H4a: Information completeness from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H4b: Information completeness from E-merchants websites has a positive significant influence on consumers' perceived information usefulness.

3.4.1.5 Information Understandability

Information understandability refers to how easy it is to understand the information in terms of language, semantics, and expression (Wang and Strong, 1996). People can use their own style when writing online reviews. This leads to two issues. First, some of them may use technical words or dialect, which might undermine a review's clarity.

Second, the reviewer might lack the writing skills to represent their experience. This can happen when they present a different language or use jargon. In contrast, consumers can easily understand information that is presented in a simple, logical and clear manner. Palmer (2002) claimed that the clarity of the information could make for ease of reading and motivate consumers to use it. Independent and E-merchants' websites offer an open platform for reviewers to post their recommendations and reviews. Thus, consumers might not always be able to understand these reviews. To assess this factor, information understandability is related to the clarity of the information presented. Huang *et al*. (1999) asserted that high quality information is necessary to provide a concise presentation that is easy to understand. Therefore, the ability of the information to be understood is correlated to information usefulness, which may influence consumers to adopt it.

H5a: Information understandability from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H5b: Information understandability from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.1.6 Value-Added Information

Value-added information can be positive or negative. Online reviews from consumer opinion platforms can help consumers to discover special offers and better evaluate quality (Filieri and Mcleay, 2014). Consumers may find unexpected information from other reviewers. In the hotel sector, hotel websites or agency websites generally provide only positive information about their hotels. They do not usually present the negative sides. In contrast, in OCRs, consumers can describe and comment on all aspects of their experience, simplifying the understanding of a hotel's relative strengths and weaknesses. Wang and Strong (1996) suggested that consumers obtain benefits and advantages from both positive and negative online reviews. Consumers may discover something they never knew before but that is worth knowing. Consumers may discover worthwhile information that they did not previously know, such as that a particular hotel is undergoing renovation, with dust and construction materials all over the place and a lot of dust; or that a sea view might negate the noisy early bin clearing but consumers might suffer some road noise instead. Hence, consumers may adopt value-

added information if they perceive information usefulness from Independent and E-merchants' websites

H6a: Value-added information from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H6b: Value-added information from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.2 Peripheral Route and Information Usefulness

The peripheral route is differentiated from the central route. According to ELM theory, the peripheral route is taken when individuals have less motivation or are less capable of thinking about the information (Petty and Cacioppo, 1986).

Consumers may use heuristic cues to make a decision via a quick and simple method to analyze and evaluate an interface (Nielsen and Molich, 1990). Regarding the peripheral route, consumers might be influenced by simple decision rules. Therefore, the researcher considers and identifies the factors that will be investigated in this study, which are information quantity, product ranking, review sidedness, review consistency, source expertise and source trustworthiness.

3.4.2.1 Information Quantity

Review quantity is an indicator of the product's popularity (Duan *et al.,* 2008). The presence of a large number of online consumer reviews draws readers' attention (Cheung and Thadani, 2010). They can perceive more reviews, which will help them to rationalise and reduce any feelings of uncertainty (Park *et al.,* 2007). Lu *et al.* (2009) agree that people who read others' reviews are more willing to adopt an opinion that is held by a number of people. Sher and Lee (2009) noted that consumers who are low in scepticism tend to adopt information based on the quantity of OCRs. They need a low cognition process. However, the information quantity of reviews may affect consumers' adoption of information usefulness. This is because people tend to have a mass-following psychology (Ciadini and Goldstein, 2004). The travel industry provides experience products to consumers. This type of product is more subject to the influence of the number of reviews, as this factor represents the popularity of a product and

awareness from others (Duan *et al.,* 2008). Also, Zhang *et al*. (2010c) and Cui *et al.* (2012) concluded that number of reviews matters for experience products. In other words, consumers may believe a viewpoint that refers to a large number of people who have provided comments and recommendations about products and services. ; therefore, consumers are likely to adopt an entire volume of information from Independent and E-merchants' websites for their decision-making.

H7a: Review quantity from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H7b: Review quantity from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.2.2 Product Ranking

Product ranking focuses on the ranking of reviewers' behaviour (Godes and Silva, 2012; Moe and Schweidel, 2012). This refers to an overall rating that is often displayed as a number to represent the average rating provided by all reviewers of the same product. Product ranking significantly influences receivers' perceptions of information (Eysenbach *et al.,* 2000). In online review websites, product ranking is derived from the average score of all ratings by the total number of customer ratings of each category. In terms of travel websites, product ranking is used for evaluation of a hotel's service quality. However, Different websites create different numeric scales for building ratings graphically (Filieri and Mcleay, 2014). For example, TripAdvisor and Booking.com, which have different scales and numbers of stars. For example, on Tripadvisor, reviewers can provide ratings from one to five (terrible to excellent) whereas on Booking.com, reviewer can provide ratings from one to ten (terrible to excellent). To sum up, consumers may use the overall product ranking instead of reading the full contents of an online review and considering its usefulness when making a decision. Indeed, consumers may adopt information from the overall ranking, which summarizes the evaluations provided by others. The score represents the average consumer's evaluation and provides a short cut in the elaboration process (Filieri and McLeay, 2014). The high score are always shown in the top position or in the first page of the websites (Schuckert *et al.,* 2015). It can be seen that product ranking is clear and straightforward because it presents the score in terms of both representation format and content, making it very easy to understand and consider for judgment (Qiu and Li,

2010). Thus, consumers may perceive product ranking to be very useful as an alternative way to make the decision process easier.

H8a: Product ranking from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H8b: Product ranking from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.2.3 Review Sidedness

Review sidedness points out positive and negative elements so that consumers can consider a balance of positive and negative reviews (Purnawirawan *et al.,* 2012). Many previous studies have found that a two-sided message is perceived as more believable than one that offers only one side (Kamin and Lawrence, 1998; Chow *et al*., 1995). In the travel industry, both positive and negative reviews increase consumers' awareness of hotels' existence (Vermeulen and Seegers, 2009) and point out positive and negative elements. In fact, all products or services normally have strengths and weaknesses, which is why readers should consider information from both sides. In OCRs, one-sided reviews may be perceived as more biased than two-sided reviews. Sometimes, consumers provide some biased information with extremely satisfied and extremely unsatisfied (Litvin *et al.,* 2008). This is useful in enabling consumers to gain and enhance the completeness of information from others (Kamins and Assael, 1987). Cheung *et al.* (2012) claim that OCRs are most useful when they represent both positive and negative aspects. Two-sided reviews are useful when consumers are judging the validity of the information. These reviews tend to be more persuasive than those that are either positive or negative. Therefore, review sidedness is considered to be a useful source of information from online reviews for consumers' decision-making process.

H9a: Review sidedness from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H9b: Review sidedness from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.2.4 Review Consistency

Review consistency refers to similarity of experience reported by different consumers and users' belief in the experience and reviews (Cheung *et al.,* 2009). In the travel

industry, online reviews are usually posted by more than one experienced consumer, which is why consumers can gather a lot of information. It is easy for consumers to obtain information from the different opinions expressed in the reviews and then compare their consistency (Zhang and Watts, 2003). However, Cheung *et al.* (2009) suggested that consumers generally tend to believe viewpoints that are consistent across most of the reviews available. Barry and Schamber (1998) support this, indicating that information consistency affects consumers because the various review authors hold the same viewpoint in the discussion. Similarly, Cheung *et al.* (2007) concluded that if OCRs are consistent and the same viewpoint is repeatedly reported by different reviewers, this is more likely to encourage the reader to believe in these reviews. In other words, if OCRs are consistent with other opinions or reviews, consumers tend to follow and believe them. In contrast, if online reviews are inconsistent with other reviews of the same products/services, consumers become confused and unable to adopt the information. According to Laczniak *et al.* (2001), information consistency could be one of the factors in the peripheral route that affects the adoption of information by people who look through OCRs in the form of online reviews. Therefore, this study hypothesises that the consistency of reviews affects information usefulness.

H10a: Review consistency from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H10b: Review consistency from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.2.5 Source Expertise

Expertise is one of the dimensions of source credibility (Homer and Kahle, 1990). *Source expertise* refers to information being described as trustworthy and delivered by experts (Self, 1996). Source expertise particularly relates to the knowledge and skills of the source. It can be identified when receivers perceive professionalism (Tseng and Fogg, 1999). In online communication, consumers usually check the profile information of reviewers in terms of the quality and quality of their past reviews (Mackiewicz, 2008). High knowledge in communicators is considered to increase credibility and it seems to provide a more convincing argument with strong information. To investigate OCRs from online review websites, consumers could use source expertise to justify the validity of the information. This is because consumers usually favour information from

others whom they know are knowledgeable in the subject area and provide valuable information (Borgatti and Cross, 2003). Indeed, if consumers perceive the source of OCRs to have professional presentation and to be clear and confident, they may perceive a high level of information usefulness and adopt the information.

H11a: Source expertise from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H11b: Source expertise from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.2.6 Source Trustworthiness

Source trustworthiness is an important determinant of information usage (Komiak and Benbasat, 2006). Some researchers have found that consumers believe that most of the information on websites is not trustworthy (McKnight and Kacmar, 2006); in other words, online sources of information are perceived as being less reliable than offline sources (Flanagin and Metzger, 2007). If consumers do not trust an information source, this serves as a major barrier to the adoption of information (Egger, 2000). Wu and Lin (2017) suggest that OCRs posted on Independent websites are perceived to be more trustworthy than those on brands' websites. Similarly, Filieri (2016) found that consumers trust OCRs on Independent and E-merchants websites more than those on corporate websites (brands' websites). OCRs on E-merchants' websites seem to be perceived as equally or more trustworthy than those on Independent websites. However, different websites present different details of reviewers. For example, TripAdvisor (Independent websites) provides more details about reviewers, such as name, country, the number of reviews that they have written and whether these reviews have been rated as helpful. In contrast, Booking.com (E-merchants websites) provides only reviewers' name and country, but all reviews come from existing consumers who have previously made purchases from the website. These details lead to trustworthiness. Consumers judge the trustworthiness of products/services based on consumer inferences regarding the reviewer's motivation (McCracken, 1989). Therefore, if consumers perceive that reviews have been posted by a highly trustworthy source, they are more likely to find them useful.

H12a: Source trustworthiness from Independent websites has a positive significant influence on consumers' perceived information usefulness.

H12b: Source trustworthiness from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.

3.4.3 Information Usefulness and Information Adoption

Information adoption has been defined as a process in which consumers modify their behaviour based on suggestions made by online consumer reviews (Cheung *et al.,* 2008; Filieri and McLeay, 2014; Sussman and Seigel, 2003). In fact, information adoption is the way in which people accept the information and believe it to be meaningful after considering its validity (Zhang and Watts, 2003). This is why people usually scan online opinions and comments before making a decision (Qiu and Li, 2010). Along with information adoption, information usefulness is considered to be a key construct in adoption theory Sussman and Siegel (2003). The construct of information usefulness refers to the individual's perception that using technology such as virtual platforms, new media and online opinions can enhance their performance. It is a fundamental predictor of users' adoption of information (David, 1993). In addition, Cheung *et al.* (2008) stated that there is a strong relationship between information usefulness and the impact of consumers' decisions to adopt information within online communities. Information usefulness is an important factor which can drive people to believe and accept information from others (Bhattacherjee and Sanford, 2006). This was confirmed by Cheung *et al.* (2008), who found that people are willing to accept and adopt information from online reviews and examined the factors that encourage information adoption. They revealed that information adoption is highly impacted by the significant role of information usefulness. In short, if consumers consider information to be useful, then they will tend to adopt this information. Referring to context in this study, consumers may adopt information from OCRs when they perceive information as useful, i.e. beneficial and advantageous. This leads to the formation of the following hypothesis:

H13a: Perceived information usefulness of Independent websites has a positive significant influence on consumers' adoption of information.

H13b: Perceived information usefulness of E-merchants' websites has a positive significant influence on consumers' adoption of information.

3.4.4 Consumer Engagement

To extend the study, all factors from the central and peripheral route of OCRs are used to test hypotheses in this phase. Moreover, consumer engagement is added as a moderator factor for segmenting groups of consumers to improve the researcher's understanding of the factors that influence information adoption criteria.

Consumers are no longer perceived as passive: they have now become active consumers who search for the information needed to make deliberate decisions. Consumers search and communicate through electronic channels (Goldsmith, 2006). Consumers tend to rely on information provided by other experienced consumers (Kim *et al.,* 2011). Indeed, consumer engagement creates opportunities for interaction between marketers, consumers and society (Garber, Hyatt and Boya, 2009). However, Malthouse *et al*. (2013) stated that there are different levels of consumer engagement, ranging from high to low. However, the criteria of measurement are still inconsistent with regard to the focus and scope of engagement. For example, Malthouse and Calder (2011) studied the psychological state of the consumer, whereas Wirtz *et al*. (2013) investigated psychological motivation.

As mentioned in the previous chapter, behavioural engagement could be beneficial for marketers and should not be ignored. Therefore, this study aims to determine the influence of low and high levels of engagement regarding behavioural activities. Consumer engagement refers to the intention to increase the time and attention a consumer or prospective customer gives to a brand on the web or across multiple channels (Chaffey, 2008; Dessart *et al*., 2015). Particularly in OCRs, Sashi (2012) highlights that reading OCRs is a customer engagement activity. They pointed out that a high level of customer engagement depends on the average number of times that the consumer spend in a certain period. This study examines consumer engagement at an individual level; thus, it uses the time spent on reading OCRs to capture the influence of behavioural engagement on information adoption. In detail, when consumers have high engagement with OCRs, they will be more likely to devote their time, effort and energy to read OCRs on online review websites and further will be deeply engrossed in and highly enthusiastic about the information from OCRs. Moreover, Brengman *et al.* (2006) pointed that consumers who actually purchase the products/services are those

who have spent time (Burke *et al.,* 1999) and frequently used these websites (Hoffman *et al*, 1996). As information adoption is an antecedent of purchase intention (Erkan and Evan, 2016b), time and frequency are factors that might be significant to information adoption.

In this study identify the level of consumer engagement is based on the frequency of using online reviews the average time and they spend time searching for information from online review websites (Cheung *et al*., 2015). Moreover, consumer engagement in this study is the individual's type of participation: i.e. whether they connect with OCRs from Independent and E-merchants' websites. Assuming that consumer engagement moderates in groups of consumers and impact of OCRs leading to information usefulness and information adoption, once a certain behavioural engagement is reached, information usefulness and information adoption are expected to change linearly. When the frequency of using online reviews and time spent on websites increase, the related consumer engagement will also increase. Higher levels of consumer attention as behavioural engagement with OCR from online review websites will lead to higher levels of information usefulness and information adoption. This line of thought is carried through in this study of the level of consumer engagement, which is proposed to act as a moderator for segmenting groups of consumers; Four groups of consumers – low engagement with Independent websites, high engagement with Independent websites, low engagement with E-merchants websites and high engagement with E-merchants websites – are tested in this phase. Therefore, the following hypotheses are established:

H14: Information timeliness has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H15: Information accuracy has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H16: Information relevance has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H17: Information completeness has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H18: Information understandability has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H19: Value-added information has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H20: Information quantity has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H21: Review sidedness has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H22: Product ranking has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H23: Review consistency has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H24: Source expertise has a positive significant influence on consumers' perceived information usefulness when consumer has (a) low engagement (b) high engagement using Independent websites and consumer has (c) low engagement (d) high engagement using E-merchants websites.

H25: Source trustworthiness has a positive and significant influence on consumers' perceived information usefulness when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

H26: Information usefulness has a positive and significant influence on consumers' on consumers' adoption of information when consumers have (a) low engagement or (b) high engagement using Independent websites, and when consumer have (c) low engagement or (d) high engagement using E-merchants' websites.

This chapter has presented the theoretical background and hypotheses, along with the influence of OCR factors on information adoption between Independent and E-merchants' websites. The selection of theories and factors were discussed and justified. The hypotheses were presented based on the theoretical background which underpins the theoretical model using ELM and IAM. In addition, consumer engagement was proposed as a moderator for segmenting groups of consumers to investigate the effect on information adoption criteria. Full details of the context in this study will be provided in Chapter 4.

3.5 Chapter Summary

This chapter provides a detailed investigation of the antecedents of information adoption in two ways. First, it has reviewed the theories related to this study and

confirmed that these theories have been appropriately applied to investigate the relationships between factors of OCRs and information adoption. Second, this chapter provides details of the antecedents constructed: the hypotheses demonstrate the different relationships between the study constructs in the integrative framework presented. Twenty-six hypotheses are proposed in order to test the model: these hypotheses have been developed using the Elaboration Likelihood Model and the Information Adoption Model. The philosophy of the research design and the methodology used to test the hypotheses will be identified in the next chapter.

CHAPTER FOUR: METHODOLOGY

4.1 Introduction

This chapter will first present the research paradigm and philosophical choices made in studying OCRs and information adoption. This research is carried out with an epistemological perspective in mind. From a philosophical view, positivism is identified as the most appropriate paradigm according to the aim of this research, which is to identify and test the OCRs factors that influence on information adoption in Independent websites and E-merchants' websites. It also extends the findings on how the level of consumers' engagement with types of various platforms influences the likelihood of adoption of information from online review websites. Moreover, the process of selecting a research approach, design, strategy and research methods, including sampling, sample size, questionnaire design and measurement scale is discussed here. Then, reliability and validity tests of the pilot study and the main study are explained. The data analysis techniques are described: the study employed the SEM technique, using multigroup analysis to test and validate the proposed conceptual framework. Finally, a brief summary of the chapter is drawn.

4.2 Choosing a Research Paradigm

A paradigm refers to a way of looking at the world, concerning certain philosophical assumptions that guide and direct thoughts and actions (Milliken, 2001). The questions that concern research methods come from questions regarding paradigms (Guba and Lincoln, 1994). In other words, the choice of research methodology and research method results from a research paradigm (Staller *et al.,* 2008). Therefore, identifying the research paradigm is important because it helps researchers to determine an appropriate framework. Groff (2004) stated that producing research within a declared worldview can be advantageous in providing a clear framework for further discussion and research.

This study aims to identify and analyse the factors of OCRs that influence consumers' likelihood and willingness to adopt information from online review websites: specifically, Independent and E-merchants' websites. Thereafter, this study extends the knowledge of the literature in terms of consumer engagement by categorising groups of consumers in terms of their level of engagement with various platforms in order to

identify factors that influence their information adoption. The framework attempts to test the existing theories and confirm the factors that influence information adoption. The details of how a research paradigm was selected will be provided in the next sections.

4.3 Research Philosophy

According to Saunders *et al.* (2012), a research philosophy is the development of knowledge and the nature of that knowledge. It might be contributing a new theory or answering a specific problem in a specific context. However, research philosophy helps researchers to shape their assumption and also to choose a suitable research design, research strategy and research methods. There are two main assumptions based on research philosophy that represent how the world is viewed, namely ontological and epistemological (Collis and Hussey, 2014). Ontology refers to the nature of existence and concern with reality (Becker and Niehaves, 2007; Saunders *et al.,* 2012), whereas epistemology is concerned with what is considered to be acceptable knowledge (Becker and Niehaves, 2007; Saunder *et al.,* 2012). Additionally, Gray (2014) suggested that ontology embodies understanding what is, while epistemology tries to understand what it means to know. Myer (1997) claimed that epistemology is the most significant philosophical perspective. Along the same lines, Easterby-Smith *et al*. (2002) suggested that epistemology is important in guiding research for several reasons. Firstly, it helps to clarify the issue of research design. Secondly, consideration of philosophy will help the researcher to recognize which design processes work and which do not. Thirdly, it helps to select an appropriate research strategy and methods to collect empirical evidence.

From an epistemological perspective, there are two major research paradigms in the tradition of social science, namely positivism and interpretivism (Bryman, 2012). Positivism defined as " an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond (Bryman, 2012, p. 28). Positivist is objective and assumes that phenomena can be measured directly through observation. Indeed, it assumes that reality consists of what is available to the senses and that natural and human sciences share common logical and methodological principles that rely on facts (Bryman and Bell, 2011). Positivist

researchers employ theories that attempt to produce a set of hypotheses for testing (Saunders *et al.,* 2012). They attempt to improve our understanding of phenomena by testing theories based on existing tested relationships which are examined with structured instrumentation (Babbie, 2015). Bryman and Bell (2011) noted that positivist studies could use both inductive and deductive approaches but rely more on the deductive approach (Saunders *et al*., 2012). Positivism is linked to quantitative methods, which apply numerical data collection and statistical analysis to investigate and understand human behaviour (Saunders *et al.,* 2012; Collis and Hussey, 2014). In other words, a study is considered positivist if it involves evidence of propositions, quantifiable measures of variables, hypothesis testing and drawing of inferences about a phenomenon from the sample (Orlikowski and Baroudi, 2002).

Interpretivism refers to "a term that usually denotes an alternative to the positivist orthodoxy that has held sway for decades. It is predicated upon the view that a strategy is required that respects the differences between people and the objects of the natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action" (Bryman, 2012, p. 30). Moreover, interpretivism requires " the social scientist must collect facts and data describing not only for purely objective, publicly observable aspects of human behavior, but also the subjective meaning this behavior has for the human subjects themselves" (Lee, 1991, p. 347). Interpretivism suggests that knowledge and meaning are viewed as intersubjective, socially constructed and varied, depending on whom we interact with (Weber, 2004). Interpretivists deal with the assumption that social reality is different and subjective. People interpret the meaning of objects and then act upon those interpretations in dealing with phenomena (Saunders *et al.,* 2012). The interpretivist approach has been formed and shaped to understand participants' motivation with interactive dialogue (Ponterotto, 2005). Therefore, Interpretivists use qualitative methods rather than using numerical data to understand social phenomena (Saunder *et al.,* 2012). A comparison of the features between the two paradigms (positivism and interpretivism) is presented in Table 4.1

Table 4.1: Comparison of feature between two paradigms

Positivism	Interpretivism
Use large samples	Use small samples
Have an artificial location	Have a natural location
Be concerned with hypothesis testing	Be concerned with generating theories
Produce precise, objective quantitative data	Produce rich, subjective, qualitative data
Produce results with high reliability but low validity	Produce findings with low reliability but high validity
Allow results to be generalised from the sample to the population	Allow findings to be generalised from one setting to another similar setting

Source: Collis and Hussey (2014, p. 50)

The positivist approach has long been used in social science (Hussey and Hussey, 1997; Grey, 2014). It focuses on formal propositions, quantifiable measures of variables, hypothesis testing, addressing research questions and drawing predictions about a phenomenon from existing knowledge to explain realities and their relationships. In contrast, the interpretivist approach seeks to understand social phenomena through accessing the meanings of objects (Orlikowski and Baroudi, 2002).

This study sets out to test and validate factors of OCRs affecting information adoption in the context of different online review websites. Interpretivism is thus not considered an appropriate paradigm because the aim of this study is to gather the results in a quantitative manner. The present study is designed within the positivist paradigm, which aims to validate the research and test the proposed hypotheses (Collis and Hussey, 2014) and suggests that the view of knowledge is objective, based on natural science methods and on the direct observation of data (Weber, 2004). This study provides evidence of propositions, as presented in Chapter 2, quantifiable measure of variables, as presented in Chapter 4, hypothesis testing and drawing of inferences about a phenomenon, as will be presented in Chapters 5 and 6 (Orlikowski and Baroudi, 2002). Furthermore, the study seeks to obtain a more objective analysis of the data by applying statistical tools and rigour. Therefore, adopting a positivist approach would be advantageous in this study to investigate critical factors and their relationships and to develop a comprehensive theoretical model.

4.4 Research Approach (Inductive/Deductive)

There are different strategies for data collection and analysis, which can impact the overall process of research in different ways. It is necessary for researchers to think about the relationship between research and theory in terms of deductive and inductive approaches (Gilbert, 2002). In order to develop a study, there are two major approaches for building and testing of theory, namely the inductive and the deductive approach (Collis and Hussey, 2014).

Bryman (2012) stated that the deductive approach represents the common view of the nature of the relationship between theory and research. The deductive approach is the traditional way of testing a theory, confirming or rejecting hypotheses and revising theories. The outcome of the deductive approach with quantitative techniques leads to either acceptance or rejection of the hypothesis (Saunders *et al.,* 2012). On the other hands, inductive approaches work in the opposite direction to deductive approaches: process starts from observing certain phenomena, and the theory is the result of the research (Bryman, 2012).

The deductive approach was employed in this study. This was because this research is built on theories that already exist in the domain being researched. Indeed, the deductive approach has to begin with ideas based on experience or theory and hypotheses which come from a literature search (Bryman, 2012). This approach starts with literature reviews and theory, and then narrows down into more specific hypotheses, tests these hypotheses with specific data and ends with confirmation or rejection of the theory. The hypotheses in the current research are developed from relevant theories based on existing literature, and after data collection, all hypotheses will be tested and analysed. The research activities are planned to justify the results of this study and well as the research method will be conducted to accomplish the aim as shown in Figure 4.1 below:

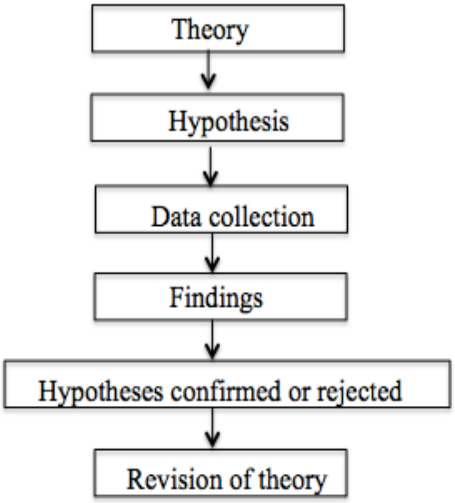

Figure 4.1 Deductive approach (Bryman 2012, p. 24)

4.5 Research Design

According to Easterby-Smith *et al.* (1991,p. 33) defined research design as " about organizing activities, including the collection of data in ways that are most likely to achieve research aims". Research design is one of the critical aspects of research methodology because it helps the researcher to scope and set up the boundaries of research (Hussey, 1997). Collis and Hussey (2014) highlighted that if the appropriate choices are made in the research design, the process of conducting the research can be successful. This is because research design reflects decisions about the priority being given to a range of dimension of the research process (Bryman, 2012). In support of this, Iacobucci and Churchill (2010) suggested that research design provides an overall plan and process of data collection, findings and analysis of the study, and as such is a general plan of how the research will provide the answers to the research question (Saunders *et al.,* 2016). In this study, the research design will be develop based on the conceptual model as shown in Figure 4.2

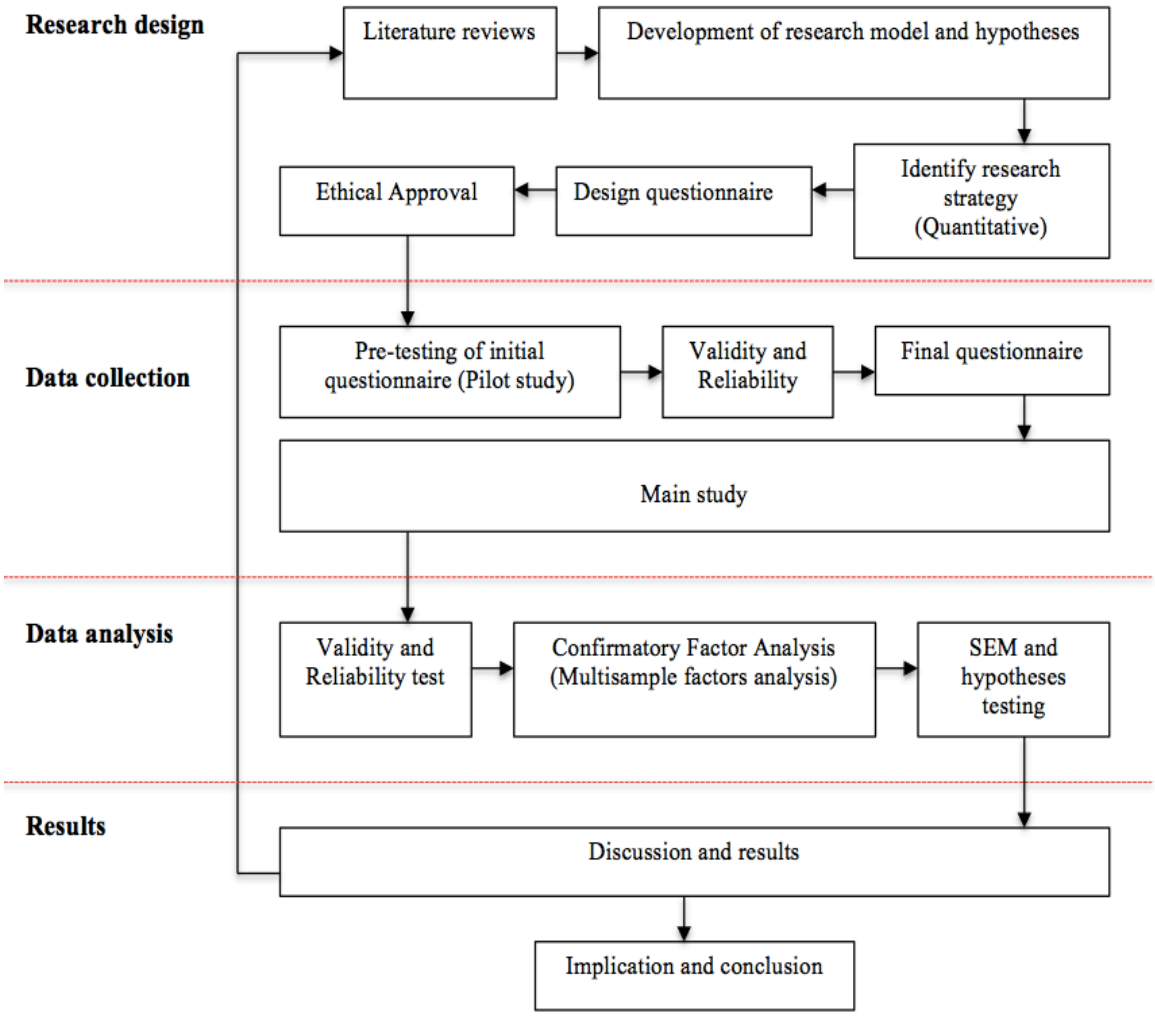

Figure 4.2: Research design

The research design for this study included four main steps: research design, data collection, data analysis and results. The first step involved reviewing the literature on OCRs, eWOM and information adoption studies to identify the literature gaps. A conceptual model was developed, along with twenty-six hypotheses. Then, a research strategy was justified. After designing the questionnaire, ethical issues should be checked before beginning the data collection process. In the second step, a pilot study will be conducted in order to check the understanding of language and the structure of the questionnaire items and to identify any unclear questions. Next, a set of questionnaires from the pilot study will be used to check the reliability and validity of the research instrument and measurement scale. After that, questionnaires will be presented to respondents in order to collect data for the main study. Next, in the third step, the data will be analysed using SPSS and AMOS software, employing the SEM technique using multigroup analysis, to validate the theoretical model and test the

hypotheses. Thereafter, in the final step, the findings are discussed in the light of existing studies in the literature. The theoretical and practical implications, with research limitations and future research directions, will be provided.

4.6 Research Strategy

When a researcher prepares a research plan, the research strategy is one of the key aspects that must be considered. In the field of social science, Alasuutari, Branen and Bickman (2008) stated that research methods are categorized into two main approaches: quantitative and qualitative. However, the selection of the research method depends on the aim of the study, the research questions and the author's justification.

Quantitative research focuses on enumerating data to be analyzed using statistical procedures (Bryman and Bell, 2007). It is used for testing theories by examining the relationships between variables (Creswell, 2009). It starts from the theory, sets hypotheses and then collects and analyzes data, and finally, the results will show whether the hypotheses can be rejected or accepted. Meanwhile, qualitative research is mainly used for exploring and understanding the meaning of human behaviour (Creswell, 2007). Carson *et al.* (2001) noted that qualitative research is suitable when the researcher needs to unfold what surrounds a phenomenon and gain deep understanding of individuals or groups of people. Therefore, the results of qualitative research can be used to explain how and why a phenomenon occurs.

In the current study, the researcher considered the differences between quantitative and qualitative research in terms of six areas to justify the method employed by following Gray (2014), as shown in Table 4.2 below:

Table 4.2: The differences between quantitative and qualitative research

Description	**Quantitative research**	**Qualitative research**
Epistemological positions	Objectivist	Constructivist
Relationship between researcher and subject	Distant/Outsider	Close/Insider
Research focus	Facts	Meaning
Relationship between	Deduction/Confirmation	Induction/emergent

theory/concept and research		
Scope and finding	Nomothetic	Ideographic
The nature of data	Data based upon numbers	Data based upon text

Source: Gray (2014, p. 191)

To select the types of research methodology, the objectives of the research must be clarified (Easterby-Smith *et al.,* 2008). Hair *et al.* (2010) provided a comparison of purposes and properties of research objectives and how researchers can use them to identify an appropriate methodology, as shown in Table 4.3

Table 4.3: A comparison of purpose and properties of quantitative and qualitative research

Description	**Quantitative research**	**Qualitative research**
Purpose	-More useful for testing. -Provides summary information on many characteristics. -Useful in tracking trends.	-More useful for discovering. -Provides in-depth (deeper understanding) on a few characteristics -Discovering 'hidden' motivation and values
Properties	-More structured collection techniques and objective ratings. -High concern for representativeness. -Relatively short interviews (1to 20 minutes) -Interviewer is passive. -Large samples (over50). -Results objective.	-More unstructured collection techniques requiring a subjective interpretation. -Little concern for representativeness. -Relatively long interviews (1/2 to many hours). -Interview is active and should be highly skill. -Small sample (1-50) -Results subjective.

Source: Hair *et al.* (2010)

Moreover, Amaratunga *et al*. (2002) noted that quantitative and qualitative methods each have their strengths and weaknesses. Quantitative research is suitable for a large number of participants and is less time-consuming but it is not flexible in terms of data

collection methods and the structure of the final written report. On the other hand, qualitative research is suitable for gaining an in-depth understanding of respondents and it has a flexible structure when writing the report, but it is more difficult to interpret and analyze the data in the results stage. In addition, Creswell (2003) suggested that the methodology should relate to the research problem. Quantitative research fits the research problems that involve identifying factors that influence the outcome or understanding the predictors of the outcome. Also, it is the best approach to test a theory or explanation. In contrast, qualitative research is useful when the researchers do not know which variables are important to examine.

4.6.1 Justification for Adopting Quantitative Research

As illustrated in Tables 4.3 and 4.4, Gray (2014) and Hair *et al.* (2010) have made a clear distinction between quantitative and qualitative research. According to its research aim, this study focuses on human behaviour, which is related to an epistemological research philosophy. The aim of this research is to develop a theoretical model to investigate the consumers' likelihood of adopting information from OCRs from different online review websites and to identify the factors from the level of consumers' engagement with various platforms and their effect on information adoption. This research has employed a quantitative method and follows a deductive approach, which is generally used as one of the major approaches in business and social science research methodology.

Quantitative research is a deductive approach, which has positivist epistemology and it deals with numerical data (Creswell, 2003). The positivist philosophy, being deductive, begins with hypotheses. It is used to establish theories and hypotheses based on the literature (Hussey and Hussey, 1997). It is suitable for developing the validity of data collection from human society because it can be used for statistical analysis and the results will explain social phenomena (Hussey and Hussey, 1997). Quantitative research will be used in this research for several reasons. Firstly, this research is focused on social facts and phenomena that are related to the positivist philosophy (Burrell and Morgan, 1979). Secondly, this research will investigate and predict phenomena within the realm of social science (human behaviour), so the quantitative approach is appropriate to investigate the relationship between independent and dependent

variables. Thirdly, quantitative research is useful to collect data from a large sample in order to maintain the quality of research. Furthermore, due to the pressure of time and resources, this quantitative research employed a cross-sectional study, which is widely used in survey research (Gray, 2014).

4.7 Research Methods

4.7.1 Quantitative Research: Survey Instrument

A survey defined as " a systematic method for gathering information from (a sample of) entities for the purpose of constructing quantitive descriptors of the attributes of the larger pupolulartion of which the enrntities are members" (Groves *et al*., 2011, p. 2). Surveys are widely associated with the deductive approach (Bryman, 2012). A survey is an instrument used to collect primary data from individuals (Hair *et al.,* 2003). There are two broad categories of methods for collecting survey data: self-administered and interviewer-administered. Self-administered surveys could be administered in several ways, such as in person, by phone, by mail or online (Kolb, 2008). In contrast, the interviewer-administered method rests on direct contact with participants such as personal interviews, either face-to-face, by telephone or via computer dialogue (Hair *et al.,* 2003). In fact, the interviewer-administered method is used for collecting data from small numbers of individuals as qualitative data, whereas the self-administered method is convenient for collecting data from large numbers of individuals in quantitative form. In a survey, the questions are presented in standardized form: therefore, the researcher can compare all participants' answers to the same questions. A self-administered questionnaire was chosen to collect data in light of the aim to collect large amounts of data to validate the research model and hypotheses. This study used a survey questionnaire method to obtain data from a large number of individuals in a convenient manner due to limited cost and time. The types of self-administered questionnaire will be discussed in the next few sections.

4.7.2 Data Collection Method: Questionnaire Survey

Zikmund *et al.* (2010, p. 197) defined questionnaire as "a pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives". Baruch and Holton (2008) noted that a survey questionnaire

enables researchers to seek information about individual attitudes, feelings and perceptions. The use of a survey questionnaire as a data collection method has many advantages. Firstly, the questionnaires are the principal tool for collecting data and the researcher can identify the population or sample based on the research interest. Also, it is possible to reach a large number of target populations (Malhotra *et al.,* 2013). Secondly, it is possible to gain information on individuals' feelings and perceptions (Baruch and Holton, 2008; Malhotra *et al.,* 2013). Thirdly, it is a low cost method and is easy to complete with the target group when compared to other methods (Nachmais and Nachmias, 2008; Saunders *et al*., 2016) Moreover, it provides much more time for respondents to read and answer the questions. Respondents are free to complete the questionnaire at their own convenience and have time to think about the answers (Oppenheim, 1996; Malhotra *et al.,* 2013). Finally, it has the ability to collect data from wide geographical areas (Oppenheim, 1996).

The present study follows the steps suggested by Czaja and Blair (2005), who stated that conducting a survey is more than merely designing questionnaire questions and collecting data. Rather, it involves five-stage processes, as shown in Figure 4.3

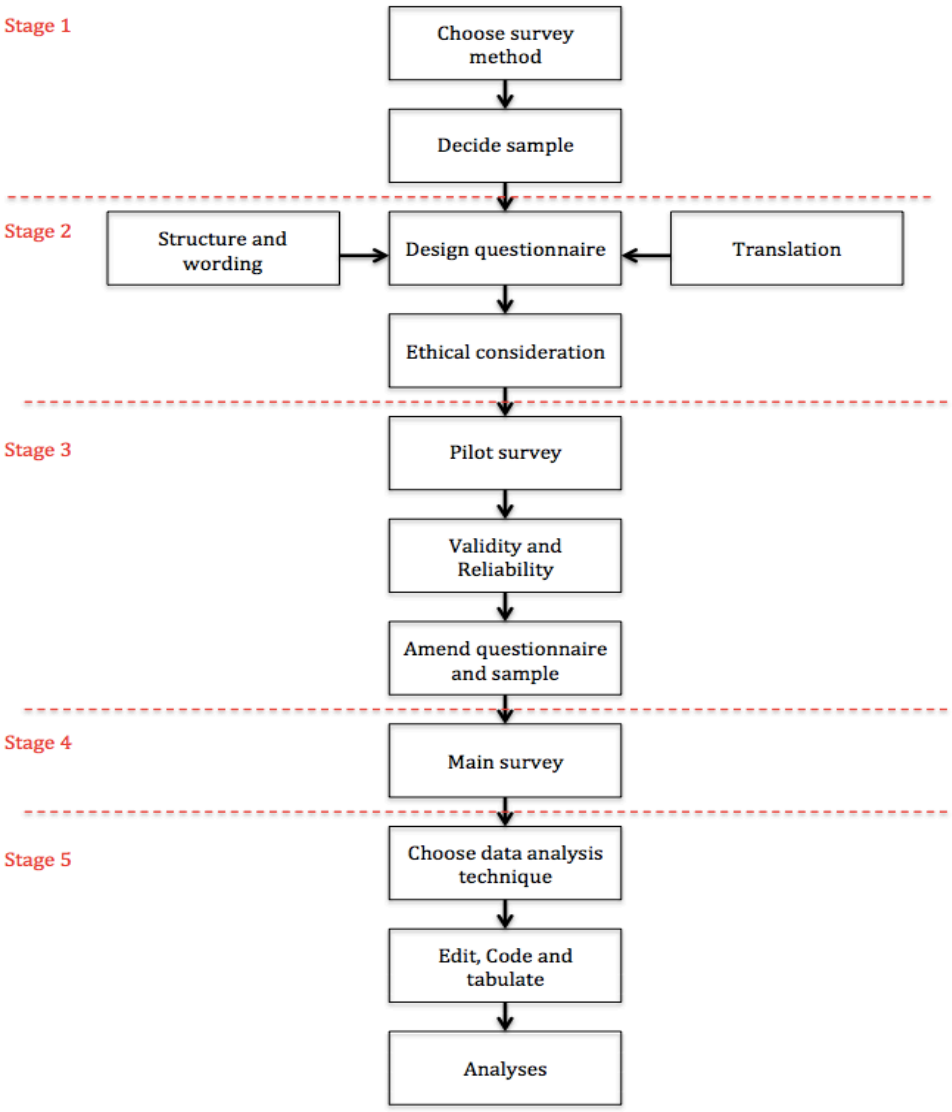

Figure 4.3 Five-stage processes for conducting a survey

Source: Adapted from Gray (2014)

From the above discussion, the researcher has chosen to use a self-administered questionnaire. In this approach, all participants have to complete all questions in the questionnaire by themselves (Bryman, 2012). However, there are three main types of self-administered questionnaire: delivery and collection questionnaires, online questionnaires and postal questionnaires (Czaja and Blair, 2005). The differences between these types will be presented in Table 4.4

Table 4.4 : The difference types of questionnaire

	Delivery and collection questionnaire	Online questionnaire	Postal questionnaire
Data collecting	Delivery by hands to hands	Delivery by electronically using internet	Delivery by posed to respondent and return by posted
Cost	High	Low	Medium
Time	Short	Long	Very long
Advantages	Have interactive with respondents in case they do not understand the questions Selecting the representative samples	Respondents can spend their time to consider question Flexible to respondents complete the questionnaire on their own schedule at their own place Anomymity , respondents easier to provide honest response Data can be storage as electronic files	Respondents can spend their time to consider question Flexible to respondents complete the questionnaire on their own schedule at their own place Anomymity , respondents easier to provide honest response
Disadvantages	Respondents feel more pressure	Respondents cannot have interactive if they do not understand the questions Difficult to control	Respondents cannot have interactive if they do not understand the questions problems in terms of delivery such as postal address, return by post

Additionally, Evans and Mathur (2005) also set out the advantages of using online questionnaire surveys as follows:

- Online questionnaires can minimize the period required to collect and process data;
- They are associated with lower costs because there are many specialized online questionnaire development programs which include all kinds of questions (scales, open-ended questions, multiple choice);
- Technology allows online questionnaires to be made more attractive and easier to use;
- The flexibility exists to design questionnaire items in different versions depending the respondents, especially language;
- The respondents can answer the questionnaire at a time that is convenient to them;
- When the data collection process is finished, the researcher will have all data stored in a database.

The self-administered survey questionnaire approach has been widely used in previous studied of OCRs and eWOM (see, for example, Awad and Ragowsky, 2008; Fei, 2011; Amblee and Bui, 2011; Hsu *et al*., 2013; Liang *et al,* 2013; Yang *et al*., 2015; Elwalda *et al.,* 2016). According to the aim of this study and following the positivist research paradigm, a self-administered survey questionnaire, using an online questionnaire for data collection, is the most suitable method for this study (Collis and Hussey, 2014).

4.7.3 Selection of the Sample

Population referred to "the universe of the units from which the sample is to be selected. The term 'units' is employed because it is not necessarily people who are being sampled (Bryman, 2012, p. 187). This population of this study is Thai travellers. According to resources and time limitations, it is impossible to study the whole of the population. Therefore, researchers try to select representative samples in their studies. A sample is a subset of the population which can reflect the attributes of the target population in research which is related to the whole population (Bryman and Bell, 2007). It is important decide whom and what to study, because the sample represents the whole of the study population (Sarantakos, 1998). Fink (2002) suggested that a good sample is a miniature of the population, while Sarantakos (1998) noted that sample selection is an important determinant of the quality of quantitative research. This is the reason why the sampling process should be clarified before conducting a survey. This research is focused on OCRs in the travel industry: therefore, the sample has been defined as Thai travellers who have used online consumer review websites.

4.7.3.1 Thai Consumers

Thailand was used as the sample in this study. Despite its political uncertainty and infra-structural problems (BBC, 2016), the steady growth of the Thai market shows its tenacity and potential. The number of international outbound traveller from Thailand saw a rapid increase from 5.9 million in 2014 to 6.4 million in 2015 (The World Bank, 2016), indicating the huge prospects that Thai consumers offer to the travel industry.

Most of the existing research studying Thai tourism has been related to international inbound tourists. Relatively little attention has been paid to Thai outbound tourism (Cohen, 2014). A number of Asian consumers and specifically Thai consumers consider

Europe as a prime destination. The forecast for 2020 predicts that one in every three visitors might be travelling to Europe (WTC, 2011). The main destinations in Europe that attract Thai travellers are the United Kingdom, Germany, Denmark, Austria, France and Germany (Thai Ministry of Tourism and Sports, 2014). The number of outbound consumers may be linked to the increasing household income. In 2011, Thailand became an upper-middle income economy (The Word Bank, 2011). Thai currency is strong against the devolution of the Euro currency, which might be why Thai consumers are more able to afford to travel now than in the past. In addition, it has been noted that the number of outbound Thai travellers travelling is greater than the number of international travellers travelling to Thailand (Chaipinit and Phetvaroon, 2011).

Furthermore, culture is known to play role in consumer perception (Cialdini and Goldstein, 2004; Luo *et al.,* 2014c). Culture defines as "the collective programming of the mind the distinguishes the members of one group or category of people from others" (Hofstede 2001, p. 9). Thailand is categorised as a nation of high power distance, and is also high in collectivism, certainty avoidance and femininity. In terms of OCRs, the researcher will focus on only two of these aspects: high collectivism and high uncertainty avoidance. Thailand is classified as a strongly collectivist society (Prasongsukarn and Patterson, 2012; Rhein, 2013). When consumers face a choice, they may search for referent social groups to guide them towards the best course of action (Holmoes and Tangtongtavy, 1995). Hofstede (1991) noted that people from collectivist cultures are more sensitive to uncertainty avoidance compared to those from individualist cultures. Higher avoidance means that they need to reduce the vagueness of the situation and seek predictability and good preparation (Triandis, 1995).

Money and Crotts (2003) investigate the influence of uncertainty-averse culture on Internet information searching between a lower uncertainty avoidance culture (Germany) and a higher uncertainty avoidance culture (Japan). They found no difference between these cultures. However, findings from specific cultural investigations on travel websites are still needed (Ip *et al.,* 2010). Due to the collectivist nature of Thai culture, outbound Thai consumers may seek information from others from different online review websites, and then decide whether to adopt this information before they make their decision. Hence, the dynamics and kinetics of OCRs

and factors influencing information adoption by Thai consumers would enable marketers to obtain better market intelligence and insights.

For the next step, the method of selection of the sample will be considered. According to Bryman (2012), there are two types of sample selection, namely probability and non-probability sampling. A probability sampling refers to " a sample that has been selected using random selection so that each unit in the population has known chance of being selected. It generally assumed that a representative sample is more likely to be outcome when this method of selection from the population is employed" (Bryman, 2012 p. 187). Every consumers of the population has the same chance of being part of the sample (Wilson, 2010). The strength of probability sampling is in the validity of the results, but it is costly and time consuming. There are several types of probability sampling techniques: simple random sampling, systematic sampling, stratified random sampling and multi-stage cluster sampling (Bryman and Bell, 2007).

In contrast, a non-probability sampling refers to " a sample that has not been selected using a random selection method. Essentially, it implies that some units in the population are more likely to be selected than others" (Bryman, 2012, p. 187). A non-probability sample is used when the sample selection relies on the researcher's judgment. The population for non-probability sampling cannot be identified because of the sample selection process (Field *et al.,* 2006). However, non-probability sampling is less costly and time-consuming, although it requires more planning compared to probability sampling (Cooper and Scindler, 2014). Bryman and Bell (2015) noted that there are three main techniques of non-probability sampling: these are convenience sampling, snowball sampling and quota sampling. Moreover, Black (1999) sets out the advantages and disadvantages of the different types of sampling technique, as shown in Table 4.5

Table 4.5 The advantage and disadvantage in difference types of sampling technique

Technique	Descriptions	Advantages	Disadvantages
Simple random	Random sample from whole population	Highly representative if all subjects participate; the ideal	Not possible without complete list of population members; potentially uneconomical to achieve; can be disruptive to isolate members from a group; time-scale may be too long, data/sample could change
Stratified random	Random sample from identifiable groups (strata), subgroups,etc.	Can ensure that specific groups are represented, even proportionally, in the sample(s) (e.g., by gender), by selecting individuals from strata list	More complex, requires greater effort than simple random; strta must be carefully defined
Cluster	Random samples of successive clusters of subjects (e.g. by institution) until small groups are chosen as units	Possible to select randomly when no single list of population members exists, but local lists do; data collected on groups may avoid introduction of confounding by isolating members	Cluster in a level must be equivalent and some natural ones are not for essential characteristics (e.g., geographic: numbers equal, but unemployment rates differ)
Stage	Combination of cluster (randomly selecting clusters) and random or stratified random sampling of individuals	Can make up probability sample by random at stages and within groups; possible to select random sample when population lists are very localized	Complex, combines limitations of cluster and stratified random sampling
Purposive	Hand-pick subjects on the basis of specific characteristics	Ensures balance of group sizes when multiple groups are to be selected	Samples are not easily defensible as being representative of populations due to potential subjectivity of researcher
Quota	Select individual as they come to fill a quota by characteristics proportional to populations	Ensures selection of adequate numbers of subjects with appropriate characteristics	Not possible to prove that the sample is representative of designated population
Snowball	Subjects with desired traits or characteristics give names of further appropriate subjects	Possible to include members of groups where no lists or identifiable clusters even exist (e.g., drug abusers, criminals)	No way of knowing whether the sample is representative of the population
Volunteer, accidental, convenience	Either asking for volunteers, or the consequence of not all those selected finally participating, or a set of subjects who just happen to be available	Inexpensive way of ensuring sufficient numbers for a study	Can be highly unrepresentative

Source: Black (1999, p.118)

A non-probability sampling technique can be used if the sampling objectives are met (Cooper and Schindler, 2014). Due to the limited time and cost, this study adopted non-probability sampling by using a snowball sampling technique to provide questionnaires to participants who were used Independent websites or E-merchants' websites. Atkinson and Flint (2001, p. 1) defined snowball sampling as " a technique for finding research subjects. One subject gives the researcher the name of another subject, who in turn provides the name of a third, and so on".

Snowball sampling has been designed for social science research (Coleman, 1958). This sampling method involves a chain of referrals made by people who know others who possess the required population characteristics (Salganik and Heckathorn, 2004). Participants were asked to suggest others who would satisfy the participation criteria. Indeed, Snowball sampling is also called referral sampling: initial participants are chosen and then help to identify and share the questionnaire with others in the target sample. This process continues until the required sample size is reached (Hair *et al,* 2010). However, Snowball sampling is appropriate in this study because it provides flexibility of data collection within a limited time. In particular, snowball sampling is useful to capture the role of informal communication in online social environments and is an effective method to recruit numerous participants (Matook *et al*., 2013). Additionally, snowball sampling can identify the scope of a study, expand the sample size and reduce cost and time (Benfield and Szlemko, 2006).

Moreover, the researcher was looking for participants who were willing to complete the survey. The data collection process took ten weeks between the periods of June to August 2015. Snowball sampling selected Thai consumers who use online reviews from websites in order to choose accommodation/hotels in which to spend their holidays. Thus, the purpose of snowball sampling in this case was to reach more potential participants. Bryman (2012) suggested that snowball sampling is a useful approach when the researcher needs to trace connections. The researcher contacts a small group of people who are of relevance to the study and then uses these connections to contact others. In this research, an online link to the web-based questionnaire (Qualtrics) was sent to the researcher's contacts by email and social networking sites such as Facebook to reach more potential respondents, as well as the Line and Whatsapp applications on the mobile phone. Contacts from both channels were encouraged to forward and share

the online survey link to their relevant contacts or friends. The participants were gently asked to complete the online questionnaire. A pilot study was conducted prior to the main study, as discussed below.

Unfortunately, bias can occur when participants are not willing to respond to a questionnaire in a proper way. In order to eliminate such bias, the objective of the questionnaire should be clear and related to their interest, so that they will read the items carefully and provide precise answers (Armstrong and Overton, 1977). The researcher made efforts to minimise this bias by using a pilot study for pre-testing in order to gain feedback and comments from participants. This information was used to enhance the questionnaire.

4.7.4 Sample Size

According to Bryman (2012), sample size considerations are usually based on the most crucial aspects, which are time and cost. A large sample size is better able to reflect the characteristics of the whole population and contribute to the generalisation of the research (Collis and Hussy, 2014). However, with regard to distribution theory, structural equation modelling (SEM) requires a sample size that is related to reliable estimates (Raykov and Widaman, 1995). Therefore, the researcher relied on three considerations that affect sample size in SEM. The first consideration is that SEM is a large sample technique: in order to produce a high quality study with sufficient data, a sample size of at least 200 is strongly recommended (Barbara, 2008). The second consideration is the multivariate distribution of the data: the ratio of respondents to parameters needs to be 10:1 (Kline, 2005). In this study, the total number of questions is 39 model parameters: thus, an ideal minimum sample size would be 390. Lastly, Comrey and Lee (1992) and Tabachick and Fidell (2001) categorise the level of sampling in SEM as follows: 200 is fair, 300 is good, 500 is very good and 1,000 or more is excellent. In light of these considerations, the sample size for this study was 635 respondents, which can be classed as very good.

4.7.5 Questionnaire Design and Development Process

It is necessary to spend time composing, designing, checking and revising the questionnaire before distributing it to participants. There are many issues that need to be addressed when developing the questionnaire, such as the survey instrument, the length of the questionnaire, wording, minimizing respondents' bias and reliability/validity concerns.

The questionnaire in this study was developed based on the process suggested by Kolb (2008, p. 194), which consists of structure, content, and wording of the questions. It begins with a cover page, which is used to introduce the basic background of the research topic in order to motivate participants to complete the questionnaire. The background information sets out the aim of research, the study field, information about the author and ethical aspects such as confidentiality.

The questionnaire was divided into three parts; it consists of six sections, with clear instructions for each section, as described below:

Part one: Usage of COPs

This part contains the questions used for studying the use of online review websites. Section one contains four questions addressing the current use of online review websites for making hotel reservation plans. The first question asks participants if they have used with online consumer review websites. If not, they are asked to discard the questionnaire, because this research focuses on people who are familiar with this kind of website. If participants' responses indicate that they have used with online review websites, they will continue to answer questions 2 and 3, which ask them how often they book hotels and how much time they spend on hotel reservation plans. Next, the last question in part one requires them to choose a favourite travel website that they use to read online reviews for hotel reservation plans.

Part two: Information usefulness and information adoption

This part contains the questions used to investigate the factors that affect information usefulness and information adoption. It consists of sections two to four, involving 39

questions in the form of 7-point Likert scales ranging from 'strongly disagree' to 'strongly agree'. All items measured the scale of each variable, including information timeliness, information accuracy, information relevance, information completeness, information understandability, value added information, information quantity, product ranking, review sidedness, review consistency, source expertise, source trustworthiness, information usefulness and information adoption.

Part Three: Demographic questions

This part contains questions eliciting the background of the participants. Demographic questions will be asked. It consists of five questions related to nationality, gender, age, the highest level of education attained and occupation.

4.7.5.1 Content of Question

Davies (2007) suggested that questionnaire items should avoid jargon, technical terms and overly long questions. The questions should follow a natural logic in order to help respondents complete them step by step. It is necessary to make questions clear and easy to understand. Therefore, the researcher considered these suggestions when constructing the questionnaire for this study. In addition, the researcher provided instructions for every section in order to help participants understand what they need to do to provide their answers.

Moreover, all questions were developed based on the variables in the research hypotheses. Questions were selected with reference to previous research that attempted to measure the determinants of information adoption.

4.7.5.2 Format of Respondents

Closed-ended structured questions were used. Baker (2003) suggested that structured, closed-end questions are the best suited to quantitative research for a number of reasons. First, closed-end questions are easier to complete by choosing the appropriate answer. Second, closed-end questions allow researchers to collect standardized responses that can be meaningful to compare. Third, this format does not discriminate against less talkative and articulate respondents. Fourth, a closed-end questionnaire is

not focused on a recall task but helps participants with a recognition task. Finally, the closed-end questions are quick to code and allow smooth data entry and statistical calculation thanks to the structure of the information (Foddy, 1994; Coombers 2001; Leung, 2001; Bryman, 2012).

A seven-point Likert scale is appropriate to use in this research because it provides wider latitude for respondents to present their opinions by allowing a range of answers (Diamantopoulos, Schlegelmilch and Reynolds, 1994). As described by Hair *et al*. (2010), a Likert scale is a scale that asks participants to indicate whether they agree or disagree with a question by rating a series of mental belief or behaviour beliefs. In addition, Likert scales are the best design when using a questionnaire survey method to collect the data. This is because Likert scales do not force the respondents to take a stand on a "yes" or "no" answer but rather to provide the answer as a degree of agreement or disagreement (Brace, 2008). In addition, Likert scales help the researcher to manage and code data for different statistical techniques (Luck and Rubin, 1987) and allow the participants to state their answers more accurately (Oppenheim, 1996).

In this study, all variables will be measured on seven-point Likert scales, with 1 being "Strongly disagree" and 7 being "strongly agree". This is because providing more scale points allows participants to express their feelings with greater specificity (Dawes, 2008).

4.7.5.3 Measurement Scales

Both independent and dependent variables will be used to measure information adoption.

1. Independent Variables

This study employed twelve factors that are assumed to be able to predict OCRs' adoption. Six dimensions of the central route will be employed to measure information adoption: information timeliness, information accuracy, information relevance, information completeness, information understandability and value-added information. Also, other independent variables from the peripheral route will be employed to

measure information adoption: information quantity, review sidedness, product ranking, review consistency, source expertise and source trustworthiness.

2. Dependent variables

There are two dependent variables in this study: information usefulness and information adoption. Factors that are used to measure information usefulness and information adoption are information timeliness, information accuracy, information relevance, information completeness, information understandability, value-added information, information quantity, review sidedness, product ranking, review consistency, source expertise and source trustworthiness. These determinant factors of OCRs were taken from the ELM and the IAM. The measurement items of the theoretical constructs and their sources are presented in Table 4.6

Table 4.6: The measurement items of the theoretical constructs and their sources

Construct	Measurement items	Source
Information Timeliness	I always adopt current comments in online reviews I concern timely posed in online reviews Up to date of online reviews make me confident to adopt the information	Wixon and Todd (2005)
Information Accuracy	I think the information I obtain from online reviews is correct I think the information I obtain from online reviews is accurate I think the information I obtain from online reviws is realiable	Wixom and Todd (2005)
Information Relevance	I think the information I got from online reviews is relevent as it matches my needs. I think the information I got from online reviews is appropraite for satisfying my needs. I think the information in website are applicable	Wixom and Todd (2005)
Information Completeness	I think the information that I obtain from online reviews is of suffieient depth I think the information that I obtain from online reviews is of suffieient breadth I think online reviews in website sufficients complete my needs I thinkonline reviews in website include all necessary value	Wang and Strong (1996)
Information Understandability	I think the information that I obtain from online reviews is easy to read I think the information that I obtain from online reviews is easy to understand I think the information that I obtain from online reviews is easy to interpret	Filieri and McLeay (2014)
Value add Information	I think the information that I obtain from online reviews enable me to understand both positive and negative aspects of destination. I think the information that I obtain from online reviews enable me to detect unknown aspects of destination.	Filieri and McLeay (2014)
Information Quantity	I adopt online reviews when the number of reviews per accomodation is large. I adopt online reviews when the quantity of reviews per accomodation is large	Filieri and McLeay (2014)
Product Ranking	The ranking of different accommodations facilitate the evaluation of the alternatives avaliable. Overall ranking is a useful information to help me select the best accommodation among several alternatives	Filieri and McLeay (2014)
Review Sidedness	I think the information include only one side-comments is usefulness I think the information includes both positive and negative side is usefulness I think the information that only one side of reviews is bias I prefer to read positive and negative comments	Cheung *et al.,* (2012)
Information Consistency	I adopt the information when the review are consistent with other reviews I adopt the information when the review are similar to other reviews	Cheung *et al.,* (2012)
Source Expertise	I think people who provide reviews are knowledgeable I think people who provide reviews are experts I think people who provide reviews are reputatable	Cheung *et al.,* (2008)
Source Trustworthiness	I think people who provide reviews are highly rate by other site I think people who provide reviews are trustworthy I think people who provide reviews are reliable	Cheung *et al.*, (2008)
Information Usefulness	Online reviews are valuable Online review are informative Online reviews are helpful	Bailey and Pearson (1983)
Information Adoption	I agree with the opinion suggested in the comments I closely followed the suggestions in online reviews if I feel it is useful I closely followed the suggestions in online reviews and it effect to my purchase decision	Filieri and McLeay (2014); Cheung *et al.*, (2008)

Source: Adapt by researcher

4.7.5.4 Measurement Items of Consumer Engagement

Having examined the main aim of the research by identifying and analyzing the OCR factors that influence consumers' likelihood of adopting information from Independent and E-merchants' websites, this study extends the knowledge in terms of consumer behaviour, categorizing groups of consumers according to their levels of engagement with various platforms. Therefore, the two groups from the sample (Independent websites and E-merchants websites) were classified into four groups (low engagement with Independent websites, high engagement with Independent websites, low engagement with E-merchants websites and high engagement with E-merchants websites). The measurement for consumer engagement in this study will be discuss below, figure 4.4:

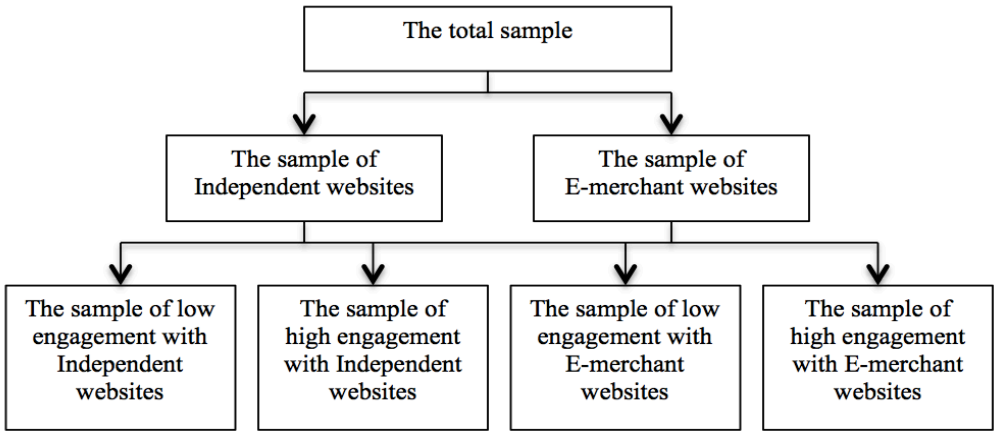

Figure 4.4 Classified four groups of consumers

Cheung *et al*. (2015) stated that there are three main perspectives from scholars who have investigated and conceptualized consumer engagement: that it is a psychological process that leads to loyalty and returning consumer (Bowden, 2009); a behavioural manifestation towards a brand or firm which goes beyond purchase behaviour (Van Doorn *et al*., 2010) and a motivational psychological state categorized by four dimensions, namely vigour, dedication, absorption and interaction (Patterson *et al*., 2006).

The aim of this research is to investigate consumers' likelihood of information adoption, as information adoption goes beyond purchase intention (Erkan and Evan, 2016b). This study, therefore, focuses on the behavioural manifestation. It develops a

consumer engagement measurement, which is then employed to test the proposed theoretical model.

The clear definition of engagement behaviour and its measurement remain inconsistent (as discussed in Chapter 2). In previous research, measurements of behavioural engagement have varied across contexts (Hollebeek, 2012), for example, Kumar *et al*. (2010) identified consumer engagement metric by using customer lifetime value, customer referral behaviour, customer influencer value and customer knowledge value. Rossmann *et al.* (2016) and Coelho *et al*. (2016) studied consumer engagement and eWOM via social media platforms such as Facebook, and conceptualized consumer engagement in terms of consumer behavioural manifestations such as 'likes' and 'comments'.

Thus, a clear measurement of consumer engagement does not exist. Therefore, this study has adapted the measurement from Cheung *et al*. (2015), who studied behavioural engagement in promoting online game sales. The measurement of consumers' engagement defined on the basis of frequency and duration which can be measure behavioural engagement. The respondents were asked to indicate their answers to question 1.2 and question 1.3 in section 1.

The researcher adapted a measurement question from Cheung *et al*. (2015); however, to study behavioural manifestation via online review websites focusing on consumer participation, minor changes in wording were made to reflect the context of this study, as shown in the original items below:

Original items (Cheung *et al*., 2015)
In the past three months, how many times have you played this game per week on average? In the past three months, how long have you played this game per visit on average?
Items use in this study
How often do you read online reviews when making your hotel reservation plan? For each trip on average, how much time do you spend to read online reviews when making your hotel reservation plans?

4.7.5.6 Translation of the Research Instrument

This research was conducted with Thai consumers. The main research instrument is written in English, but Thailand does not use English as a first language. Therefore, the researcher decided to use back-translation, which is commonly used when conducting international market research (Chen and Boore, 2009). The questionnaire was developed into two versions (Thai and English). The questions were translated into Thai before being presented to Thai consumers. However, back-translation might not provide the exact meanings of the questions: thus, a professional translator or independent translator should be required to verify the validity and reliability of the research (Halai, 2007). The questionnaire items were sent to a professional translator in Thailand to check whether they agreed with the questions when the originals were in English and the translated version was in Thai. All questions were revised by the professional translator in order to avoid language differences and misunderstandings about their meaning.

4.7.6 Ethical Considerations

Burton (2000, p. 299) defined that "ethical concerns are present in all research designs and go beyond data collection to including analysis and publication". Research ethics is one of the most important considerations when conducting research. Collis and Hussey (2003) suggested that researchers should consider four major aspects when conducting their research: participants, data protection, anonymity and confidentiality. This research focuses on ethics as one of the most important aspects. Before distributing the questionnaires, the researcher submitted ethical and participant forms to Brunel University to be reviewed and approved. The participants were notified of the research aim and provided with background information about the study. Demographic information was kept confidential and all answers were saved in a password-protected folder on the researcher's laptop.

4.8 Pre-testing: Pilot Study

After the development of the final version of the questionnaire, the researcher's supervisors were asked to provide comments. In light of this feedback, some changes

were made to the layout, wording and response scales. However, Bryman and Bell (2007) suggested that researchers should also use pilot testing in order to ensure that the research instrument is sufficient to be administered. Along the same lines, Zikmund (1997) stated that pilot testing should be used to eliminate possible weaknesses in the first draft of a questionnaire and to revise and refine the measures before creating the final questionnaire for the main participants.

In social science research, pilot studies are used to test the procedure with a small sample in preparation for the main study (Polit *et al.,* 2001). Given the word by De Vaus (1993, p. 54) stated that "Do not take the risk. Pilot test first". In fact, the survey method has some disadvantages. Pilot testing helps to develop the efficiency of the main research because it provides a warning about aspects that are complicated and inappropriate (Teijlingen and Hudley, 2001). Therefore, a pilot study was conducted in this research using a trial questionnaire that was sent to sample participants before being widely distributed.

In order to help researchers to improve design of questionnaires, participants were asked to comment on the content of the questions, layout, the clarity of wording, the sequence of questions and any other comments that they wished to provide. According to Fink (2003), a pilot study is effective when choosing participants who are similar to those who will form the main sample. Hence, participants for the pilot testing were selected from people who were used online review websites.

This pilot study was conducted among different group of people, with two rounds of pilot testing. Firstly, a pilot test was conducted with 16 Thai travellers, PhD students (non-business/ business students) in Brunel University who were used online consumer review websites. In this pretesting stage, the researcher followed Krisnick's (1999) recommendations for cognitive pre-testing and behaviour coding techniques. It focused on monitoring participants' physical and mental behaviour during questionnaire completion. Using cognitive pre-testing, the researcher contacted the participants individually and asked what they thought about the questions while they were completing the questionnaire. However, as a behaviour coding technique, the researcher also monitored their reactions when they were reading the questions, such as how smoothly they were reading and completing the questionnaire. This stage resulted in

useful feedback, as most of the participants provided comments related to the structure, scales, unclear questions and wording. To address these issues, the researcher rewrote unclear questions and added and removed some items and modified response scales. Then, the second round of the pilot survey was conducted among 40 Thai travellers, post-graduate students (non-business students) in Brunel University who were used online review websites. Participants in this phase of the pilot study were asked to read the questionnaire and allowed to comment and ask questions about any aspects that they did not understand. The results of the second pilot provided more positive feedback than the first pre-test. The comments that they provided related to confusing wording. To deal with this issue, the researcher clarified wording by simplifying the confusing words.

4.9 Reliability and Validity

To assure the significance of this study, the validity and reliability of the scale items and analysis are addressed.

4.9.1 Content Assessment

4.9.1.1 Validity of Content

Validity generally refers to accuracy. Validity is the first element that determines the quality of the selected measurement instruments. Hair et *al.* (2003, p. 174) defined, " a construct with perfect validity contains no measure error". In order to achieve this validity, the content of the questions and answers were developed on the topic of OCRs and information adoption based on the previous chapter (literature review) and later revised and pretested (pilot study) to ensure content validity. Moreover, measurement items for the questionnaire were developed from previous studies; therefore, they have already been shown and accepted to be valid. Measurement scales were thus revalidated to fit the objectives of this study.

4.9.1.2 Reliability of Content

Reliability attempts to ascertain the consistency of the data. Reliability is the second element that ascertains the quality of quantitative research. In order to limit measurement errors in this research, the internal consistency of the measurements must

be preserved. The researcher used three criteria to evaluate reliability. First, several questions were used to measure the same variable. This is because multiple questions help to eliminate individual error rather than relying on answers to a single question (Muijs, 2004). Second, similar questions were asked about the same concept to prove the accuracy of the data (Hernon and Schwartz, 2009). Finally, questions were pretested to ensure their internal consistency by asking people who were not familiar with this area to examine the questionnaires to ensure that they could fully understand them (Hernon and Schwartz, 2009).

4.10 Main Study

From the pilot study, structure and wording mistakes were corrected. The final version of the questionnaire was then distributed. The final questionnaire consists of three parts with five sections, with a total of 49 questions. The self-administered questionnaires with closed-end questions were distributed using an online link to the web-based questionnaire (provided via Qualtrics) via email, Facebook, Line and Whatsapp applications to reach potential participants. The data collection process took ten weeks, during which a snowball sample of 766 was collected. As the aim of the study is to investigate the factors of OCRs between Independent websites and E-merchants' websites, participants were asked select their favourite sites to classify the sample into two groups. It would be easier to mention the names of websites rather than using terms such as Independent and E-merchants' websites. Therefore, in the questionnaire Q1.4, the respondents were asked to select the names of the websites (TripAdvisor, Booking.com, Hotel.com, Expedia, Yelp and others) that they use to read online consumer reviews.

Among the 766 participants, 312 used TripAdvisor, 323 used Booking.com, 24 used Hotel.com, 23 used Expedia, 65 used Yelp and 19 were incomplete answers. This research presents two specific online review websites to represent Independent and E-merchants' websites. The results showed the participants were most familiar with TripAdvisor and Booking.com. However, other websites showed the number of selection is very low and would be rejected in the analysis process. Therefore, some respondents and incomplete answers were excluded. TripAdvisor was used to represent

Independent websites and Booking.com was used to represent E-merchants' websites. This led to a total of 635 usable responses.

4.11 Data Analysis

Essentially, this study employed Analysis of Moment Structures (AMOS), using the Structural Equation Modelling (SEM) technique with multigroup analysis to validate the hypotheses and conceptual framework. SEM refers to a multivariate technique that combines multiple regression analysis and factor analysis to estimate simultaneously a series of interrelated dependence relationship (Hair *et al.,* 1998). It is also known as "path analysis with latent variables" (Bagozzi, 1984). Indeed, SEM is combination of factor analysis and regression or path analysis.

There are a number of reasons why SEM was used in this study. Firstly, SEM fits the objective of testing hypotheses by simultaneously examining a series of relationships between dependent and independent variables (Hair *et al.,* 2010). In other words, SEM captures complete and simultaneous tests of all the relationships between all variable at the same time (Tharenou *et al.,* 2007). Secondly, SEM can be used to estimate the size of the paths in the model and the model can be tested the fit to the data at the same time while correcting for measure error (Tharenou *et al.,* 2007). Thirdly, in analysis, estimating and removing the measurement error is required to achieve perfect reliability (Werner and Schermelleh-Engel, 2009). Next, SEM provides valid conclusions on the construct level because it is not a separate analysis but allows the use of several variables per construct simultaneously (Werner and Schermelleh-Engel, 2009). Finally, SEM is a statistical methodology that is useful for the testing and confirmatory approach to the analysis of structure theory yield to phenomenon. Additionally, SEM allows hypothesis testing for inferential purposes and provides unambiguous handling of measurement errors (Byrne, 1998).

Normally, Structural Equation Modelling (SEM) comprises two components: the measurement (factor) model and the structural model. The measurement model refers to the specification of the measurement theory that shows how constructs are operationalized by sets of measured variables (Hair *et al.,* 2010). The measurement model is acquired by conducting confirmatory factors analysis (CFA: Anderson and

Gerbing, 1988). There are five elements in CFA: the latent constructs, the measured variables, the item loadings on specific constructs, the relationship among constructs and the error terms for each indicator (Hair *et al,* 2010). All of the constructs and variables are used to estimate and confirm the relationship between a set of measurement items and demonstrate a good factor structure that fits well. Specialty, CFA is able to show an acceptable model with good fit and evidence of construct validity (Hair *et al.,* 2010). Moreover, CFA is used to test the convergent validity (composite reliability and average extracted variance) and discriminant validity of the construct. To sum up, CFA is required as the first step test of a structural equation model.

4.11.1 Analysis Assessment

4.11.1.1 Reliability

Reliability refers to the extent to which a measure is free of random measurement errors. Hence, no random measurement error is a perfectly reliable measure (Smithson, 2005). To evaluate the appropriateness of the questions and the subsequent scale of variables, a reliability test must be carried out for each instrument (Tharenou *et al.,* 2007). In social science research, coefficient alpha is commonly used by researchers: this measure indicates how the different items propose to measure different aspects of a construct (Tabachnick and Fidell, 2007). Reliability was assessed via Cronbach's alpha, which is used to examine the reliability of measurement scale (Cortina, 1993) and is a measure of the degree to which all items are measuring the same thing (DeVellis, 1991). However, Hair *et al*. (1995) stated that if the scale items are highly correlated, then the coefficient alpha will be high. On the other hand, if the measurement scale used does not sufficiently measure the construct that it was intended to measure, then the coefficient alpha will be low. As the rule of thumb, the cronbach's alpha greater than 0.9 are excellent, cronbach's alpha between 0.7-0.9 are considered as high, cronbach's alpha between 0.5-0.7 are considered as moderated and cronbach's alpha lower than 0.5 are considered as low (Hinton *et al.*, 2014).

4.11.1.2 Validity

Hair *et al.* (2010) defined construct validity as asset of measured items actually reflects the theoretical latent construct. The evidence of construct validity provides confidence that item measures taken from a sample represent the actual value that exists in the population. Therefore, this study employed construct validity to confirm that the measurement of the construct accurately represents the concept of interest.

Construct validity consists of two subtypes: convergent and discriminant validity. Convergent validity refers to the degree to which two measures of the same concept are correlated (Hair *et al.,* 2010). Convergent validity was examined by using the value of composite reliability (CR) and Average Extracted Variance (AVE). The value of composite reliability (CR) was tested to measure the consistency reliability of the survey. Average extracted variance (AVE) was employed to explain the average variance of an item's loading, while discriminant validity refers to the degree to which a construct is truly distinct from other constructs. Also, a measure should correlate more strongly with other measures of the same construct than with the measures of other constructs. Indeed, the square roots of AVE should be greater than the other correlation coefficients for satisfactory validity (Hair *et al.,* 2010).

4.11.2 Model Fit Indices Assessment

A number of criteria have been suggested for evaluating the model fit indices. However, Hair *et al.* (2010) noted that the selected at least four tests of good fit index should be use for measurement and structural model. In this study, the researcher has used model fit indices: Chi square to the degree of freedom ($\chi 2$ /df), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), Tucker Lewis Index (TLI), comparative fit index (CFI) and root mean square error of approximation (RMSEA). The recommended criteria of GFI, AGFI, IFI, TLI and CFI values between 0.9 and 1.0 are considered to be a good fit. The values between 0.8 and 0.89 are considered to be a reasonable fit, while RMSEA values less than 0.05 are considered to be a good fit (Hair *et al.,* 2010; Elwalda *et al.,* 2016). The descriptive and criteria of model fit indices briefly showed in the table 4.7

Table 4.7 Model fit indices criteria

Model Fit Indicies	Descriptive	Recommended Criteria
Absolute Fit Indicies		
To measures of overall goodness of fit for both the measurement and structure models		
Normal Fit Chi-Square (χ2 /df)	Is minimum discrepancy divided by its degree of freedom. Value close to 1 indicates good fit but less than 1 implies over fit	1:3
Goodness of Fit Index (GFI)	Is an early attempt to produce a fit statistic that was less sensitive to sample	≥ 0.80
Adjusted goodness of fit (AGFI)	Tries to take into account differing degrees of model complexity, by adjusting GFI by a ratioof the degree of freedom used in a model to total degrees of freedom available	≥ 0.80
Root Means Square Error of Approximation Residual (RMSEA)	Is population discrepancy function which implies that how well the fitted model approximates per degree of freedom	<0.50
Incremental Fit Indecies		
Group of goodness of fit indices that assesses how well a specified model fits relative to some		
Tucker Lewis Index (TLI)	Represents the comparative index between proposed and baseline model adjusted for df	≥ 0.90
Comparative Fit Index (CFI)	Is improve version of NFI. It is highly recommend index for fitness of model	≥ 0.90

After carrying out the measurement model steps, the structural model has to be employed. The structural model refers to the correlational and dependence relationships between latent variables and observed variables comprising the main elements of the model (Hair *et al,* 2010). It is used to confirm the relationship between variables. If the results provide that model fit indices is acceptable, the model is adequate for hypothesised relations among variables, whereas if it unacceptable the adequacy of some relations is rejected (Byrne, 2010).

Moreover, to evaluate the structural model, standardised estimate, critical ratios and p value were examined along with the model fit indices to assess all hypotheses structural fits to the data. However, critical ratio (t-value) is achieved by dividing the regression weight estimate by standard error (S.E). Relationships are significant when t-value greater than 1.96 and p value is ≤.05 (Hair *et al*., 2010).

4.11.3 Multigroup Analysis

The main objective of this research focuses on comparison between different groups. Thus, multigroup analysis is applied in this study. Multigroup analysis is used for testing any number or type of differences between similar models estimated for different groups of respondents. In other words, the same model is used across different samples of respondents. Thus, a specific test of difference is adopted for unique questions, while a general model is used to compare the measurement and structural models across groups (Hair *et al.,* 2010). In support of this, Nyaga *et al.* (2010) suggested that it is necessary to use multigroup analysis if the set of the items and the number of constructs are assumed to be the same across groups. Additionally, multigroup is an appropriate method for group analysis and finally produces the results for two models (Bansel *et al*., 2016).

4.11.3.1 Multisample Confirmatory Factors Analysis: Invariance Test

Basically, confirmatory factors analysis (CFA) is used to establish construct validity, but in multigroup analysis, CFA is extended to become MCFA (multisample confirmatory factor analysis). In MCFA, separated samples are collected for each group and then compared to determine their invariance (Hair *et al.,* 2010). Essentially, measurement invariance testing in multigroup analysis is important in assessing whether the construct items remain the same across groups (Byrne *et al*., 1989; Cheung and Rensvold, 2002). Thus, the measurement invariance test was adopted in this study. Measure invariance refers to " the variance that is attributable to the measurement method rather than to the construct of interest" (Podsakoff and Organ, 1986, p. 897). Hair *et al.* (2010) suggested that there are six steps in the process of group comparisons; (1) Configural Invariance (2) Metric Invariance (3) Scalar Invariance (4) Factor Covariance Invariance (5) Factor Variance Invariance and (6) Error Variance Invariance. However, not all of these steps of invariance need to be tested. That is, the level of invariance tests depends on the type of research question. Partial invariance at any of the steps as a practical standard is acceptable (Hair *et al*., 2010).

According to the research question, configural and metric invariance are required as the basic structure of invariance. Configural invariance (unconstrained) assesses whether there is equality of the factors structures for the theoretical model across group; Metric invariance (constrained) assesses whether the factor loadings for each scale indicator are identical or equivalent across groups (Hair *et al.,* 2010). To determine evidence of invariance, the difference in $\chi 2$ between the configural invariance and metric invariance should be examined. If the difference is not statistically significant, it means the equality constrains do not significantly diminish fit. There is no different between groups (invariance), the results between groups is valid (Babin *et al*., 2016) whereas, if the difference is statistically significant, it means that they are not equivalent across groups (Byrne, 2006). However, Cheung and Rensvold (2002) noted that the difference in $\chi 2$ values is sensitive to sample size and it may not be a practical and realistic measure of invariance. Thus, we need to consider evidence of invariance on two criteria: (1) the multigroup model should model fit indices to the data; (2) the difference in CFI value between the configural and the metric test should be less than the suggested threshold of 0.01 (Byrne, 2006; Cheung and Rensvold, 2002).

Moreover, structural model comparisons are used in specific testing to address a number of research hypotheses, and are also used for multigroup testing (group analysis). The structural model comparison testing builds similar to the measurement model process. The steps of invariance testing are still required to ensure that the constructs are comparable, but it has to be noted that the computed difference must be statistically significant to confirm that there are differences (Hair *et al.,* 2010).

4.12 Chapter Summary

This chapter has clarified the research methodology adopted in this study. The different research paradigms were examined and it was found that the epistemological, positivist approach is the most suitable for this research. The research design, research strategy and research method were identified. Quantitative research with online questionnaires was selected. Details of survey procedures were provided, including the data collection method, sampling technique, sample size, questionnaire design process, translation and ethical considerations. A sample of 635 sets of data was collected by using self-

administered questionnaires. Pilot tests were conducted and the reliability and validity tests were also provided to validate the questionnaire items and measurement scale. Furthermore, AMOS was introduced as the structural equation modelling technique (SEM), and multigroup analysis was employed to analyze the data. The next chapter will provide the findings in terms of both the measurement and the structural model.

CHAPTER FIVE: DATA ANALYSIS AND RESEARCH FINDINGS

5.1 Introduction

This chapter provides a detailed account of the quantitative study in order to present the data analysis and results. AMOS 20 software and the Structural Equation Modelling (SEM) technique were applied, using multigroup analysis to validate the theoretical model. A preliminary examination of the data, addressing outliers and normality, is presented in the first part of this chapter. Then, the demographic profile of the participants is presented, followed by an assessment of the reliability and validity of the measurement scale. Confirmatory factor analysis (CFA), multisample confirmatory factor analysis (MCFA) and invariance testing were performed. Multigroup analysis was employed to examine the relationship between factors that influence consumers' perceptions of information usefulness and their decisions about adopting information from Independent and E-merchants' websites. Additionally, this study extends the knowledge in terms of consumer engagement beyond the generation of OCRs by categorising groups of consumers according to their level of engagement with various platforms that characterize the impact of OCRs on information adoption. The extended study to test the consumer engagement as moderating, clustering the groups of consumers – low engagement with Independent websites, high engagement with Independent websites, low engagement with E-merchants websites and high engagement with E-merchants websites – is also provided. Structural models were employed to test the hypothesized relationships and to assess the overall fit of the proposed model. Finally, a summary of the chapter is presented.

5.2 Preliminary Examination of the Data

This research collected data by using an online questionnaire survey. Howell (2008) stated that survey methods usually include failure to respond to some of the questions, which causes the problem of missing data. This can occur when a respondent fails to answer at least one question, which means that the questionnaire cannot be used in analysis. However, Israel (1992) suggested that the researcher can solve the problem by collecting a larger number of valid questionnaires than the allowable sample size to achieve reliable statistical results. In the present study, a sample of 766 questionnaires was collected but only 635 were useable. All incomplete questionnaires were excluded. Thus, the total number of questionnaires collected was sufficient to achieve the

objective of the study. To prepare the data for analysis, examination of outliers and normality tests were conducted.

5.2.1 Outliers

Outliers refer to "observations with a unique combination of characteristics identifiable as distinctly different from the other observations" (Hair *et al.,* 2006, p. 73). As outliers might be very high or very low scores (extreme values), these result might cause non-normal data and distorted statistics (Hair *et al*., 2010). In order to identify univariate outliers, all scores for a variable need to be compared to standard scores. A standard score is ±3.0 or above if the sample size is larger than 80. In this study, the results indicated that the data had no extreme values but contained a number of univariate outliers, as presented in Table 5.1

Table 5.1 Outliers

Construct	Measure	N	Minimun	Maximum
Zscore: Information Timeliness	TI1	635	-2.37	1.56
	TI2	635	-2.48	1.54
	TI3	635	-2.42	1.59
Zscore: Information Accuracy	AC1	635	-2.47	1.94
	AC2	635	-2.21	1.91
	AC3	635	-2.45	1.95
Zscore: Information Relevance	RE1	635	-2.73	1.50
	RE2	635	-2.62	1.53
	RE3	635	-2.57	1.52
Zscore: Information Completeness	COM1	635	-2.75	1.89
	COM2	635	-2.91	1.92
	COM3	635	-2.51	1.81
	COM4	635	-1.59	1.54
Zscore: Information Understandability	UN1	635	-2.71	1.64
	UN2	635	-2.68	1.58
	UN3	635	-2.52	1.63

Zscore: Value Add Information	VA1	635	-2.67	1.43
	VA2	635	-1.44	1.33
Zscore: Review Quantity	QU1	635	-1.42	1.35
	QU2	635	-1.52	1.43
Zscore: Product Ranking	RA1	635	-2.66	1.49
	RA2	635	-2.67	1.45
Zscore: Information Sidedness	SI1	635	-2.10	1.66
	SI2	635	-2.96	1.75
	SI3	635	-2.85	1.70
Zscore: Information Consistency	CON1	635	-2.33	1.55
	CON2	635	-2.52	1.57
Zscore: Source Expertise	EX1	635	-2.22	1.53
	EX2	635	-2.41	1.52
	EX3	635	-1.41	1.71
Zscore: Source Trustworthiness	TR1	635	-2.60	2.01
	TR2	635	-2.72	2.09
	TR3	635	-2.78	2.04
Zscore: Information Usefulness	US1	635	-2.17	1.52
	US2	635	-2.24	1.60
	US3	635	-2.44	1.41
Zscore: Information Adoption	AD1	635	-2.86	1.82
	AD2	635	-2.04	1.65
	AD3	635	-2.11	1.65

5.2.2 Normality

After the assessment of outliers, it is necessary to assess the normality of distribution of the data. According to Hair *et al.* (2010), normality is a fundamental assumption in multivariate analysis, particularly in structural equation modelling. If the variation from the normal distribution is sufficiently large, the results are invalid (Tabachnick and Fidell, 2014). The assessment of normality consists of computing the Skewness and Kurtosis of the data (Valle, 2007). Skewness highlights the asymmetry of a distribution and is used to describe the balance of the distribution. Kurtosis is the 'peakedness' or the 'flatness' of the distribution and serves to highlight whether the distribution can be

compared to the normal distribution. The acceptable range for the value of skewness and kurtosis is ±3.0 (Hair *et al.,* 2010). In this study, all univariate variables are satisfied as shows in table 5.2

Table 5.2 Normality

Construct	Measure	N	Mean	Skewness	Kurtosis
Information Timeliness	TI1	635	5.81	-0.443	0.065
	TI2	635	5.85	-0.438	0.137
	TI3	635	5.81	-0.36	-0.004
Information Accuracy	AC1	635	5.24	-0.401	0.264
	AC2	635	5.14	-0.332	-0.079
	AC3	635	5.23	-0.335	0.223
Information Relevance	RE1	635	5.58	-0.103	-0.74
	RE2	635	5.53	-0.298	-0.295
	RE3	635	5.51	-0.269	-0.384
Information Completeness	COM1	635	5.37	-0.38	-0.108
	COM2	635	5.41	-0.184	-0.158
	COM3	635	5.32	-0.268	-0.016
	COM4	635	5.52	-0.671	0.321
Information Understandability	UN1	635	5.49	-0.616	0.556
	UN2	635	5.52	-0.645	0.442
	UN3	635	5.43	-0.693	0.443
Value Add Information	VA1	635	5.26	-0.356	-0.623
	VA2	635	5.56	-0.348	-0.706
Review Quantity	QU1	635	5.54	-0.705	0.054
	QU2	635	5.54	-0.621	0.118
Product Ranking	RA1	635	5.92	-0.188	-0.348
	RA2	635	5.94	-0.286	-0.18
Information Sidedness	SI1	635	5.68	-0.276	-0.304
	SI2	635	5.51	-0.381	0.014
	SI3	635	5.5	-0.233	-0.236
Information Consistency	CON1	635	5.8	-0.363	-0.11
	CON2	635	5.85	-0.242	-0.177

Source Expertise	EX1	635	4.96	-0.433	-0.515
	EX2	635	4.68	-0.411	-0.623
	EX3	635	4.26	-0.131	-0.772
Source Trustworthiness	TR1	635	4.38	-0.381	-0.276
	TR2	635	4.39	-0.368	-0.221
	TR3	635	4.46	-0.559	0.272
Information Usefulness	US1	635	5.76	-0.275	-0.376
	US2	635	5.75	-0.154	-0.401
	US3	635	5.9	-0.352	-0.24
Information Adoption	AD1	635	5.45	-0.003	0.021
	AD2	635	5.66	-0.018	-0.564
	AD3	635	5.68	0.026	-0.584

5.2.3 Demographic Profile

Demographic profiles of this research are provides in Table 5.3. The descriptive statistics showed the respondents were female (65.8%) greater than male (34.2%). Ages of respondents were between 18-24 (10.2%), most of them aged 25-34 (64.7%), followed by aged between 35-54 (21.6%) then aged between 55-64 (3.1%) and the respondents aged 65 or above were only a few number (0.3%). The overwhelming percentage of respondents indicated having a university degree, Bachelor's degree (49.3%) and Master's degree or higher (48.2%); followed by up to high school level (1.7%) and Others such as N/A and lower than high school were less than 0.3%. Regard to the occupation, the results indicated that the respondents of student (15.9%) and self employed (21.1%). While more than half respondents were employed (57.8%) .The minority case includes others such as housewife and retired (0.8%).

Table 5.3 Demographic profiles of respondents (N=635)

Measure	Items	Frequency	Percentage
Gender	Male	217	34.2
	Female	418	65.8
	Total	635	100

Age	18-24	65	10.2
	25-34	411	64.7
	35-54	137	21.6
	55-64	20	3.1
	65 or above	2	0.3
	Total	635	100
Education	Up to high school	11	1.7
	Bachelor's degree	313	49.3
	Master's degree or higher	306	48.2
	Other	5	0.8
	Total	635	100
Occupation	Student	101	15.9
	Self employed	134	21.1
	Employed	367	57.8
	Unemployed	28	4.4
	Other	5	0.8
	Total	635	100

Note: Others* includes: N/A and lower than high school, Others** includes: Housewife, Retired

In this section, Table 5.4 illustrates the demographic profile of respondents separately between Independents and E-Merchants' website. Results showed that majority of the respondents from Independents and E-Merchants' website were females (63.8% and 67.8% respectively). The results also showed more than half of the respondents from both of websites were between the ages of 25-34 (59.9% and 63.9%). With regard to the education, Bachelor degree were largest proportion (54.2%) on Independent website whereas Master's degree or higher were largest response (52%) on E-Merchants' website. Results of occupation indicated that the majority of respondents from both websites are falling in employed (52.2% and 63.2%).

Table 5.4 Demographic profiles of respondents (Independent and E-Merchants' websites)

Measure	Items	Independent website		E-Merchants' website	
		Frequency	Percentage	Frequency	Percentage
Gender	Male	133	36.2	104	32.3
	Female	199	63.8	219	67.8
	Total	312	100	323	100
Age	18-24	33	10.6	32	9.9
	25-34	187	59.9	224	69.3
	35-54	75	24.0	62	19.2
	55-64	15	4.8	5	1.5
	65 or above	2	0.6	0	0
	Total	312	100	323	100
Education	Up to high school	5	1.6	6	1.9
	Bachelor's degree	169	54.2	144	44.6
	Master's degree or higher	138	44.2	168	52.0
	Other	0	0	5	1.5
	Total	312	100	323	100
Occupation	Student	52	16.7	49	15.2
	Self employed	77	24.7	57	17.6
	Employed	163	52.2	204	63.2
	Unemployed	17	5.4	11	3.4
	Other	3	1	2	0.6
	Total	312	100	323	100

5.2.4 Descriptive Statistics

All measures were carried out by a seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). The descriptive statistics show generally positive responses to constructs, all items of the constructs scored a mean of greater than 3.5 with standard deviation, signifying that the participants mostly agree with items of the constructs. The means and standard deviation scores of all constructs are presented in

Table 5.5 and the means and standard deviations of all measurements are presented in Table 5.6

Table 5.5 Descriptive statistics

Construct	N	Mean	Std. Deviation
Information Timeliness	635	5.82	0.67
Information Accuracy	635	5.20	0.77
Information Relevance	635	5.54	0.87
Information Completeness	635	5.41	0.72
Information Understandability	635	5.48	0.84
Value Add Information	635	5.41	1.06
Review Quantity	635	5.54	1.00
Review Sidedness	635	5.93	0.64
Product Ranking	635	5.56	0.71
Review Consistency	635	5.82	0.67
Source Expertise	635	4.63	1.27
Source Trustworthiness	635	4.41	1.13
Information Usefulness	635	5.80	0.67
Information Adoption	635	5.60	0.74

Table 5.6 The means and standard deviations of all measurements

Construct	Measure	Mean	Std. Deviation
Information Timeliness	TI1	5.81	0.76
	TI2	5.85	0.75
	TI3	5.81	0.75
Information Accuracy	AC1	5.24	0.91
	AC2	5.14	0.97
	AC3	5.23	0.91
Information Relevance	RE1	5.58	0.94
	RE2	5.53	0.96
	RE3	5.51	0.98

Information Completeness	COM1	5.37	0.86
	COM2	5.41	0.83
	COM3	5.32	0.93
	COM4	5.52	0.96
Information Understandability	UN1	5.49	0.92
	UN2	5.52	0.94
	UN3	5.43	0.96
Value Add Information	VA1	5.26	1.22
	VA2	5.56	1.08
Review Quantity	QU1	5.54	1.08
	QU2	5.54	1.02
Product Ranking	RA1	5.92	0.72
	RA2	5.94	0.73
Information Sidedness	SI1	5.68	0.80
	SI2	5.51	0.85
	SI3	5.50	0.88
Information Consistency	CON1	5.80	0.77
	CON2	5.85	0.73
Source Expertise	EX1	4.96	1.33
	EX2	4.68	1.52
	EX3	4.26	1.60
Source Trustworthiness	TR1	4.38	1.30
	TR2	4.39	1.25
	TR3	4.46	1.24
Information Usefulness	US1	5.76	0.81
	US2	5.75	0.78
	US3	5.90	0.78
Information Adoption	AD1	5.45	0.85
	AD2	5.66	0.81
	AD3	5.68	0.80

5.2.5 Reliability Test

In this study, reliability was calculated by measuring the internal consistency of the entire scale. The internal consistency is usually tested by calculate the coefficient alpha or known as Cronbach's alpha (Hair *et al.,* 2010). A cut off point of cronbach's alpha should be 0.7 (Nunnally and Bernstein,1994). It means 0.7 is a standard accepted to demonstrate a high level of homogeneity within the scale. Additionally, Hinton *et al.* (2014) suggested that the cronbach's alpha greater than 0.9 are excellent, cronbach's alpha between 0.7-0.9 are considered as high, cronbach's alpha between 0.5-0.7 are considered as moderated and cronbach's alpha lower than 0.5 are considered as low. To consider reliable for purpose in this study, all these cronbach's alpha are accepted and provides high reliability level of internal consistency. The reliability are shown in Table 5.7

Table 5.7 The results of the reliability test

Constructs	Number of the Measures	Cronbach's Alpha
Information Timeliness	3	0.872
Information Accuracy	3	0.774
Information Relevance	3	0.893
Information Completeness	4	0.822
Information Understandability	3	0.881
Value add Information	2	0.815
Review Quantity	2	0.898
Product Ranking	2	0.712
Information Sidedness	3	0.809
Information Consistency	2	0.732

Source Expertise	3	0.818
Source Trustworthiness	3	0.873
Information Usefulness	3	0.809
Information Adoption	3	0.882

5.2.6 KMO and Bartlett's Test of Sphericity

As a prerequisite step for Confirmatory Factor Analysis (CFA), it is necessary to conduct a Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity. KMO measures whether the sample meets the criteria and is appropriate for conducting CFA in the next stage. Bartlett's test of sphericity highlights whether the sample can confirm the relationship between variables (Hair *et al.,* 2010). The KMO value should be at least 0.6 (Hair *et al.,* 2010), and values closer to 1 are considered excellent (Hinton *et al.,* 2014). Bartlett's test of sphericity should have a significant value at $p < 0.05$ (Hair *et al*., 2010). Table 5.8 shows the results of KMO and Bartlett's Test of Sphericity in this study. The KMO statistic is well above the recommended acceptable value of 0.6, as the obtained value is 0.806, and Bartlett's test of sphericity is significant at $p<0.05$. Therefore, the results confirm that the KMO and Bartlett's test values in this study exceed the minimum values required and the data are suitable for confirmatory factor analysis.

Table 5.8 KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	0.806
Barlett's Test of Sphericity Approx. Chi-Square	12285.51
Df	741
Sig	0.000

5.3 Structural Equation Modelling (SEM)

As mentioned in Chapter 4, the structural equation modelling (SEM) technique is used to test the measurement and structural equation models. According to Hair *et al.* (2010), SEM is a combination between factor analysis and a path model. A two-stage approach is recommended. Firstly, confirmatory factor analysis (CFA) known as measurement model using AMOS 20 is performed to confirm the relationship between the variables and their underlying theoretical constructs. Secondly, the casual relationships between variables as hypothesized are specific in the structural model between the variables.

5.3.1 Confirmatory Factor Analysis (CFA)

Confirmatory Factor analysis (CFA) was applied to assess the measurement properties of the scale. Anderson and Gerbing (1988) stated that confirmatory factor analysis is a technique use to test whether the theoretically imposed structure of the underlying constructs exist in the observed data. However, Hair *et al.* (2010) suggested that the validity of the CFA required as two stages (1) goodness of model fit indicated (2) Construct validity. Thus, this study considered these two stages to validate the confirmatory factor analysis.

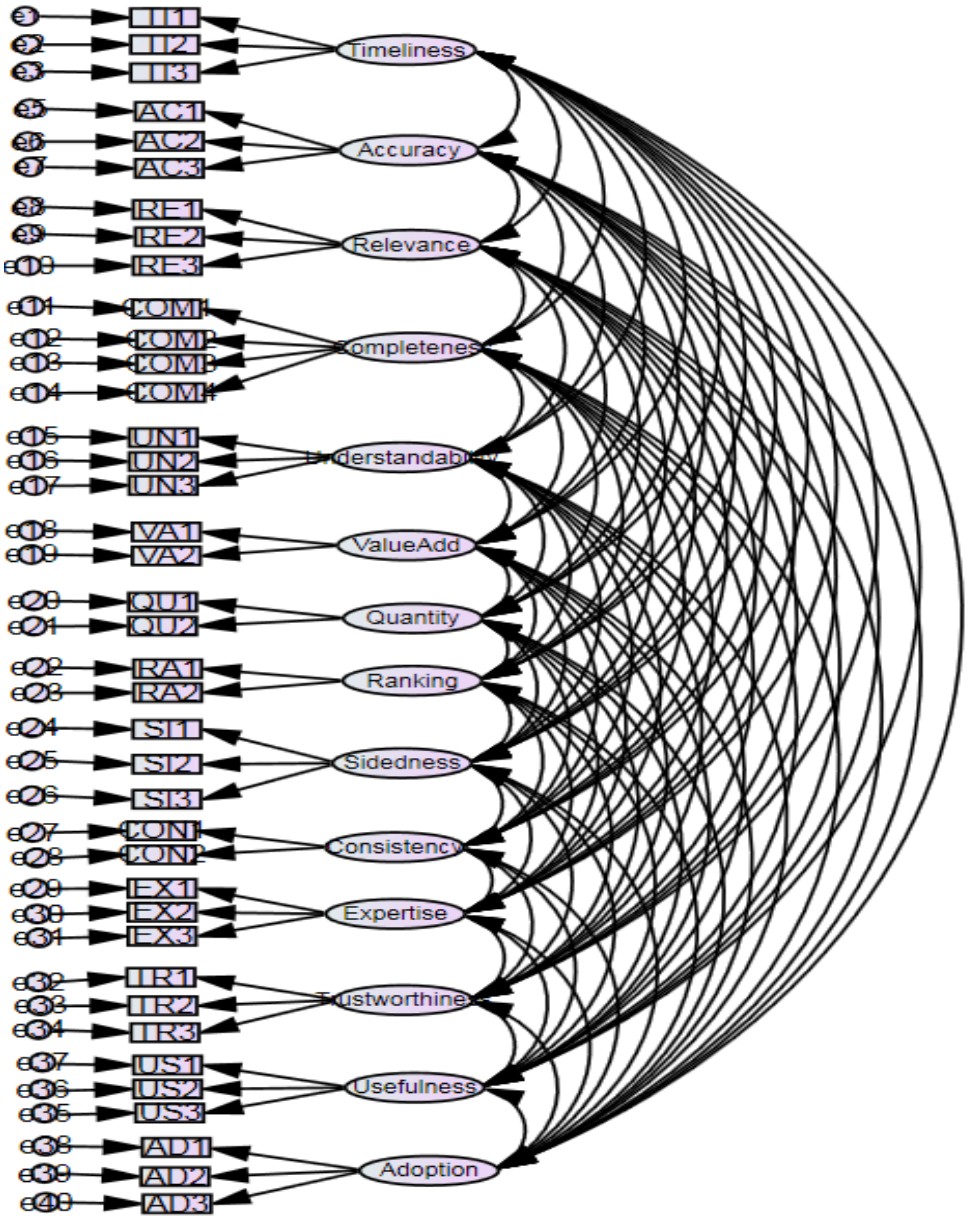

Figure 5.1 Confirmatory Factor Analysis (CFA) model

Table 5.9 Fit Indices for measurement model

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05
CFA	1.513	0.932	0.913	0.968	0.973	0.028

5.3.2 Validity Test

Construct Validity Assessment

However, it is important to validating the CFA results to construct validity (Hair *et al.,* 2010). Construct validity defined as " the true measure of accuracy; this involve the extent to which the test actually measures the hypothetical construct or behavior it is designed to assess" (Maitland and Hannah, 2008, p. 203). To examine construct validity of the scales, this study used convergent and discriminant validity tests.

5.3.2.1 Convergent Validity

Hair *et al*. (2006, p. 771) defined convergent validity as " the extent to which indicators of a specific construct converge or share a high proportion of variance in common". In this study, convergent validity is examined by using (1) Factor loading which should be more than 0.50. (2) Composite reliability (C.R.) of at least 0.70. (3) The average variance (AVE) should be higher than 0.50. However, the results in this study were achieved as presented in the table 5.10, all the factor loading are above 0.50 (0.60 to 0.92). All C.R. are greater than 0.70 (0.732 to 0.899) and AVE are more than 0.50 (0.538 to 0.817), see Table 5.10

Table 5.10 Convergent validity

Construct	Measure	Factor loading	CR	AVE
Information Timeliness	TI1	0.89	0.874	0.699
	TI2	0.76		
	TI3	0.85		
Information Accuracy	AC1	0.66	0.779	0.542
	AC2	0.84		
	AC3	0.70		
Information Relevance	RE1	0.76	0.896	0.743
	RE2	0.91		
	RE3	0.90		

Information Completeness	COM1	0.72	0.823	0.538
	COM2	0.71		
	COM3	0.72		
	COM4	0.78		
Information Understandability	UN1	0.81	0.882	0.715
	UN2	0.90		
	UN3	0.83		
Value Add Information	VA1	0.84	0.818	0.692
	VA2	0.82		
Review Quantity	QU1	0.89	0.899	0.817
	QU2	0.92		
Product Ranking	RA1	0.60	0.743	0.601
	RA2	0.92		
Information Sidedness	SI1	0.80	0.811	0.589
	SI2	0.74		
	SI3	0.76		
Information Consistency	CON1	0.77	0.732	0.578
	CON2	0.75		
Source Expertise	EX1	0.7	0.827	0.617
	EX2	0.88		
	EX3	0.76		
Source Trustworthiness	TR1	0.75	0.877	0.705
	TR2	0.91		
	TR3	0.85		
Information Usefulness	US1	0.70	0.812	0.591
	US2	0.81		
	US3	0.79		
Information Adoption	AD1	0.75	0.887	0.724
	AD2	0.91		
	AD3	0.89		

Note : CR = Composite Reliability , AVE = Average Variance Extracted

5.3.2.2 Discriminant Validity

Hair *et al*. (2006, p. 771) defined discriminant validity as "the extent to which a construct is truly distinct from other construct". To assess the discriminant validity is to

compute the average variance extracted (AVE), the square root of AVE for each construct should be greater than any correlation between the tested construct and any other construct (Fornell and Larcker, 1981). The results confirmed that the criteria for discriminant validity had been met as presented in the table 5.11

Table 5.11 The results confirmed that the criteria for discriminant validity

	TR	TI	AC	RE	COM	UN	VA	QU	RA	SI	CON	EX	US	AD
TR	**0.840**													
TI	0.073	**0.836**												
AC	0.139	0.082	**0.737**											
RE	0.044	0.083	0.056	**0.862**										
COM	0.221	0.105	-0.063	0.051	**0.734**									
UN	0.387	0.121	0.188	0.104	0.365	**0.846**								
VA	-0.013	0.027	-0.075	0.033	0.338	0.360	**0.832**							
QU	0.271	0.115	0.178	0.058	0.313	0.425	0.230	**0.904**						
RA	0.093	0.139	0.030	0.133	0.074	0.225	0.194	0.121	**0.775**					
SI	-0.066	-0.049	0.013	0.030	-0.020	-0.047	-0.011	-0.122	0.015	**0.767**				
CON	0.189	0.048	0.100	0.036	0.086	0.291	0.058	0.341	0.181	-0.063	**0.760**			
EX	0.334	0.123	-0.035	-0.010	0.354	0.220	0.474	0.271	0.120	-0.065	0.130	**0.786**		
US	0.277	0.231	0.206	0.181	0.278	0.436	0.270	0.489	0.433	0.102	0.445	0.179	**0.769**	
AD	0.303	0.180	0.157	0.137	0.299	0.361	0.157	0.437	0.086	-0.101	0.313	0.234	0.429	**0.851**

Note: Bold elements are the square root of AVE for each variable

5.4 Multigroup Analysis

The main objective in this study is to compare consumers' adoption of information between two sample groups: Independent and E-merchants' websites. Multigroup analysis allows testing of the validity of the conceptual model and hypotheses, and it can be used to test moderating factors of path coefficients (Hair *et al.,* 2010). To test whether there are differences between two groups from the sample in the main phase and four groups in the extended phase, a multigroup analysis technique is performed (Kline, 2011). Nyaga *et al*. (2010) stated that multigroup analysis must be used if the set of items and the number of constructs are assumed to be the same across groups. Additionally, multigroup analysis is an appropriate method for group analysis and ultimately produces the results for two models (Bansel *et al.,* 2016). Therefore, this study performed multigroup analysis because our study met these assumptions. The measures of constructs are the same in both Independent and E-Merchants' websites, but the final results yield two models.

5.4.1 Multisample Confirmatory Factors Analysis

The results showed that factor loading all items in each websites were fairly high which means high correlation between the hypothesized factors and each item. The results in this study is achieved as presented in the table 5.12, all the factor loading from both of platforms are above 0.50 (Independent websites 0.62 to 0.94; E-Merchants' websites 0.62 to 0.97).

Table 5.12 MCFA Factor loadings

Independent websites	TI	AC	RE	COM	UN	VA	QU	RA	SI	CON	EX	TR	US	AD
TI1	0.93													
TI2	0.75													
TI3	0.91													
AC1		0.62												
AC2		0.86												
AC3		0.74												
RE1			0.75											
RE2			0.88											
RE3			0.93											
COM1				0.66										
COM2				0.70										
COM3				0.74										
COM4				0.77										
UN1					0.79									
UN2					0.91									
UN3					0.89									
VA1						0.83								
VA2						0.82								
QU1							0.86							
QU2							0.80							
RA1								0.62						
RA2								0.91						
SI1									0.91					
SI2									0.62					
SI3									0.64					
CON1										0.73				
CON2										0.74				
EX1											0.72			
EX2											0.86			
EX3											0.69			
TR1												0.72		
TR2												0.91		
TR3												0.82		
US1													0.68	
US2													0.81	
US3													0.77	
AD1														0.70
AD2														0.94
AD3														0.91

E-merchant websites	TI	AC	RE	COM	UN	VA	QU	RA	SI	CON	EX	TR	US	AD
TI1	0.82													
TI2	0.72													
TI3	0.78													
AC1		0.66												
AC2		0.85												
AC3		0.62												
RE1			0.77											
RE2			0.94											
RE3			0.88											
COM1				0.75										
COM2				0.75										
COM3				0.68										
COM4				0.70										
UN1					0.78									
UN2					0.84									
UN3					0.76									
VA1						0.88								
VA2						0.79								
QU1							0.97							
QU2							0.92							
RA1								0.62						
RA2								0.89						
SI1									0.72					
SI2									0.81					
SI3									0.87					
CON1										0.77				
CON2										0.69				
EX1											0.68			
EX2											0.88			
EX3											0.80			
TR1												0.77		
TR2												0.90		
TR3												0.86		
US1													0.65	
US2													0.78	
US3													0.73	
AD1														0.72
AD2														0.83
AD3														0.75

5.4.2 Testing Measurement Invariance

Many studies have suggested that measurement invariance testing in multigroup analysis is important toward assuring that the construct items remain the same across groups (Byrne *et al.,* 1989; Cheung and Rensvold, 2002). Therefore, this study performed the measurement invariance test. This refers to "the variance that is attributable to the measurement method rather than to the construct of interest" (Podsakoff and Organ, p. 897). In this study, Hair *et al.* (2010) steps are followed to conduct the four steps of measurement invariance. Firstly, the model fit indices should

be achieved. Secondly, multigroup analysis allows all factor loadings to be freely estimated (unconstrained). Thirdly, the factor loadings of all items for each construct are constrained to be equal across groups (Constrained). Finally, testing for multigroup invariance is carried out.

First of all, as a prerequisite step for invariance testing, model fit indices from CFA were conducted to test separately the validity of each sample to the baseline model. Fit indices for Independent and E-Merchants' websites showed a good fit. The results for GFI and AGFI are slightly less than ≥ 0.90. However, the values ranges from 0.80 to 0.89 are indicative of reasonable fit (Doll *et al.,* 1994; Baumgartner and Homburg, 1996). Therefore, the value of GFI (0.876 and 0.885) and AGFI (0.842 and 0.853) are acceptable (Independent website: $\chi 2$ /df = 1.513, GFI= 0.876, AGFI = 0.842, TLI= 0.934, CFI= 0.945, RMSEA= 0.041; E-Merchants' website: $\chi 2$ /df = 1.343, GFI= 0.885, AGFI = 0.853, TLI= 0.953, CFI= 0.961, RMSEA= 0.033) see Table 5.13

Table 5.13 Fit Indices for measurement model (each group)

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05
Independent websites: CFA	1.513	0.876	0.842	0.934	0.945	0.041
E-Merchants websites: CFA	1.343	0.885	0.853	0.953	0.961	0.033

Moreover, Abdullah *et al.* (2014) suggested that it is necessary to test overall model fit of baseline model between two groups before invariance testing in the future step (as show in table 5.9). It because Byrne (2004, p. 279) defined that " the fit of this simultaneously estimated model can provide the baseline value against which all subsequently specified models are compare".

The basic form of measurement invariance is named configural invariance. In this study, according to configural invariance, the numbers of factors are the same between the two groups but all parameters are freely estimated within each group. Therefore, if the model is rejected, this indicates inconsistencies within the data, as measurement invariance does not qualify at any basic level. If the model is accepted, it is considered as a strong form of measurement invariance. However, in this studies, all model fit indices for configural invariance were satisfied the recommended criteria as presented

in Table 5.14, $\chi 2$ /df acceptable fit of 1.428 and above the minimum 1:3. The results of GFI (0.881) and AGFI (0.848) were accepted. The results of TLI, CFI were greater than the recommended of ≥ 0.90 (0.943 and 0.953 respectively) and RMSEA (0.026) also satisfied the recommended criteria of <0.05.

Previous studies have suggested that invariance tests should be processed with configural and metric invariance. Configural invariance (unconstrained) measures the equality of the factors' structures for the theoretical model across groups, whereas metric invariance (constrained) measures whether the factor loadings for each scale indicator are identical or equivalent across groups (Hair *et al*., 2010). Moreover, all model fit indices satisfy the recommended criteria, $\chi 2$ /df acceptable fit of 1.485 and above the minimum 1:3. The results of GFI (0.873) and AGFI (0.843) were accepted. The results of TLI, CFI were greater than the recommended of ≥ 0.90 (0.935 and 0.945 respectively) and RMSEA (0.028) also satisfied the recommended criteria of <0.05 as shows in Table 5.14

To determine evidence of invariance, the difference in $\chi 2$ between the configural invariance and the metric invariance should be examined. If the difference is statistically significant, this means that there is not equivalence across groups (Barbin *et al*., 2016). However, Cheung and Rensvold noted that the difference in $\chi 2$ values is sensitive to sample size and it may not be a practical and realistic measure of invariance (Cheung and Rensvold, 2002). Thus, we need to consider evidence of invariance on two criteria: (1) the multigroup model should fit as indicated to the data; (2) the difference in CFI value between the configural and the metric test should be less than the suggested threshold of 0.01 (Buttner and Goritz, 2008; Cheung and Rensvold, 2002).

The fit indices for configural and metric invariance are shown in Table 5.14. The computed difference between CFI in configural invariance (0.953) and metric invariance (0.945) was 0.008, which is less than 0.01: this suggests that the results support measurement invariance. The model is accepted, as there is equivalence across groups. It could be said that the factors of each indicator are constructed in the same way and have the same meaning in each group.

Table 5.14 Fit Indices for measurement invariance

Model	χ2 /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05	P value	ΔCFI
2 groups: Configural invariance	1.428	0.881	0.848	0.943	0.953	0.026		
2 groups: Matric invariance	1.485	0.873	0.843	0.935	0.945	0.028	<.05	0.008

5.5 Structural Model and Hypotheses Testing

Structural equation modelling (SEM) using multigroup analysis was employed as the analysis method to find the results (See Structural Model in figure 5.2). All model fit indices of the default model for structural were met the recommended criteria χ2 /df = 1.628, GFI= 0.925, AGFI = 0.906, TLI= 0.961, CFI= 0.967, RMSEA= 0.031) see table 5.15

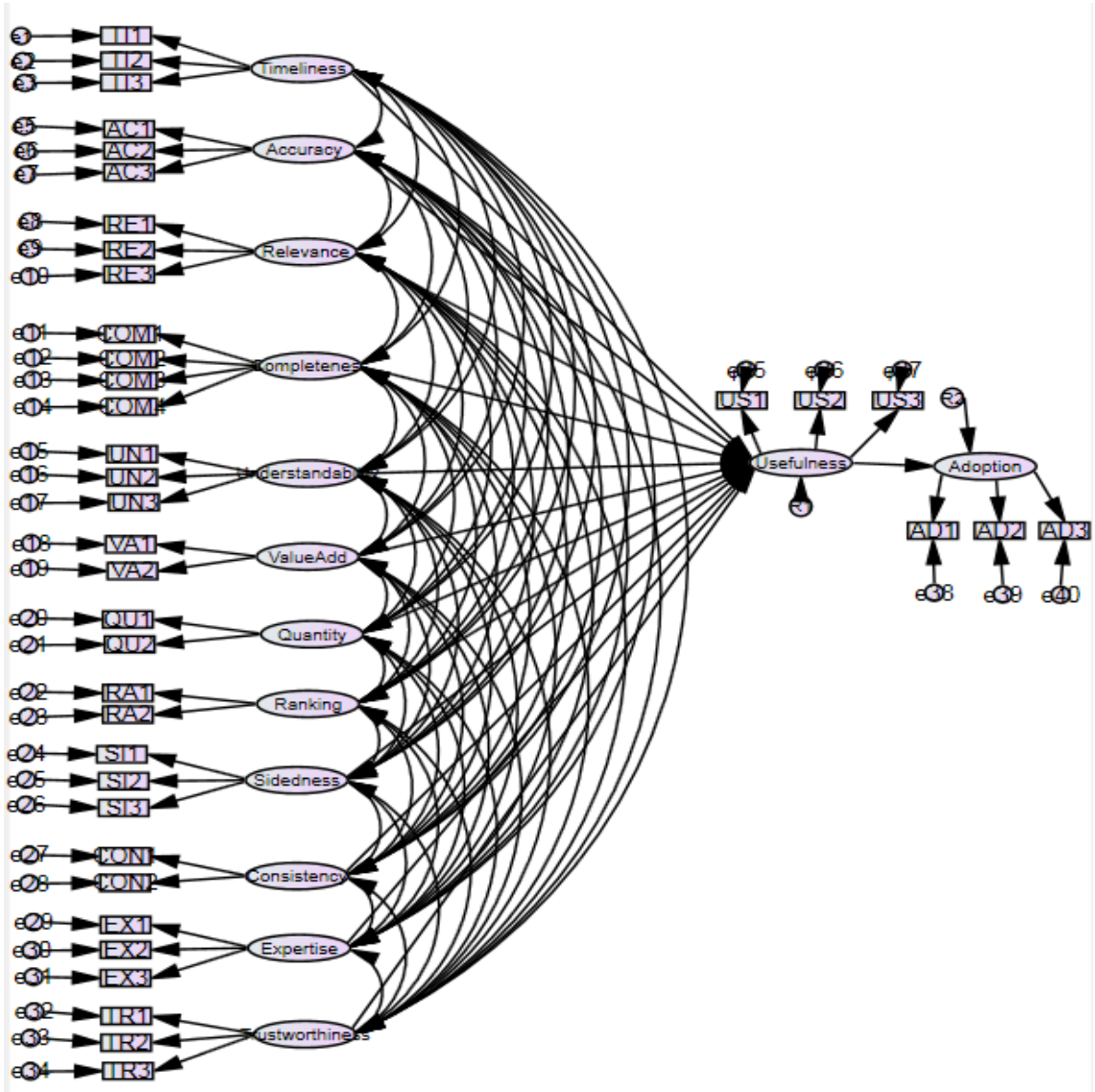

Figure 5.2 Structural Model

Table 5.15 Fit Indices for structural model

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05
Structural model	1.628	0.925	0.906	0.961	0.967	0.031

All model of fit indices for structural in each group were satisfied the recommended criteria (Independent website: $\chi 2$ /df = 1.535, GFI= 0.871, AGFI = 0.838, TLI= 0.931, CFI= 0.942, RMSEA= 0.041; E-Merchants' website: $\chi 2$ /df = 1.347, GFI= 0.882, AGFI = 0.853, TLI= 0.952, CFI= 0.960, RMSEA= 0.033) see Table 5.16

Table 5.16 Fit Indices for structural model (each group)

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05
Independent websites: structural	1.535	0.871	0.838	0.931	0.942	0.041
E-Merchants websites: structural	1.347	0.882	0.853	0.952	0.960	0.033

The model fit test of configural and metric invariance completes the assessment of measurement invariance in this study, (Configural invariance: $\chi 2$ /df = 1.441, GFI= 0.877, AGFI = 0.846, TLI= 0.941, CFI= 0.951, RMSEA= 0.026; Matric invariance: $\chi 2$ /df = 1.520, GFI= 0.867, AGFI = 0.839, TLI= 0.931, CFI= 0.940, RMSEA= 0.029) reported in Table 5.17. The computing the difference of $\chi 2$ and df between the two models and found it to be statistically significant (≤.05). The model fit indicated confirmed that the model is appropriate and there are differences between the factors that have an influence on Independent and E-merchants' websites.

Table 5.17 Fit Indices for structural invariance

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05	P value
2 groups: Configural invariance	1.441	0.877	0.846	0.941	0.951	0.026	
2 groups: Matric invariance	1.520	0.867	0.839	0.931	0.940	0.029	<.05

5.5.1 Hypothesis Testing

The invariance test was statistically significant, indicating that the result was consistent effect by types of online review website. A detailed examination of Independent websites and E-Merchants' websites were implemented by constraining each structure parameter estimate in turn. Based on the structural model, the hypotheses were tested to

answer the research questions by examine the relationship through the standardised estimate, critical ratios and p-value were examined along with the model fit indices to assess all hypotheses structural model fits the data. A relationship is significant when critical ratio (t-value) greater than 1.96 and p value is ≤.05. Table 5.18 presented the results of path estimate of structural and hypothesis testing in the proposed conceptual model.

Table 5.18 Summary of the hypotheses assessment

	Hypothesis	Estimate	S.E.	C.R.	P value	Finding
H1	H1a: TI --> US	0.087	0.064	1.587	0.112	Not Supported
	H1b: TI --> US	0.265	0.063	4.340	***	Supported
H2	H2a: AC --> US	0.262	0.062	3.906	***	Supported
	H2b: AC --> US	-0.031	0.055	-0.549	0.583	Not Supported
H3	H3a: RE --> US	0.123	0.045	2.122	0.034	Supported
	H3b: RE --> US	-0.04	0.030	-0.746	0.455	Not Supported
H4	H4a: COM --> US	0.126	0.067	1.706	0.088	Not Supported
	H4b: COM --> US	0.109	0.05	1.829	0.067	Not Supported
H5	H5a: UN --> US	0.042	0.065	0.497	0.619	Not Supported
	H5b: UN --> US	0.095	0.048	1.434	0.152	Not Supported
H6	H6a: VA --> US	0.315	0.075	3.064	0.002	Supported
	H6b: VA --> US	0.017	0.045	0.233	0.816	Not Supported
H7	H7a: QU --> US	0.076	0.057	1.076	0.282	Not Supported
	H7b: QU --> US	0.393	0.046	7.022	***	Supported
H8	H8a: RA --> US	0.324	0.099	3.513	***	Supported
	H8b: RA --> US	0.233	0.050	3.531	***	Supported
H9	H9a: SI --> US	0.334	0.062	5.153	***	Supported
	H9b: SI --> US	0.008	0.045	0.159	0.873	Not Supported
H10	H10a: CON --> US	0.142	0.087	1.830	0.067	Not Supported
	H10b: CON --> US	0.483	0.098	6.033	***	Supported
H11	H11a: EX --> US	-0.091	0.058	-1.043	0.297	Not Supported
	H11b: EX --> US	-0.169	0.026	-2.424	0.015	Not Supported

H12	H12a: TR --> US	0.094	0.051	1.223	0.221	Not Supported
	H12b: TR --> US	0.173	0.030	2.764	0.006	Supported
H13	H13a: US --> AD	0.186	0.060	2.876	0.004	Supported
	H13b: US --> AD	0.348	0.061	4.968	***	Supported

Note: Estimate = Standardized Regression Weights (Path Estimate), S.E. = Standard Error, C.R.= Critical Ratio (t-value), P value = Significant value $p< 0.05$, *** = $p< 0.001$

For the variable relationships under central route processing (H1 to H6), the influence of Information Timeliness on information usefulness was not supported for Independent websites (H1a: $\beta=0.870$, t-value=1.587, $p<0.112$), but it was significant for E-Merchants' websites (H1b: $\beta=0.265$, t-value=4.340, $p<0.05$). The influence of Information accuracy on information usefulness was significant for Independent websites (H2a: $\beta=0.262$, t-value=3.901, $p<0.05$), whereas for E-Merchants' websites (H2b: $\beta=-0.031$, t-value=-0.549, $p=0.583$), it was not significant. The influence of Information Relevance on information usefulness was significant for Independent websites (H3a: $\beta=0.123$, t-value=2.122, $p<0.05$) but not significant for E-Merchants' websites (H3b: $\beta=-0.040$, t-value=-0.746, $p=0.455$). Unexpectedly, H4a ($\beta=0.126$, t-value=1.706, $p=0.088$) H4b ($\beta=0.109$, t-value=1.829, $p=0.067$) and H5a ($\beta=0.042$, t-value=0.497, $p=0.619$) H5b ($\beta=0.095$, t-value=1.434, $p=0.152$) with regard to the influence of Information completeness and Information understandability on information usefulness, were found to be non-significant for both Independent and E-Merchants' websites. However, the impacts of value-added information from independent websites was significant with regard to information usefulness (H6a: $\beta=0.315$, t-value= 3.064, $p<0.05$) but insignificant for E-Merchants' websites (H6b: $\beta=0.017$, t-value= 0.233, $p=0.816$).

Continuing with the variable relationships under peripheral route processing (H7 to H12), the impact of Review quantity on Information usefulness was not significant for Independent websites (H7a: $\beta=0.076$, t-value= 1.076, $p=0.282$), but it was significant for E-Merchants' websites (H7b: $\beta=0.393$, t-value=7.022, $p<0.05$). The influence of Product ranking on information usefulness in H8a and H8b was significant for both Independent ($\beta=0.324$, t-value=3.513, $p<0.05$) and E-Merchants' websites ($\beta=0.233$, t-value=3.531, $p<0.05$). For H9a, the results support the influence of information sidedness on information usefulness for Independent websites ($\beta=0.334$, t-value=5.153,

p<0.05) but not for E-Merchants' websites (H9b: β=0.008, t-value=0.159, p=0.873). The influence of Information consistency on information usefulness was significant for E-merchants' websites (H10b: β=0.483, t-value=6.033, p<0.05) but insignificants for independent websites (H10a: β=0.142, t-value=1.830, p=0.067). For both types of website, the influence of source expertise on information usefulness was found to be non-significant (H11a: β=-0.091, t-value=-1.043, p=0.297, H11b: β=-0.169, t-value=-2.424, p<0.05). However, the influence of source trustworthiness on information usefulness was found to be significant for E-Merchants' websites (H12b: β=0.173, t-value=2.764, p<0.05), but was not significant for Independent websites (H12a: β=0.094, t-value=1.223, p=0.221). Finally, as expected, in H13a and H13b, Information usefulness had a positive significant effect on Information Adoption in both Independent and E-merchants' websites (β=0.186,t-value=2.876, p<0.05and β=0.348, t-value=4.968, p<0.05 respectively). Therefore, H13a and H13b are supported.

5.5.2 Cluster Analysis

This conceptual model also brings a new approach to information adoption by employing the level of consumer engagement. To extend the main study, which used two groups from the sample (i.e. consumers use of independent and e-merchants' websites), the level of consumers' engagement (low and high engagement) was added. Therefore, the two groups from the sample will be classified into four groups; low engagement with Independent websites, high engagement with Independent websites, low engagement with E-merchants websites and high engagement with E-merchants websites.

From reviewing the literature, this study extends the investigation of consumer behaviour by proposing to segment investigate consumer engagement levels into different groups based on different types of online review websites. In previous studies, researchers have used cluster analysis to segment group of consumers (e.g. Jih and Lee, 2003; Bhattnagar and Ghose, 2004; Underwood *et al*., 2011; Mathwick, 2001; Ye *et al*., 2011b; Kaye and Johnson, 2011; Vilnai-Yavetz and Tifferet, 2015).

Cluster analysis is usually used to segment data in the analysis process (Vilnai-Yavetz and Tifferet, 2015). Cluster analysis refers to "a convenient method for identifying

homogenous groups of objects called clusters. Objects (or in this case, observations) in a specific cluster share many characteristics, but are very dissimilar to objects not belonging to that cluster." (Mooi and Sarstendt, 2010, p. 238).

This study applied two-step cluster analysis, which is appropriate for statistical analysis, according to Babic *et al*. (2012), and Kaye and Johnson (2011), who suggested that this approach allows segmentation to form clusters based on categorical and continuous variables. It has the ability to successfully analyse enormous databases and the selection of the number of clusters is done automatically.

In this study, a two-step cluster analysis was used to identify groups of Thai travellers who were used Independent and E-merchants' websites, defined by consumer engagement, the frequency of reading/using online reviews and time spent reading OCRs on these websites. The data from the answers to questions 1.2, 1.3 and 1.4 were entered into the two-step cluster analysis statistical procedure.

The clusters were generated using the log-likelihood distance measure two-step cluster analysis algorithm. The number of four clusters was fixed based on the level of engagement with online review websites in order to identify types of consumer behaviour among Thai travellers.

Table 5.19 Cluster groups of consumers

	Cluster 1		Cluster 2		Cluster 3		Cluster 4	
	N	%	N	%	N	%	N	%
Website								
Independent website	168	100%	144	100%				
E-merchants website					151	100%	172	100%
Frequency								
Rarely	-	-	9	6.2%	-	-	2	1.2%
Sometimes	-	-	9	6.2%	78	51.7%	6	3.5%
Often	110	65.5%	12	8.3%	73	48.3%	14	8.1%
Very often	58	34.5%	45	31.2%	-	-	68	39.5%
Every time I plan trip	-	-	69	47.9%	-	-	82	47.7%
Time spend								
Less than ½ hour	14	8.3%	2	1.4%	30	20%	5	2.9%
From ½ to 1 hour	124	73.8%	19	13.2%	76	50%	10	5.8%
From 1 to 2 hours	27	16.1%	3	2.1%	42	27.8%	13	7.6%
From 2 to 3 hours	-	-	72	50%	-	-	66	38.4%
More than 3 hours	3	1.8%	48	33%	3	2%	78	45.3%

From the results, the four clusters differed in the numbers of participants they contained, as classified using the cluster analysis technique.

Cluster 1 Consumers who used Independent websites with low engagement. These consumers use the Independent websites and the majority of consumers use these websites often (65.5%) or very often (34.5%). Most of them spend less than 2 hours reading OCRs on the websites. Only 1.8% spend more than 2 hours reading OCRs.

Cluster 2 Consumers who used Independent websites with high engagement. These consumers use Independent websites every time (47.9%) or very often (31.2%) when making hotel reservations. More than half of them spend more than 2 hours reading OCRs on the websites (more than 80%).

Cluster 3: Consumers who used E-merchants websites with low engagement. These consumers use E-merchants' websites and the majority of consumers use these websites sometimes (51.7%) or often (48.3%). Most of them spend less than 2 hours reading OCRs on the websites. Only 2% spend more than 2 hours reading OCRs.

Cluster 4: Consumers who used E-merchants websites with high engagement. These consumers use E-merchants' websites very often (39.5%) or every time (47.7%) when making hotel reservations. Most of them spend more than 2 hours reading OCRs on the websites (more than 80%).

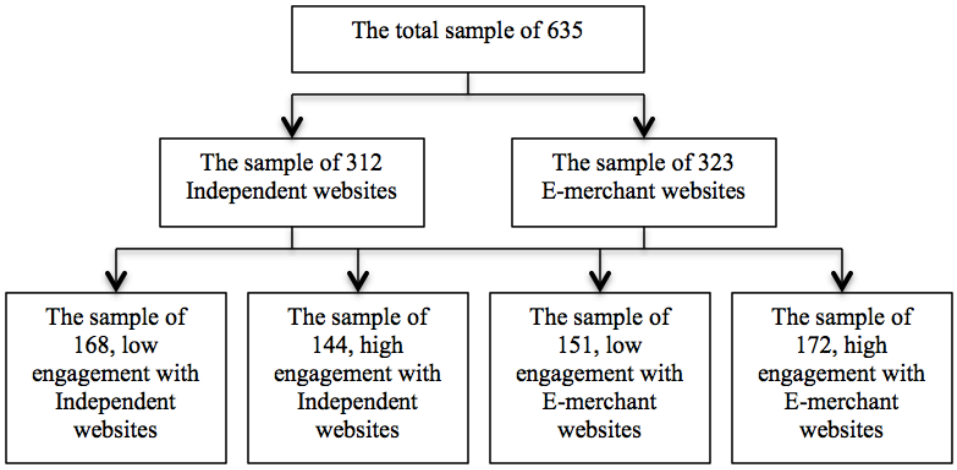

Figure 5.3: The results of the cluster analysis

The result of the cluster analysis was saved as a new variable to be used for multigroup analysis in the next sections.

5.5.3 Demographic Profile (groups of consumers)

In this section, Table 5.20 illustrates the demographic profile of respondents separately between groups of consumers. Results showed that majority of the respondents all groups were females (68.5%, 58.3%, 72.8% and 63.4% respectively). The results also showed more than half of the respondents from all groups were between the ages of 25-34 (61.9%, 57.6%, 73.5% and 65.7%). With regard to the education, Bachelor degree were largest proportion on Independent website (57.7% with low engagement and 50% with high engagement) whereas Master's degree or higher were largest response on E-Merchants' website (53% with low engagement and 51.2% with high engagement). Results of occupation indicated that the majority of respondents from all groups are falling in employed (51.8%, 52.8%, 68.9% and 58.1%).

Table 5.20 Demographic profiles of respondents (groups of consumers)

Measure	Items	Low engagement with Independent websites		High engagement with Independent websites		Low engagement with E-merchants websites		High engagement with E-merchants websites	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gender	Male	53	31.5	60	41.7	41	27.2	63	36.6
	Female	115	68.5	84	58.3	110	72.8	109	63.4
	Total	168	100	144	100.0	151	100	172	100
Age	18-24	20	11.9	13	9.0	13	8.6	19	11
	25-34	104	61.9	83	57.6	111	73.5	113	65.7
	35-54	35	20.8	40	27.8	24	15.9	38	22.1
	55-64	8	4.8	7	4.9	3	2	2	1.2
	65 or above	1	0.6	1	0.7	0	0	0	0
	Total	168	100	144	100.0	151	100	172	100
Education	Up to high school	3	1.8	2	1.4	5	3.3	1	0.6
	Bachelor's degree	97	57.7	72	50.0	66	43.7	78	45.3
	Master's degree or higher	68	40.5	70	48.6	80	53.0	88	51.2
	Other	0	0	0	0.0	0	0	5	2.9
	Total	168	100	144	100.0	151	100	172	100
Occupation	Student	33	19.6	19	13.2	17	11.3	32	18.6
	Self employed	38	22.6	39	27.1	27	17.9	30	17.4
	Employed	87	51.8	76	52.8	104	68.9	100	58.1
	Unemployed	7	4.2	10	6.9	3	2	8	4.7
	Other	3	1.8	0	0.0	0	0	2	1.2
	Total	168	100	144	100.0	151	100.0	172	100

5.5.4 Groups of Consumers

However, this study phase still needs to test the measurement model and the structural model, as in the main finding, in order to validate the model. Invariance tests must also be applied for multigroup analysis. In this part, model fit indices for configural

invariance and matric invariance were met the recommended criteria (Configural invariance: $\chi 2$ /df = 1.318, GFI= 0.809, AGFI = 0.757, TLI= 0.918, CFI= 0.932, RMSEA= 0.022; Matric invariance: $\chi 2$ /df = 1.348, GFI= 0.799, AGFI = 0.755, TLI= 0.910, CFI= 0.923, RMSEA= 0.024) reported in Table 5.21.

As the results show, the values of GFI and AGFI are below the accepted indicated fit but close to 0.80. AGFI is adjusted from the GFI based on the degree of freedom; therefore, the values of AGFI and GFI are related (Tabachnick and Fidell, 2007). AGFI and GFI tend to increase with sample size (Hooper, Coughlan and Mullen, 2008). In this section, the sample size in each group is quite low, and this might cause the low values of AGFI and GFI. Hu and Bentler (1999) noted that GFI and AGFI are considered as inferior model fit measures, and recommend examining other model fit indices instead, such as RMSEA or CFI, rather than considering only a standalone index. However, this study shows satisfactory model fit recommendations.

Table 5.21 Fit Indices for measurement invariance (Groups of consumers)

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05	P value	ΔCFI
4 groups: Configural invariance	1.318	0.809	0.757	0.918	0.932	0.022		
4 groups: Matric invariance	1.348	0.799	0.755	0.910	0.923	0.023	<.05	0.009

The difference of $\chi 2$ and df between the four models was computed and the difference in CFI value between the configural and the metric test was 0.009 which less than the suggested threshold of 0.01 found to be not statistically significant. The conclusion is that the factor loadings are the same across both samples.

For structural invariance, the model fit indices were met the recommended criteria see table 5.22 (Configural invariance: $\chi 2$ /df = 1.322, GFI= 0.805, AGFI = 0.756, TLI= 0.917, CFI= 0.930, RMSEA= 0.023; Matric invariance: $\chi 2$ /df = 1.359, GFI= 0.793, AGFI = 0.752, TLI= 0.908, CFI= 0.919, RMSEA= 0.023). The lower of GFI and AGFI regards to sample size as discussed above section.

Table 5.22 Fit Indices for structural invariance (Groups of engagement)

Model	$\chi 2$ /df 1:3	GFI ≥ 0.80	AGFI ≥ 0.80	TLI ≥ 0.90	CFI ≥ 0.90	RMSEA <0.05	P value
4 groups: Configural invariance	1.322	0.805	0.756	0.917	0.930	0.023	
4 groups: Matric invariance	1.359	0.793	0.752	0.919	0.919	0.023	<.05

Moreover, the difference of $\chi 2$ and df between the four models was computed and found to be statistically significant (≤.05). This confirmed that the factors that have the different influence on information adoption between the four groups ; low engagement with Independent websites , low engagement with E-merchants websites, high engagement with Independent websites and high engagement with E-merchants websites are differences.

According to the rule of thumb, relationships are significant when the t-value is greater than 1.96 and the p-value is ≤.05. The results show that of the thirteen hypotheses (H14 to H26) in this section, seven hypotheses were significant for information usefulness in at least one in out of four groups and four hypotheses were not found to be significant in any groups. Two hypotheses were found to be significant in all groups. See table 5.23

Table 5.23 Summary of hypotheses assessment for groups of consumers

	Hypothesis	Estimate	S.E.	C.R.	P value	Finding
H14	H14a: TI --> US	0.082	0.019	1.038	0.299	Not supported
	H14b: TI --> US	0.111	0.075	1.433	0.152	Not supported
	H14c: TI --> US	0.343	0.077	3.568	***	Supported
	H14d: TI --> US	0.206	0.104	2.519	0.012	Supported
H15	H15a: AC --> US	0.237	0.081	2.636	0.008	Supported
	H15b: AC --> US	0.394	0.111	3.312	***	Supported
	H15c: AC --> US	0.032	0.096	0.353	0.724	Not supported
	H15d: AC --> US	-0.079	0.073	-1.061	0.289	Not supported
H16	H16a: RE -- > US	0.156	0.064	1.885	0.059	Not supported
	H16b: RE --> US	0.063	0.067	0.713	0.476	Not supported
	H16c: RE --> US	0.039	0.044	0.468	0.64	Not supported
	H16d: RE --> US	-0.078	0.04	-1.162	0.245	Not supported

H17	H17a: COM --> US	0.114	0.089	1.082	0.279	Not supported
	H17b: COM --> US	0.061	0.119	0.539	0.59	Not supported
	H17c: COM --> US	0.155	0.072	1.672	0.094	Not supported
	H17d: COM --> US	0.021	0.061	0.268	0.789	Not supported
H18	H18a: UN --> US	0.107	0.101	0.793	0.428	Not supported
	H18b: UN --> US	0.027	0.097	0.219	0.827	Not supported
	H18c: UN --> US	0.108	0.067	0.964	0.335	Not supported
	H18d: UN --> US	0.122	0.07	1.427	0.154	Not supported
H19	H19a: VA --> US	0.265	0.148	1.376	0.169	Not supported
	H19b: VA --> US	0.395	0.096	2.807	0.005	Supported
	H19c: VA --> US	0.014	0.071	0.113	0.91	Not supported
	H19d: VA --> US	0.011	0.06	0.112	0.91	Not supported
H20	H20a: QU --> US	0.102	0.076	1.057	0.29	Not supported
	H20b: QU --> US	-0.061	0.094	-0.48	0.631	Not supported
	H20c: QU --> US	0.415	0.071	4.249	***	Supported
	H20d: QU --> US	0.373	0.062	5.316	***	Supported
H21	H21a: RA --> US	0.312	0.105	2.863	0.004	Supported
	H21b: RA --> US	0.328	0.139	2.798	0.005	Supported
	H21c: RA --> US	0.266	0.072	2.319	0.02	Supported
	H21d: RA --> US	0.209	0.065	2.32	0.02	Supported
H22	H22a: SI --> US	0.282	0.078	3.402	***	Supported
	H22b: SI --> US	0.439	0.1	4.258	***	Supported
	H22c: SI --> US	-0.11	0.072	-1.285	0.199	Not supported
	H22d: SI --> US	0.069	0.058	1.034	0.301	Not supported
H23	H23a: CON --> US	0.09	0.118	0.891	0.373	Not supported
	H23b: CON --> US	0.16	0.111	1.437	0.151	Not supported
	H23c: CON --> US	0.331	0.134	3.141	0.002	Supported
	H23d: CON --> US	0.548	0.141	5.098	***	Supported
H24	H24a: EX -- > US	-0.039	0.155	-0.217	0.828	Not supported
	H24b: EX --> US	-0.102	0.049	-1.075	0.282	Not supported
	H24c: EX --> US	-0.16	0.046	-1.278	0.201	Not supported
	H24d: EX --> US	-0.135	0.034	-1.536	0.124	Not supported

H25	H25a: TR --> US	0.15	0.081	1.315	0.189	Not supported
	H25b: TR --> US	0.049	0.068	0.439	0.66	Not supported
	H25c: TR --> US	0.176	0.046	1.711	0.087	Not supported
	H25d: TR --> US	0.164	0.04	2.1	0.036	Supported
H26	H26a: US --> AD	0.181	0.081	2.044	0.041	Supported
	H26b: US --> AD	0.195	0.086	2.114	0.035	Supported
	H26c: US --> AD	0.361	0.097	3.25	0.001	Supported
	H26d: US --> AD	0.365	0.078	3.998	***	Supported

Note: Estimate = standardized Regression Weights (Path Estimate), S.E. = Standard Error, C.R.= Critical Ratio (t-value), P value = Significant value, *** = p< 0.001

For the central route, Information timeliness was significantly related to information usefulness only for E-Merchants' websites in both of the low engagement and high engagement (H14c: β=0.343, t-value=3.568, p<0.05; H14d: β=0.206, t-value=2.519, p<0.05), but was not significant for the low engagement with Independent websites and high engagement with Independent websites (H14a: β=0.082, t-value=1.038, p=0.299; H14b: β=0.111, t-value=1.433, p=0.152).

Information accuracy was significantly related to information usefulness only for Independent websites in both of the low engagement and high engagement (H15a: β=0.237, t-value=2.636, p<0.05; H15b: β=0.394, t-value=3.312, p<0.05), but was not significant for the low engagement and high engagement with E-Merchants' websites (H15c: β=0.032, t-value=0.353, p=0.724; H15d: β=-0.079, t-value=-1.061, p=0.289). However, Value Added Information was significantly related to information usefulness only for the high engagement with Independent websites (H19b: β=0.395, t-value=2.807, p<0.05), and was not significant in other groups (H19a: β=0.265, t-value=1.376, p=0.169; H19c: β=0.014, t-value=0.071, p=0.91; H19d: β=0.011, t-value=0.112, p=0.91).

Information relevance (H16a: β=0.156, t-value=1.885, p=0.059; H16b: β=0.063, t-value=0.713, p=0.476; H16c: β=0.039, t-value=0.468, p=0.64; H16d: β=-0.078, t-value=-1.162, p=0.245), Information completeness (H17a: β=0.114, t-value=1.082, p=0.279; H17b: β=0.061, t-value=0.539, p=0.59; H17c: β=0.155, t-value=1.672, p=0.094; H17d: β=0.021, t-value=0.268, p=0.789) and information understandability (H18a: β=0.107, t-value=0.793, p=0.428; H18b: β=0.027, t-value=0.219, p=0.827; H18c: β=0.108, t-value=0.964, p=0.335; H18d: β=0.122, t-value=1.427, p=0.154) were not found to be significantly related to information usefulness in any of the groups.

For the peripheral route, the relationship between review quantity and information usefulness was found to be significant regarding information usefulness only for the low engagement and high engagement with E-merchants' websites (H20c: β=0.415, t-value=4.249, p<0.05; H20d: β=0.373, t-value=5.316, p<0.05) and was not significant for the low engagement and high engagement with Independent websites (H20a: β=0.102, t-value=1.057, p=0.29; H20c: β=-0.061, t-value=-0.48, p=0.631). Product ranking was significantly related to information usefulness and information adoption in all groups (H21a: β=0.312, t-value=2.863, p<0.05; H21b: β=0.328, t-value=2.798, p<0.05; H21c: β=0.266, t-value=2.319, p<0.05; H21d: β=0.209, t-value=2.32, p<0.05).

Information sidedness had a positive influence on information usefulness only for the low engagement and high engagement with Independent websites (H22a: β=0.282, t-value=3.402, p<0.05; H22b: β=0.439, t-value=4.258, p<0.05); it was not significant for the low engagement and high engagement with E-merchants websites (H22c: β=-0.11, t-value=-1.285, p=0.199; H22d: β=0.069, t-value=1.034, p=0.301). The relationship between information consistency and information usefulness was found to be significant only for the low engagement and high engagement with E-merchants websites (H23c: β=0.331, t-value=3.141, p<0.05; H23d: β=0.548, t-value=5.098, p<0.05), and was not significant for the low engagement and high engagement with Independent websites (H23a: β=0.09, t-value=0.891, p=0.373; H23b: β=0.16, t-value=1.437, p=0.151). More specifically, source expertise was found to have a negative influence on information usefulness (H24a: β=-0.039, t-value=-0.217, p=0.828; H24b: β=-0.102, t-value=-1.075, p=0.282; H24c: β=-0.16, t-value=-1.278, p=0.201; H24d: β=-0.135, t-value=-1.536, p=0.124). However, source trustworthiness was found to have a positive relationship with information usefulness only for the high engagement with E-merchants websites

(H25d: β=0.164, t-value=2.1, p<0.05) and was not significant in other groups (H25a: β=0.15, t-value=1.315, p=0.189; H12b: β=0.049, t-value=0.439, p=0.66; H12c: β=0.176, t-value=1.711, p=0.087). Finally, not surprisingly, information usefulness has a positive and significant relationship with information adoption in all four groups (H26a: β=0.181, t-value=2.044, p<0.05; H26b: β=0.195, t-value=2.114, p<0.05; H13c: β=0.361, t-value=3.25, p<0.05; H13d: β=0.365, t-value=3.998, p<0.05).

5.6 Chapter Summary

This chapter has presented the data analysis for this research. Two steps were carried out to test the relationships of the factors that influence information usefulness and information adoption in the proposed model. The sample of 635 was divided into two groups (312 users of Independent websites and users of 323 E-merchants' websites) to test these relationships through multigroup analysis. Moreover, the sample was further subdivided by cluster analysis into four groups to extend the study by adding the level of consumers' engagement as a moderator.

The outliers and normality were reported and the demographic profile and descriptive statistics of the sample were described. The test of reliability using Cronbach's alpha and the constructs achieved high reliability. CFA and MCFA were used to validate the measurement model. The validity of data (AVE and CR) was satisfied. However, in multigroup analysis, invariance tested is required. Finally, structural equation modelling was performed to test the research model. The final model outcomes in each section were provided. The next chapter discusses the results using the findings from the data analysis in this chapter in the light of related literature.

CHAPTER SIX: DISCUSSION

6.1 Introduction

The aim of this chapter is to discuss the results of the hypothesis testing and reflect upon the findings in relation to the existing literature. It provides more details on the validity of the measurement scales, followed by the results of the hypothesis testing. The results for each of the hypotheses and their significance are summarized. The discussion of the results is divided into two phases. First, the results from the main finding are discussed and the factors of OCRs that influence information adoption from independent and E-merchants' websites are identified. Thereafter, the chapter discusses the results from the second phase, extending from the main finding, which included consumer engagement as a moderator. The results of the hypothesis testing and discussion are provided. Finally, a summary is presented in the last section.

6.2 Measurement Scale Validity

Cronbach's alpha (α) is used to test the internal reliability of scale. As requirement, the value greater than 0.90 is excellent, the value between 0.70 and 0.90 is high reliability and the value between 0.50-0.70 is moderate and the value lower than 0.50 is low reliability (Hinton *et al.,* 2014). The results in this study presents high reliability for all constructs which highlights internal consistency of the scale (Hair *et al.,* 2010). Moreover, convergent and discriminant validity test was conducted to ensure whether the measurement of the constructs accurately represent the concept of interest. Convergent validity is assessing by factor loading, average variance extracted (AVE) and composite reliability (C.R.). As a rule of thumb, factor loading should be greater than 0.50, the value of AVE should be greater than 0.50 and C.R. value should be more than 0.70. The results in this study showed the exceeded value of the minimum requirement for factor loading, AVE and C.R. value. Discriminant validity is assessed by comparing AVE for each construct with the squared roots correlation between them. It satisfies when AVE is greater than squared correlation estimates between constructs. In sum, the scales of this study have presented the high level of validity and reliability.

6.3 Discussion of the Hypotheses Testing

The aim of this research is to identify the effects of OCRs' influence on information adoption in different types of online review websites (Independent and E-merchants' websites). The influences of these two different platforms have not previously been compared in the literature, although there is one major difference between them in terms of OCRs. Independent websites allow any reviewer to post reviews, while E-merchants' websites only allow customers who have bought products/services from them to provide reviews. For this reason, this study expected a significant difference between the influences of OCRs on information usefulness and information adoption from these platforms.

Consistent with this prediction, the results show some differences between independent and E-merchants' websites. Table 6.1 illustrates the results of thirteen hypotheses (H1 to H13)

Table 6.1 Hypotheses testing for platforms

	Hypothesis	Finding
H1	H1a: Information Timeliness from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H1b: Information Timeliness from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Supported
H2	H2a: Information Accuracy from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Supported
	H2b: Information Accuracy from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported

H3	H3a: Information Relevance from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Supported
	H3b: Information Relevance from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
H4	H4a: Information Completeness from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H4b: Information Completeness from E-merchants websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
H5	H5a: Information Understandability from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H5b: Information Understandability from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
H6	H6a: Value-Added Information from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Supported
	H6b: Value-Added Information from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
H7	H7a: Review Quantity from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H7b: Review Quantity from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Supported

H8	H8a: Product Ranking from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Supported
	H8b: Product Ranking from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Supported
H9	H9a: Review Sidedness from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Supported
	H9b: Review Sidedness from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
H10	H10a: Review Consistency from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H10b: Review Consistency from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Supported
H11	H11a: Source Expertise from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H11b: Source Expertise from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
H12	H12a: Source Trustworthiness from Independent websites has a positive significant influence on consumers' perceived information usefulness.	Not Supported
	H12b: Source Trustworthiness from E-merchants' websites has a positive significant influence on consumers' perceived information usefulness.	Supported

H13	H13a: Perceived information usefulness of Independent websites has a positive significant influence on consumers' adoption of information	Supported
	H13b: Perceived information usefulness of E-merchants' websites has a positive significant influence on consumers' adoption of information.	Supported

6.3.1 Central Route and Information Usefulness

The results show that consumers prefer to adopt information processed via the central route from independent websites (*information accuracy, information relevance*, *value-added information)* compared to E-merchants' websites (*information timeliness)*, and that the central route is significant when elaboration is high.

To be more specific, regarding the central route, this study has proposed that information timeliness has a positive influence on information usefulness only on E-merchants' websites. Meanwhile, information timeliness from independent websites was not significantly related to information usefulness.

The number of reviews on Independent and E-merchants websites has grown rapidly. Consumers may need the most up-to-date information about the products/services in their current state. For example, a number of reviews from the previous three months might complain about poor Wi-Fi connections, but in more recent reviews, no one is complaining about this issue. This suggests that the problem has been fixed. However, the difference result could relate to source of reviwers from two types of platforms.

E-merchants websites allows only existing consumers to provide reviews after they have experienced services (Gretzel and Yoo, 2008). In fact, email will be sent to consumers to write the review after they stay. Therefore, the most up-to-date OCRs are provided by consumers who have just had the experience and the reader may find it useful to receive this up-to-date information from existing consumers (Xiang *et al*., 2015b). The timeliness of information thus determines its usefulness and influences consumers' adoption decisions.

In contrast, these findings are consistent with those of Cheung *et al.* (2008), Jamil (2013) and Manthiou and Schrier (2014), who tested the impact of information timeliness on information usefulness in the context of online reviews and found that it did not have a significant influence. In particular, in this study, there may be two reasons for this. Firstly, OCRs on independent websites can come from any consumer who wishes to share their experience (Gretzel and Yoo, 2008). Therefore, the reader cannot be sure whether the reviews come from real consumers even if they provide up-to-date information. Secondly, people who need to write a review can go through the websites and provide reviews whenever they want. For example, they might have stayed at a hotel six months ago, but whenever they write their review, it will appear as up-to-date information. Therefore, readers cannot be sure of exactly when the reviewers had experienced the services reviewed.

Information accuracy is an important variable and this study has proposed that it has a positive influence on information usefulness only on independent websites. This may be due to the fact that consumers believe that the information comes from other consumers who have genuine experience with the products/services and they will adopt this information if it is in line with what they already know (Zhang and Watts, 2003). In contrast, OCRs from independent websites could come from anybody and readers cannot be sure that the information is accurate; therefore, while searching OCRs, they may read the reviews and check if the information matches their prior knowledge, and then judge whether the OCRs are accurate and useful. In contrast, information accuracy of OCRs on E-merchants' websites did not show a significant impact on information usefulness. This might be due to the fact that in some cases, readers did not have prior knowledge about products/services, making it difficult to judge whether the information is correct (Lehto *et al.,* 2004; Doh and Hwang; 2009). In the context of this study, the readers know that OCRs from E-merchants' websites have come from existing consumers who have bought rooms and have experience with the products/services (Gretzel and Yoo, 2008), and might thus believe that those reviews are accurate. Hence, the comparison between the two different types of platforms indicates different dynamics in information adoption and processing which have not been fully explicated in the current scholarship.

The results of this study also show that the information relevance of OCRs on independent websites has a significant impact on information usefulness. This is in line with previous studies that have found a significant relationship between information relevance and information usefulness in online review context (Filieri and McLeay 2014; Jamil 2013, Chueng *et al.,* 2008). OCRs provide information on different experiences and there is a lot of information on the websites. Thus, the readers may only read reviews that match their specific needs. On the other hand, the information relevance of OCRs on E-merchants' websites did not show a significant impact on information usefulness. A probable explanation is that the relevance of information influences consumers' decision-making when they are presented with a choice (Zimmer *et al.,* 2010). This means that if there are a large number of OCRs on a website, readers may search only for the information they need, but if there is less information on the website, they may read all of it.

Moreover, Kaakinen *et al.* (2003) suggested that consumers adopt value-added information and actively seek the information that they need. This may help consumers to discover positive and negative information on hotel services from reviewers who are not connected with the hoteliers. Value-added information was not significant in the case of E-merchants' websites but had a significant impact on independent websites. This might be because the OCRs from independent websites are controlled by the consumers who provided the reviews (Gretzel *et al*., 2007). There are a variety of reviews from consumers and they can express their opinions freely, without editing from web marketers. They can provide negative comments and hoteliers can only reply by commenting on their reviews. In contrast, OCRs from E-merchants' websites are controlled or monitored by web marketers. Therefore, consumers perceived the usefulness from value added information from Independent websites rather than E-merchants' websites.

Surprisingly, information completeness and information understandability were not found to have a significant relationship with information usefulness. This result matches those observed in a previous study by Filieri and McLeay (2014), who found that information completeness and information understandability did not affect information adoption in the context of OCRs. However, this study expands on the existing work by testing information completeness and information understandability with information

usefulness. Information completeness and information understandability from OCRs did not influence consumers in either platform. A possible explanation for the finding that information completeness was not significant might be that these consumers have a set of criteria for making certain decisions. Perhaps due to a lack of interest or time, and/or to avoid complexity, consumers may choose to limit the range of required criteria. Information understandability may not be significant to information usefulness because consumers can use information even if the language is not clear. In fact, consumers do not necessarily look for clear language and/or grammatical perfection. In particular, according to the respondents in this study are from Thailand which is non-native English country. Therefore, it may be not much important from them to concern about clear language and/or grammatical perfection.

6.3.2 Peripheral Route and Information Usefulness

Meanwhile, the results show that consumers prefer to adopt information processed via the peripheral route *(review quantity, product ranking, review consistency* and *source trustworthiness)* from E-merchants' websites compared to Independent websites (*product ranking, review sidedness):* the peripheral route is significant when elaboration is low.

Review quantity was only significant on E-merchants' websites. As explained previously, reviews on E-merchants' websites are only provided by consumers who have actually bought products/services from these websites. The number of online reviews makes the reviews more noticeable to consumers (Cheung and Thadani, 2010); therefore, the volume of reviews may indicate the popularity of the hotel. Moreover, the number of reviewers may guarantee that the quality of the products/services is good. Thus, if the quantity of reviews is high, consumers consider the information to be useful. However, OCRs on independent websites can come from anyone, even from people who have never used the products/services but have received WOM from others. A large number of reviews might exist if hoteliers have hired fake customers to provide positive comments about their hotel (Dellarocas, 2003; Smith, 2013; Mauri and Minazzi, 2015). Consumers may believe that the volume of reviews may not reflect real consumers who have actually used these products/services; therefore, they might not

consider this information to be useful. Another possibility is that the number of reviews can be considered as a predictor, but consumers may prefer categorical information such as product ranking rather than the number of reviews (Filieri and McLeay, 2014; Filieri, 2015a).

Product ranking has an influence on consumers' information usefulness intention in both independent and E-merchants' websites and is consistent with the prediction. The relationship between product ranking and information usefulness is strongly significant. Product ranking is an important factor in the field of OCRs. This might be because product ranking could help to increase consumers' confidence in adopting the information (Schuckert *et al*., 2015). In addition, ranking represents how consumers judge a particular product/service by using other consumers' evaluations (Filieri and McLeay, 2014). It is more reliable than single reviewers because the product ranking is computed from the average evaluation of all consumers (Filieri, 2015a). Hence, consumers may prefer to look at product rankings, which provide a shortcut in the elaboration process (Filieri, 2015a), rather than scrolling down to read all of the online reviews. In the case of independent websites such as TripAdvisor, consumers are likely to look at product rankings when searching for information to book a new hotel (Hajli, 2016). It is easier to notice and is numeric information which is derived from information on quality (Filieri, 2015a).

Review sidedness was another significant factor on independent websites. The existing literature suggests that negative reviews have a stronger effect than positive reviews (Xue and Zhou, 2010; Yang and Mai, 2010). The findings indicate that consumers need to consider both types of information (positive and negative). This result is similar to the finding from Chong and Ngai (2013) that both sides of reviews have positive relationships with information adoption. This may be because consumers can make a better decision if they know about both positive and negative aspects of a service. Furthermore, the availability of positive and negative information enhances the credibility and rigor of the review processes (Cheung *et al.,* 2009; Chong and Ngai, 2013). However, consumers have various concerns and differing priorities. For example, a review might provide positive comments about a hotel's good location, nice swimming pool and good Wi-Fi connection but then complain about its cleanliness. Consumers reading this review might ignore all the positive comments because they are

very strict about cleanliness, and might thus reject this hotel. Therefore, consumers probably need to see both positive and negative comments.

Review consistency from E-merchants' websites also determines information usefulness. Consumers may need to read online reviews from different sources and perspectives to make informed decisions. Online reviews provide a lot of information and consumers need to skim through and assess the consistency of information from different reviewers. This is important because review consistency affects consumers' cognition (Zhang and Watts, 2008). However, the results particularly highlight the lack of a significant relationship between information consistency and information usefulness from independent websites. This might be because OCRs represent opinions from others and they might wish to find OCRs that reflect different opinions from other perspectives (Dellarocas *et al*., 2006; Wooders, 2006).

Source trustworthiness was also a factor that influences perceptions of the usefulness of information and its subsequent adoption of E-merchants' websites. Consumers still focus on the sources of information, and trustworthiness is difficult to evaluate without knowing these sources. In online websites, personal details about information sources are limited (Bartel and Dutton, 2001). Thus, it is not easy to assess trustworthiness unless the source can be verified. As a minimum, consumers need to feel sure that the people providing reviews on E-merchants' websites have genuinely experienced the products/services that they are reviewing. This is why they consider source trustworthiness from E-merchants' websites to be useful and thereby consider adopting this information. In other words, the consumers may examine personal information to evaluate the credibility of a source and thus judge its OCRs as more useful (Forman *et al*., 2008). Tidwell and Walther (2002) noted that source effects can reduce consumers' uncertainty when they are searching for information in the online environment. In other words, information that provides the identity of the sender might be granted higher credibility when making decisions about its usefulness (Esfahani *et al.,* 2016). However, source trustworthiness from independent websites does not have a significant impact on information usefulness. A possible explanation may relate to the fact that these websites allow anyone to provide a review simply by registering their email address (Xie *et al.,* 2011; Mauri and Minazzi, 2015; Filieri 2015b). Therefore,

consumers do not feel comfortable about trusting the information from this source. A few previous researchers mentioned that TripAdvisor had been seen as a negative source of trustworthiness in a few cases; for example, it was criticised on a Chinese site because one of the reviewers provided 2,633 reviews within four years, whereas others only provided 1,361 within a whole year (Attwooll, 2014). Fili and Krizaj (2017) studied the credibility of the reviews in the case of TripAdvisor and mentioned that the slogan of the website, "reviews you can trust", and the claim that "all the reviews are from real travellers" had been withdrawn because British hoteliers had complained about the many fake reviews on the website. Similarly, Smith (2013) found that hoteliers posted positive reviews about their hotels and posted negative/terrible reviews about nearby rivals. Hence, it can be claimed that the unclear personal identity of sources affects the trustworthiness (Rains and Scotts, 2007). In addition, this finding reveals the E-merchants' websites are perceived to be more trustworthy than Independent websites, as Filieri (2016) suggested.

This study has also found that source expertise, a dimension of peripheral route processing, had no influence in either of the two platforms. This finding is in line with previous findings from Lui and Park (2015), who found that source expertise has no influence on information usefulness. A possible explanation for the lack of support for the relationship between source expertise and information usefulness might be because consumers look for source providers who share similar characteristics to them: this is known as homophily. Homophily is defines as " the degree to which pairs of individuals who interact are similar with respect to certain attributes such as beliefs, values, education social status (Roger and Bhowmil, 1970, p. 525). In online communication, homophily refers to the extent to which individuals are congruent or share similarities in attribute like age, gender and lifestyle (Thelwell, 2009). Additionally, Chu and Kim (2011) note that homophily not only refers to similar characteristics but also to perceived similarity in terms of shared values, preferences and lifestyle. Therefore, consumers may not look for information from experts; rather, they may search for reviews from others whose understanding/personality/lifestyle and preferences are similar to their own. Indeed, consumers may feel comfortable interacting with other consumers who have similar characteristics or preferences (McCroskey *et al*., 2006). For example, when consumers plan to make a reservation with children, they may not search for expert opinions but rather for information from other people who have stayed

at the destination with their children. Additionally, Cheung *et al.* (2008) found that source expertise did not influence information usefulness. Their explanation provides to the result as it is difficult for consumers to evaluate whether information has been posted by an expert. Therefore, source expertise was not a factor that they considered to contribute to information usefulness.

6.3.3 Information Usefulness and Information Adoption

As discussed in Chapter 3, a number of previous studies have identified information usefulness as one of the predictors of information adoption (Sussman and Siegal, 2003; Cheung *et al*., 2008; Lee *et al*., 2007; Mathiou and Schrier, 2014; Erkan and Evans, 2016b). This finding is not surprising, and the results of this study are consistent with previous studies and provide further evidence that information usefulness is a strongly significant predictor of information adoption. This finding reveals that perceived information usefulness is important for consumers, as it encourages them to adopt information from both types of website. In other words, the results of this study suggest that hoteliers or service providers should focus on factors that encourage consumers' perceived usefulness and willingness to adopt information.

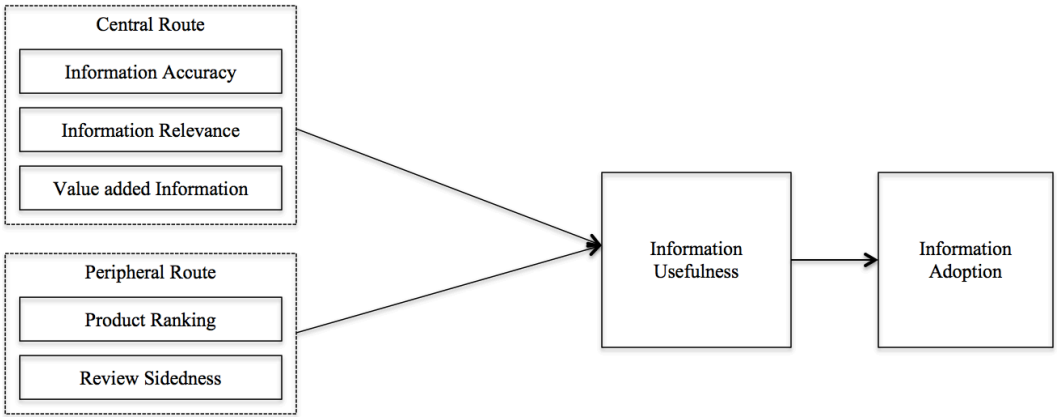

Figure 6.1: The result of information adoption from Independent websites

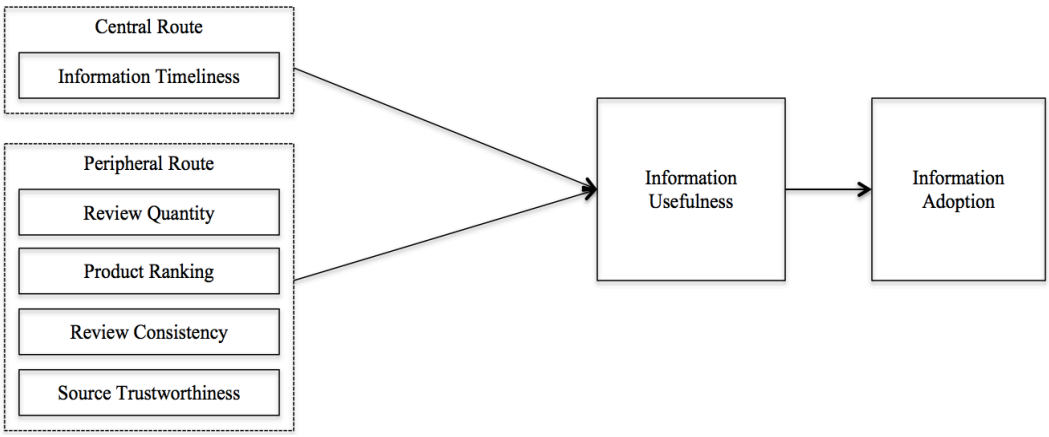

Figure 6.2: The results of Information Adoption from E-Merchants websites

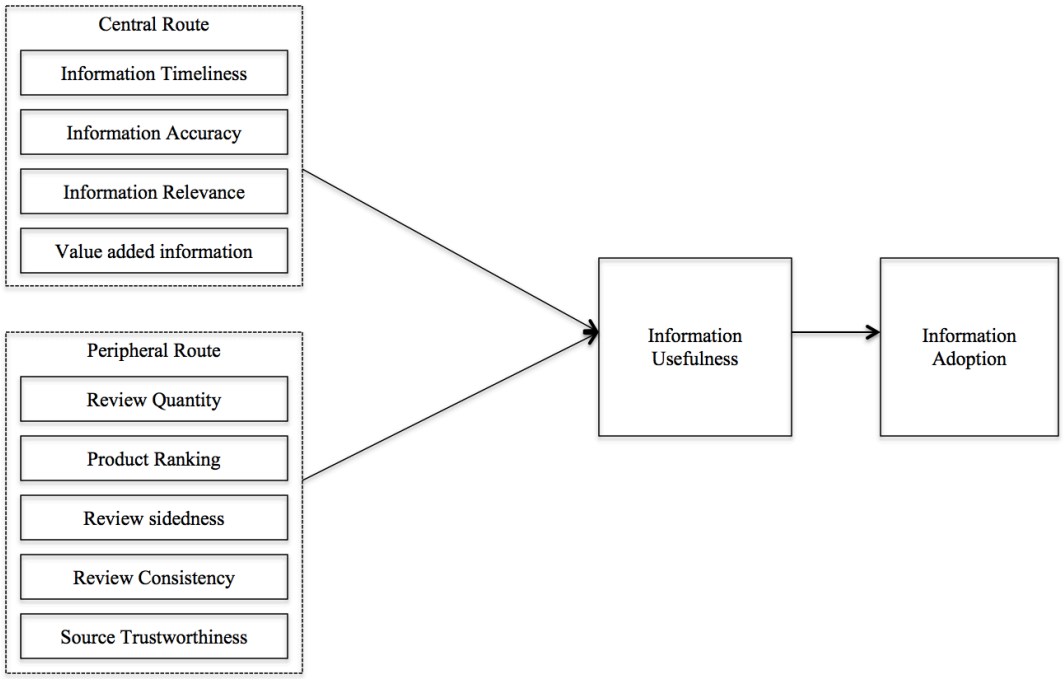

Figure 6.3: The final result of information adoption for Independent and E-merchants websites

Clear differences between the influence of OCRs on independent and E-merchants' websites have emerged and this study has found significant results. Moreover, it has extended our knowledge of consumer behaviour by categorizing the sample into four groups according to the level of consumers' engagement with various platforms (independent and E-merchants' websites) which also provides interesting results. Table 6.2 illustrates the results for hypotheses H14 to H26. Four groups of consumers were examined to identify the factors that influence information usefulness and information adoption. The results for each hypothesis are discussed in the following sections.

Table 6.2 Hypotheses testing for groups of consumers

	Hypothesis	Finding
H14	H14a: Information Timeliness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H14b: Information Timeliness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H14c: Information Timeliness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Supported
	H14d: Information Timeliness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Supported
H15	H15a: Information Accuracy has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Supported
	H15b: Information Accuracy has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Supported
	H15c: Information Accuracy has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported

	H15d: Information Accuracy has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H16	H16a: Information Relevance has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H16b: Information Relevance has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H16c: Information Relevance has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported
	H16d: Information Relevance has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H17	H17a: Information Completeness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H17b: Information Completeness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H17c: Information Completeness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported

	H17d: Information Completeness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H18	H18a: Information Understandability has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H18b: Information Understandability has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H18c: Information Understandability has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported
	H18d: Information Understandability has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H19	H19a: Value-added information has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H19b: Value-added information has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Supported
	H19c: Value-added information has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported

	H19d: Value-added information has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H20	H20a: Review Quantity has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H20b: Review Quantity has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H20c: Review Quantity has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Supported
	H20d: Review Quantity has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Supported
H21	H21a: Product Ranking has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Supported
	H21b: Product Ranking has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Supported
	H21c: Product Ranking has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Supported

	H21d: Product Ranking has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Supported
H22	H22a: Review Sidedness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Supported
	H22b: Review Sidedness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Supported
	H22c: Review Sidedness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported
	H22d: Review Sidedness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H23	H23a: Review Consistency has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H23b: Review Consistency has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H23c: Review Consistency has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Supported

	H23d: Review Consistency has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Supported
H24	H24a: Source Expertise has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H24b: Source Expertise has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H24c: Source Expertise has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported
	H24d: Source Expertise has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Not supported
H25	H25a: Source Trustworthiness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using Independent websites.	Not supported
	H25b: Source Trustworthiness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using Independent websites.	Not supported
	H25c: Source Trustworthiness has a positive significant influence on consumers' perceived information usefulness when consumer has low engagement using E-merchants' websites.	Not supported

	H25d: Source Trustworthiness has a positive significant influence on consumers' perceived information usefulness when consumer has high engagement using E-merchants' websites.	Supported
H26	H26a: Information usefulness has a positive significant influence on consumers' adoption of information when consumer has low engagement using Independent websites.	Supported
	H26b: Information usefulness has a positive significant influence on consumers' adoption of information when consumer has high engagement using Independent websites.	Supported
	H26c: Information usefulness has a positive significant influence on consumers' adoption of information when consumer has low engagement using E-merchants' websites.	Supported
	H26d: Information usefulness has a positive significant influence on consumers' adoption of information when consumer has high engagement using E-merchants' websites.	Supported

From the finding, the identification of online review websites and the level of consumers' engagement were integrated to build the NEP (The Nature of engagement and various platforms). The groupings that form the NEP matrix represent an extension from the main finding: this is why they will be presented with types of online review platforms (Independent and E-merchants' website). Cluster analysis produced four cluster which researcher termed *Quicker, Explorer , Confidant and Passionate*; identified name for each groups based on data attribute:

The NEP matrix is constructed with the types of online review website (Independent websites and E-merchants' websites) along the horizontal axis and the level of consumers' engagement (high vs. low) along the vertical axis, as shown in Figure 6.3

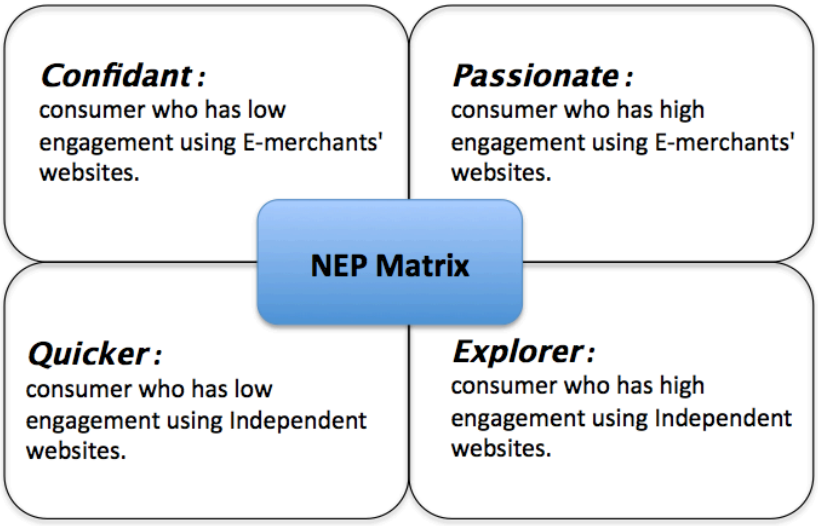

Figure 6.4 The NEP matrix

Levels of consumer engagement were categorized and found to have different way of assessing the two different platforms. The results indicated that peripheral route processing has a greater influence on consumers than central route processing in all groups of the NEP matrix; *Quicker, Explorer, Confidant and Passionate*.

Overall, as expected, *Quicker group* considered fewer factors compared to the other groups. In addition, they perceived information usefulness via the central and peripheral route (information accuracy, *product ranking and reviews sidedness*). The *Explorer and Confidant* groups adopted equal numbers of factors, but consumers in the *Explorer* group adopt OCRs equally in both the central route (*information accuracy and value-added information)* and the peripheral route (*product ranking and review sidedness)* whereas those in the *Confidant* group preferred to adopt OCRs via the peripheral route (*review quantity, product ranking, reviews consistency)* rather than the central route *(information timeliness)*. Moreover, not surprisingly, the majority of consumers in the *Passionate* group are more likely to consider a large number of factors compared to other groups of consumers. Beyond expectations, consumers in the *Passionate* group prefer to consider OCRs via the peripheral route (*review quantity, product ranking, review sidedness, review consistency and trustworthiness)* rather than the central route (*information timeliness)*.

6.3.4 Quicker

Consumers are those who have low engagement and search OCRs from Independent websites. The results propose that for this group, only three factors – namely information accuracy, product ranking and review sidedness – have a positive influence on information usefulness. Not surprisingly, these consumers relied on information under the peripheral route rather than the central route. This may be because they did not spend much time or effort on searching for information from OCRs; therefore, they only used shortcut cues when evaluating the usefulness of information. However, they consider information accuracy via central route. It might because they probably have knowledge about products/services before searching for information (Zhang and Watts, 2003). Therefore, they need to ensure that the OCRs are correct by comparing them to what they already know. In terms of peripheral route, product ranking and information sidedness has a strong relationship with information usefulness. In other words, they may consider product ranking and skim through the sidedness of OCRs.

This finding implies that this group was less likely to spend time considering factors and processing information from Independent websites. Compared with the other group of consumers, the *Quicker* group considered the lowest number of factors to be useful in determining their intention to adopt this information.

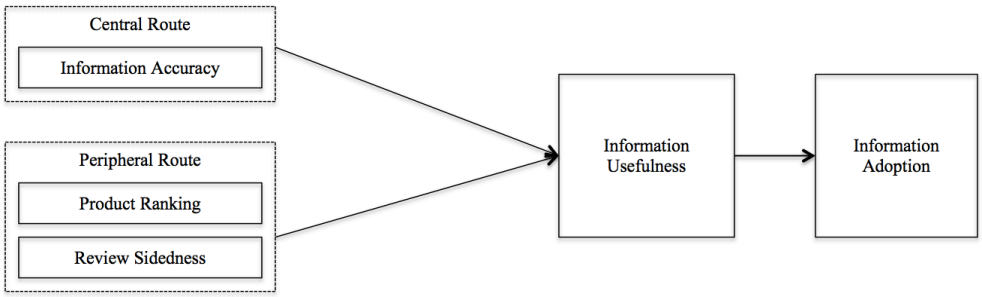

Figure 6.5 Quicker

6.3.5 Explorer

The current study found that information accuracy, value-added information, product ranking and review sidedness from consumers who have high engagement with independent websites all had directly significant effects on information usefulness in this group. Consumers in this group relied on the central route, in contrast to other groups, and considered information accuracy and value-added information. A possible explanation might be that as high engagement consumers, they spend more time reading and considering the OCRs (Sashi, 2012). As a result of their high engagement, they are likely to have more information in their minds. They probably have knowledge about products/services before searching for information. Thus, they need to ensure that the OCRs are correct by comparing them to what they already know, and they also appreciate perceived value-added information because they may need to update their information about products/services when they find something new, as it makes them feel useful.

However, product ranking and review sidedness under the peripheral route is considered to be consistent with the factors under the central route in order to see the overall picture of the information. This group is similar to the Quicker group in that if they spend less time reading the OCRs, they consider product ranking and review sidedness. It can be seen that when consumers search for OCRs from Independent websites, whether their engagement is high or low, product ranking and review sidedness are the basic factors that they consider. Compared with the other groups, *Explorer* was the only group to use the central route and the peripheral route in equal proportion, as they considered the information to be useful and adopted it.

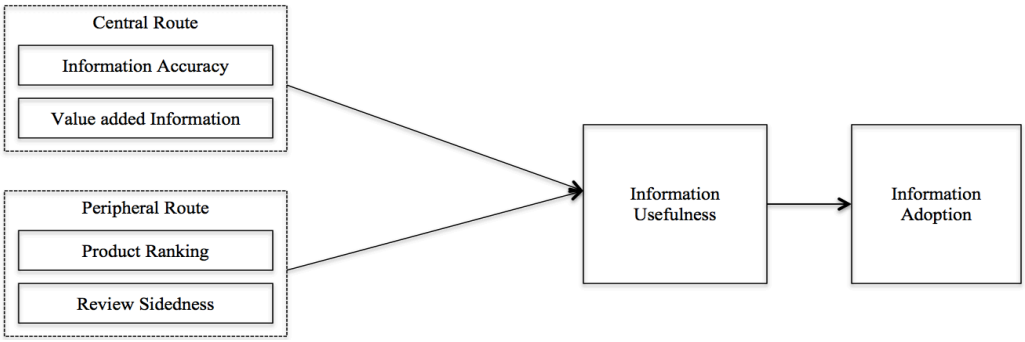

Figure 6.6 Explorer

6.3.6 Confidant

This study has proposed that information timeliness, review quantity, product ranking, and review consistency have a significant positive effect on information usefulness in this group. These consumers prefer to use central route information only and consider information timeliness to assess whether information is up to date. Thereafter, they consider the information under the peripheral route, such as the number of reviews and the rankings of hotels on the websites, and then have a quick look through the reviews to assess their consistency. It can be seen that even if consumers have low engagement in terms of reading OCRs, they still consider the factors of OCRs on E-merchants' websites rather than the information from independent websites. A possible explanation may be related to the character of these websites, which provide OCRs from real consumers who have bought the products/services (Gretzel and Yoo, 2008); therefore, they may have a quick look through the information because they believe the OCRs to be useful.

This finding implied that the *Confidant* group favoured the peripheral route rather than the central route. The number of factors under the peripheral route is more significant in terms of information usefulness and information adoption if compared to the other groups - *Quicker and Explorer* - using Independent websites.

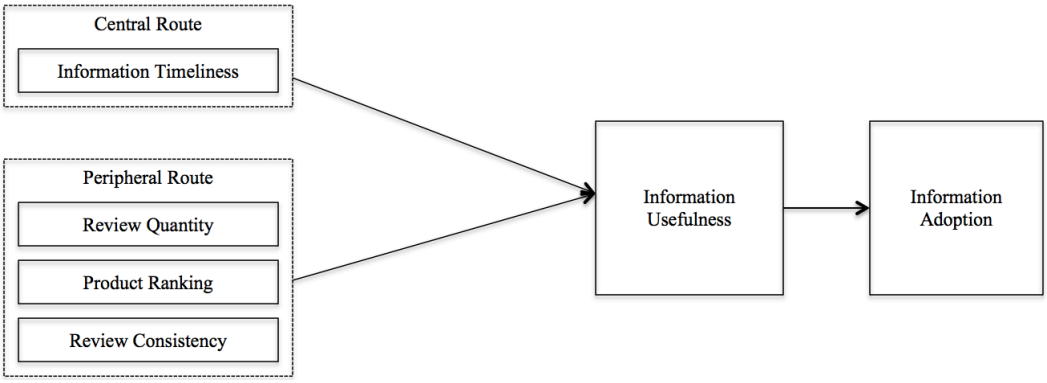

Figure 6.7 Confidant

6.3.7 Passionate

Interestingly, the results showed that consumers who have high engagement with E-merchants' website considered the OCRs factors as useful more than other groups. The empirical results of this study found that information timeliness, review quantity, product ranking, review consistency and source trustworthiness all had positive impacts on information usefulness. Unexpectedly, the findings showed that even though consumers in this group spend time reading the reviews, they consider factors under the peripheral route, such as review quantity, product ranking and source trustworthiness, rather than those under the central route, such as information timeliness. A possible explanation might relate to the nature of the websites (Gretzel and Yoo, 2008), which have more source credibility than independent websites, and also to the fact that consumers expend time and effort on reading the reviews.

Among the four clusters, this group presented the highest number of factors related to information usefulness and information adoption, and this difference was statistically significant. In terms of the characteristics of the platforms, E-merchants' websites can be considered as online review platforms that provide information from existing consumers. Also, more engagement might create more adoption of information (Imlawi, 2017). This might be why the Passionate group tended to spend time and effort in gathering and adopting as much information as possible.

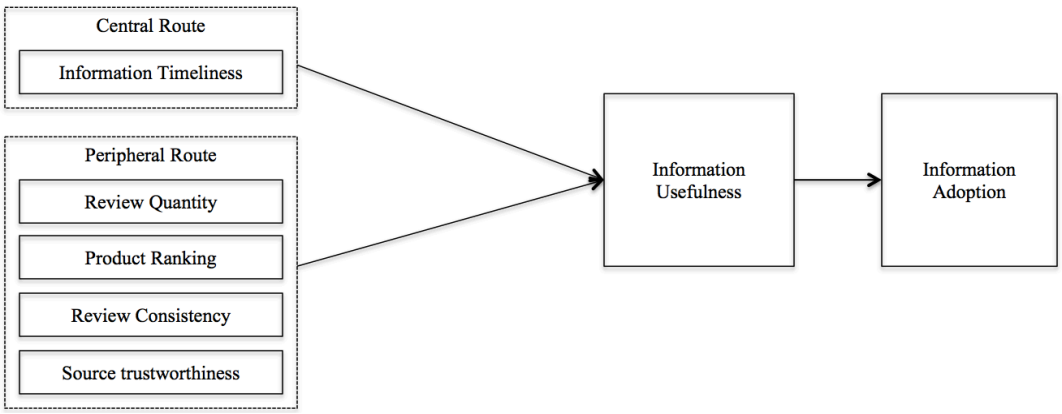

Figure 6.8 Passionate

The final model of the NEP matrix revealed the following. It can be seen that all groups favoured the peripheral route rather than the peripheral route, whether from Independent or E-merchants' websites. As shown in Figure 6.9, for the central route, only three out of six factors were significant with regard to information usefulness and information adoption. Meanwhile, five out of six factors had a positive and significant effect on information usefulness and information adoption. Overall, information processed using the peripheral route appears to have been more influential than information processed using the central route, as it is easier to look through such information based on numeric and alternative short cuts. eWOM/OCRs from other opinions can represent others' beliefs and provide comments on whether products/services are good or bad: therefore, readers are motivated by such information, perceive it to be useful and adopt it.

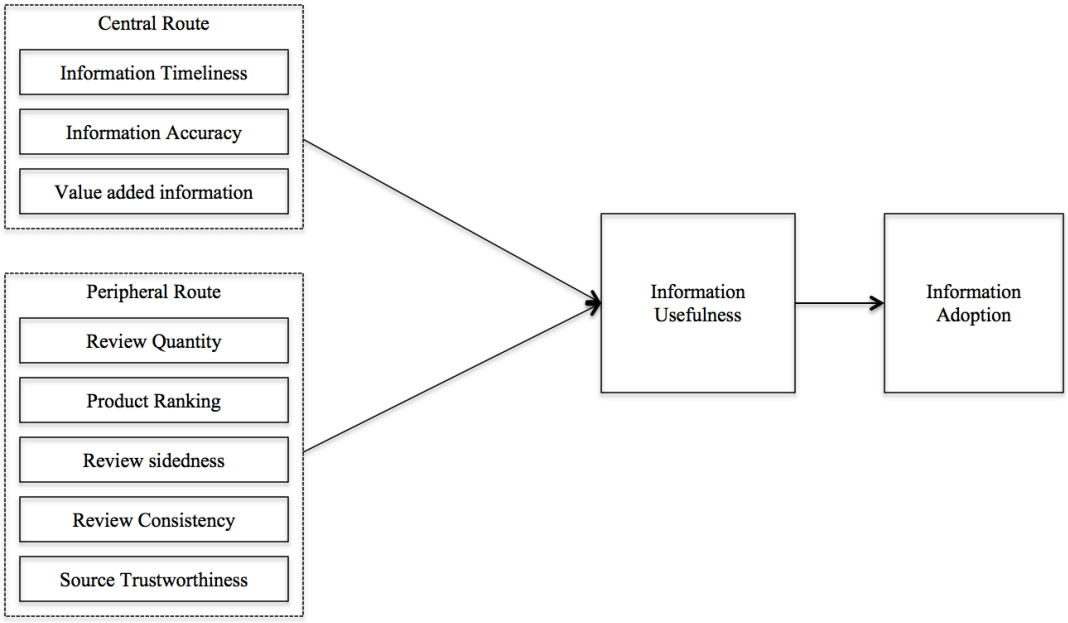

Figure 6.9: The final result of information adoption for four groups of consumers (Quicker, Explorer, Confidant and Passionate)

The paragraphs above have discussed the relationships between factors that have positive influences on information adoption in the various groups. Nevertheless, there are still some factors which are not positively related to information adoption in any of the groups. When consumers are categorized into four groups based on low and high engagement with independent and E-merchants' websites, the results of this extended study are similar to those in the main study, revealing that information usefulness is not significantly affected by information completeness, information understandability or

source expertise. It can thus be suggested that the level of consumers' engagement with both types of website does not affect information usefulness. The explanations for information completeness and information understandability should be similar to those offered in the main study, which highlighted that irrespective of the amount of time consumers spend on reading OCRs, they still do not take into account the completeness of information; nor are they concerned with understandability when reading OCRs. However, with regard to source expertise, it might be that when consumers search for information from others and find that they share similar characteristics with the author of a review, they are more likely to follow its advice (Forman, Ghose and Wiesenfeld, 2008). Therefore, perceived similarity between source and consumers might be more important than associating the source with expertise.

Interestingly, the significant interaction between information relevance and information usefulness found in the main study was not found in the extended section. This inconsistency can be explained by adding the level of consumers' engagement and types of review website, which influence consumers when they are looking for information from OCRs.

6.3.8 Information Adoption for Groups of Consumers

The findings in this section test the impact of information usefulness and information adoption according to the level of consumers' engagement with various online review websites. The empirical results of this study support the positive influence of information usefulness on information adoption. This extended section reveals that information usefulness from OCRs still possibly influences consumers' adoption of information when they are categorized groups of consumers according to their levels of engagement with various platforms. It also confirms and extends our knowledge of consumer behaviour. Information usefulness is an important antecedent to information adoption (Racherla and Friske, 2012). In other words, when people perceive that information is helpful, useful and valuable, they will have greater intention to adopt it (Jin *et al.,* 2009). Moreover, Christou and Kassianidis (2002) and Zheng *et al.,* (2009) cited information usefulness as a factor in consumers' adoption of information in a travel context. In this study, the results reveal that all types of consumers consider OCRs as useful and intend to adopt the information contained therein.

To conclude, it is understood that a number of factors pertaining to the OCRs influence consumers' decision making processes. The author investigates the influence of OCRs in different types of online platforms, and examines the factors that impact on consumers' information adoption and decision process. Current literature has not studied multiple platforms and compared and contrasted the differences. Given these concerns, the author added more factors (value-add information, review quantity, product ranking, review sidedness, information consistency) and assesses information usefulness as a mediating variable in the context of online review platforms. It refers to consumers' willingness to adopt information after they process online review in difference platforms. The findings suggestconsumers consider different factors from different online review websites.

Thereafter, this study added the level of consumers' engagement factors, low and high, to find the effects of the level of consumers' engagement with various platforms (Independent and E-merchants websites). The results of the current study confirm that to a certain extent, consumer engagement goes beyond information adoption knowledge, and that OCRs' constructs are moderated by consumer engagement to categorize the consumer groups. The moderation effect of consumer engagement in categorising the groups and analysing the results is an original contribution of this research. The empirical findings lend themselves to the construction and advancement of theoretical understanding. The NEP matrix, which represents the four groups of consumers, classified by the level of consumer engagement with various platforms, confirms that OCRs have different effects on information adoption within different groups.

6.4 Chapter Summary

This chapter has discussed the results according to the findings in the previous chapter. It began by discussing the validity of the measurement scale. Thereafter, each of the hypotheses and supporting results were discussed through considering previous literature. The discussion of the results has highlighted the factors that are significant for each of the two types of online review website (independent and E-merchants' websites) and for each of the four groups of consumers (as set out in the NEP matrix).

Evidently, information usefulness from OCRs is a strongly significant predictor of information adoption in both Independent and E-merchants' websites, and also for all groups of consumers in the NEP matrix.

The next chapter presents a summary of the research results and evaluates the findings according to the research objectives, discusses the theoretical and practical contributions and the limitations of this study and suggests future research directions.

CHAPTER SEVEN: CONCLUSION

7.1 Introduction

This final chapter aims to provide conclusions regarding the important areas covered in this study. The chapter will begin with a summary of research results, followed by evaluation of findings according to the research aim and objectives and a discussion of the achievement of each objective within the thesis. After that, it will present the key theoretical and practical contributions of this research. Finally, the limitations and future research directions of this research will be outlined.

7.2 Summary of Research Results

The focus of the theoretical model was to address the research question, which is "*What factors of OCRs influence consumers' adoption of information?"* The theoretical model provided the comprehensive factors from reviewing the main dimensions of OCRs and how they affect consumers' adoption of information. In previous studies, researchers have investigated OCRs from single platforms: thus, their models might be useful for OCRs but only in relation to those specific platforms. However, this study adds knowledge that presents the variation of antecedents based on different COPs. In order to answer the following research question, the current study needed to modify such a model to investigate the impact of OCRs information adoption in different platforms. Moreover, this study will advance the scholarship by identifying factors that vary in terms of consumer behaviour by using consumer engagement factors, segmenting groups of consumers. Therefore, this research proposed a theoretical framework for information adoption which added comprehensive factors of OCRs that can be investigated in any type of COP. It thus asked two further questions: *"Do consumers' adoption criteria vary between COPs in terms of OCR factors?" and ".Do consumers' adoption criteria vary between groups of consumers in terms of OCR factors?"* The theoretical model confirmed that the different types of online review websites affect consumers' adoption criteria. Moreover, the level of consumers' engagement with online review websites was categorized into four groups: these groups also have an impact on consumers' adoption criteria.

The conceptual model was validated through a survey of 635 respondents (312 users of Independent websites and 323 users of E-merchants' websites). Thereafter, this study extended the knowledge by clustering the sample into four groups; *Quicker* (168 participants in low engagement with Independent websites), *Explorer* (144 participants in high engagement with Independent websites), *Confidant* (151 participants in low engagement with E-merchants websites), and *Passionate* (172 participants in high engagement with E-merchants websites). Categorizes consumer type regarding the level of engagement and various platforms. Overall, this study clarifies the mechanism of consumers' information adoption from Independent and E-merchants' websites and, through extensive analysis, classifies the level of consumers' engagement with various platforms and at the end, introduce the NEP matrix from the perspective of ELM and Information adoption theories. It uses structure equation modelling and the multigroup analysis technique to collect and analyze data. The key results of this study are briefly presented below.

- The results and analysis offer a new perspective towards analyzing the efficacy of online review platforms. Findings advance the knowledge on consumers' perceptions of the usefulness of information and their decisions to adopt the information. First of all, the perceived usefulness of information from both Independent websites and E-merchants' websites are found to be significant in consumers' adoption of information. This result is in line with prior studies (e.g. Erkan and Evans, 2016b; Cheung and Thadani, 2010; Sussman and Siegel, 2003) which stated that information usefulness has a strong and significant influence on consumers' decisions to adopt information from OCRs. There are differences in elaboration processing for perceived information usefulness in the role of the central route and the peripheral route in each platform. Consumers prefer to adopt information processed via the central route from independent websites compared to E-Merchants' websites; the central route (*information accuracy, information relevance*, *value-added information)* is significant when elaboration is high. This occurs when individuals make more effort to examine and evaluate arguments related to their experiences or link them to other materials. Meanwhile, for E-Merchants' websites, peripheral route processing *(review quantity, product ranking, review consistency* and *source trustworthiness)* of OCRs is more evident and consumers may evaluate

information by using easy processes or graphic information (e.g. numerical ranking).

- Moreover, this study contributes to the current literature by investigating the impact of the level of consumers' engagement with various platforms. This study confirms the predictions that the different groups of consumers are influenced by different OCR in the information adoption process. In all groups of consumers, they prefer to adopt information processed via the peripheral route rather than the central route, and *Quicker*; consumers who have low engagement and read the OCRs from Independent websites perceived the information usefulness via the central route (information accuracy) and peripheral route (product ranking and review sidedness). *Explorer*; consumers who have high engagement and read the OCRs from Independent websites are an exception, as they consider the central (information accuracy and value-added information) and the peripheral route (review sidedness and review consistency) equally when deciding whether to adopt information. *Confidant*; consumers who have low engagement and read OCRs from E-merchants' websites consider the peripheral route (review quantity, product ranking and review consistency) more than the central route (information timeliness). Similarity, *Passionate*; consumers who have high engagement and read OCRs from E-merchants' websites tend to use the peripheral route (review sidedness, review consistency and source trustworthiness) rather than central route (information timeliness).

- Furthermore, in this study, the factors that have an influence on the two types of tourism website and the groups of consumers type were found to be different. Only *product ranking* was found to have strong significance in both platforms and in the group of consumers. Consistent with existing research, this research verifies that the product ranking in the peripheral route is more useful in the information search stage than the central route (Beak, Ahn and Choi, 2012). In this respect, the findings are in line with Filieri and McLeay (2014) who claimed that product ranking has an impact on the consumer's perception when they receive the information. However, Filieri and Mcleay did not consider information usefulness in their research. This research has combined and

developed a more holistic model by testing the relationship between product ranking and information usefulness as it is for the information adoption model. The results revealed that product ranking is a strong antecedent of information usefulness, since consumers regard it as as a stronger means of evaluation than the specific rating (Schuckert *et al.,* 2015).

- Finally, these research results reveal that consumers adapt their perceptions based on the information channel provided (Shan, 2016), and it should be highlighted that the information on peripheral route processing should be considered to facilitate consumers' evaluation of information usefulness during the information adoption process.

7.3 Evaluation of Findings According to the Research Aim and Objectives

The aim of this study is to identify and analyze the OCR factors that influence consumers' likelihood to adopt information from various platforms in the travel industry.

To achieve the research's aims, five research objectives were set. Table 7.1 illustrates each objective and the chapters in which the objectives were achieved.

Table 7.1 Objectives of the study and their achievement

Objectives	Achievement
1. To identify the critical factors that influence consumers' information adoption by reviewing the existing literature.	Chapter 2
2. To develop a theoretical model for information adoption focusing on online consumer reviews for various types of online consumer review platforms, investigating their effects on information adoption criteria.	Chapter 3

3. Segmenting groups of consumers with regard to their behavior to identify the key factors of OCRs and their effect on information adoption criteria.	Chapter 3, 4, 5
4. To empirically validate the theoretical model by assessing the hypotheses' relationships.	Chapter 4 and 5
5. To provide theoretical and practical contributions of the key results and offering suggestions for future research directions.	Chapter 6 and 7

Objective 1: To identify the critical factors that influence consumers' information adoption by reviewing the existing literature.

This objective was met in Chapter 2. A comprehensive and critical literature review was conducted, which highlighted the need for this research. The review focused upon the relationship between eWOM, OCRs, COPs, product types, the travel industry, the influence of OCRs on information adoption and the relationship between information usefulness and information adoption. It was also found from the literature that a number of factors (value-added information, review quantity, product ranking, review sidedness, review consistency) had not been tested with others in the same model and also had never been tested with information usefulness. There was still a need for further investigation. The present study observed this need and proposed the factors in the theoretical model. Additionally, the literature identified a lack of research that investigates consumers' engagement with OCRs and information adoption. The level of consumer engagement (low and high) related to various platforms was highlighted as moderating variables, as they affect consumers' information adoption. The theoretical foundation was drawn and discussed in this chapter. Limitations in the literature and calls for future studies were identified.

Objective 2: To develop a theoretical model for information adoption focusing on online consumer reviews for various types of online consumer review platforms, investigating their effects on information adoption criteria.

This objective was met in Chapter 3, which presented the factors of OCRs, information usefulness and information adoption. The theoretical model was developed based on the Information Adoption Model (IAM) through the inclusion of consumer processing via the central and peripheral routes, as proposed by the Elaboration Likelihood Model (ELM). The chapter also presented the importance and relevance of the theories within OCRs, information usefulness and the information adoption domain. The theoretical model explains the effect of OCRs and information usefulness on information adoption from online review websites (Independent and E-merchants' websites). Thirteen hypotheses (H1 to H13) were developed and supported using the existing literature.

Objective 3: Segmenting groups of consumers with regard to their behaviour to identify the key factors of OCRs and their effect on information adoption criteria.

This objective was met in chapter 3 and 4. The extends of the knowledge from finding by segmenting to categorising groups of consumers according to the level of consumer engagement (low and high) with various platforms (Independent and E-merchants' websites) to characterize the impact of OCRs on information usefulness and information adoption for each consumer groups. Thirteen hypotheses (H14 to H26) were developed from previous relevant literature to identify the key factors that influence information adoption in chapter 3. Cluster analysis employed to identify groups of consumers in chapter 4 and 5.

Objective 4: To empirically validate the theoretical model by assessing the hypotheses' relationships.

This objective was met in Chapters 4 and 5. The research methodology used in carrying out this research was presented in Chapter 4 in order to provide justification and support for the chosen research methodology, design, approach and method. Chapter 5 then presented the findings derived using the SEM technique with multigroup analysis. The results of the preliminary data analysis, demographic profile, reliability and validity tests, confirmatory factor analysis, multisample confirmatory factor analysis, invariance tests, structural model and the tests of hypotheses were presented.

Objective 5: To provide theoretical and practical contributions of the key results and offering suggestions for future research directions.

This objective was met in Chapters 6 and 7. The results of this study were discussed in Chapter 6 in light of the existing literature. Chapter 7 summarizes the research results and concludes the study by revisiting the aim and objectives. It then presents the theoretical and practical contributions. Thereafter, research limitations and further research directions are provided.

7.4 Research Contributions

This research provides a number of contributions for both academics and practitioners.

7.4.1 Theoretical Contributions

Theoretically, the major contribution of this study is developing a comprehensive theoretical model identifying the determinants of eWOM information on online review websites. The model was developed based on the integration of IAM and related components of ELM. The ELM can explain the process of influence and its impact on consumers' perceptions and behaviour as well as why every consumers has different outcomes (Bhattacherjee and Sanford, 2006). IAM can explain how people are affected by the information on computer-mediated communication platforms (Sussman and Siegel, 2003). The rationale for selecting these theories is that the IAM can be used to understand how people form an intention to adopt knowledge and related behaviour (Sussman and Siegel, 2003), while the ELM can be used to explain the persuasive power of eWOM (Petty and Cacioppo, 1983). The current paper brings in an original effort to identifying information adoption decisions for two different types of platforms. To the best of the author's knowledge, this is the first attempt to introduce and compare between two different characteristics of websites; Independent and E-merchants' websites in the same industry. For example, Erkan and Evans (2016a) have recently compared information adoption across various electronic platforms. However, their study compared social media such as Facebook, which has different appeals, utilities and engagement compared to independent websites and E-merchants' websites. This study, in contrast, looks into the differences between two types of platform that have

stronger and more direct relations with the travel industry, particular in the hospitality sector.

While this represents a significant novel effort, the thesis also addresses a knowledge gap in the relevant field by combining two different models. At one end, we can see the seminal article of Filieri and McLeay (2014), which identifies and assesses the factors that contribute to information adoption decisions; at the other end, we can see other researchers (Sussman and Siegel, 2003; Cheung *et al.,* 2008; Erkan and Evans, 2016b) spelling out the influence of information usefulness on information adoption without delineating the key factors that contribute to the actual perception of the usefulness of information. This doctoral thesis merges the two equally fascinating and insightful streams of research in order to obtain a more holistic understanding that can advance the scholarship on both OCRs and the travel industry particular in hospitality sector. It is now further reconfirmed that the perception of 'usefulness' and its constructs are variable and complex. There is a dearth in scholarly works that take a comprehensive perspective on the adoption of OCRs to identify these factors that influence consumers' perceived information usefulness and intention to adopt the information. People define and perceive usefulness in different ways. While considering OCRs, the constructs have different natures and inter-relations. This study has investigated these aspects so that a better and more holistic understanding of consumers' interactions with consumer online review websites can be obtained.

This research also expands on the knowledge in the literature in terms of consumer behaviour by introducing the NEP matrix (Nature of engagement with various platforms). In previous literature, researchers have not specifically investigated the level of consumer engagement in the way that this study has done. This is the first study to identify consumer segments based on consumer engagement with various types of COPs.The important benefit of employing consumer engagement for segmentation is that this study shows that consumer engagement can be used as a predictor for consumers' adoption of information. One of the novel contribute of this study is that it empirically tests the influence of the level of consumer engagement with the OCRs generated from various online platforms on information adoption. In fact, the NEP matrix represents four groups of consumers, classified by the level of consumers' engagement (low and high) with various platforms (Independent websites and E-

merchants' websites). In order to understand the variations between consumers in terms of consumer engagement and information processing, they were tested together using multigroup analysis. The results revealed that the levels of consumer engagement with different types of online review websites have an impact on consumers' adoption criteria.

This study makes a theoretical contribution that establishes the factors in central and peripheral route processing. Some factors in the central route (value-added information) and the peripheral route (review quantity, product ranking, review sidedness and review consistency) have never been tested with information usefulness in the tourism context. The results found these factors resulting from different online reviews websites have an impact on information adoption. Value-added information, product ranking and review sidedness have a positively significant effect on the adoption of information from Independent websites, whereas review quantity, product ranking and review consistency have a positively significant effect on the adoption of information from E-merchants' websites.

Another interesting contribution is that product ranking is the most significant factor in both Independent and E-merchants' websites and all groups of the NEP matrix. Moreover, the results highlight that information completeness and information understandability in the central route and source expertise in the peripheral route were not significant for either type of consumer review website (Independent and E-merchants' websites) or for any of the groups in the NEP matrix. Additionally, there are inconsistencies between the main study and the extended section. Information relevance has a positively significant effect when investigating its influence on information adoption from different online review websites. In contrast, it does not influence information adoption in any groups from the NEP matrix.

Finally, this study provides a greater understanding of OCRs with different types of consumer review websites and different groups in the NEP matrix, validating factors which might have an effect from Independent or/and E-merchants' websites and the level of consumers' engagement with various platforms on information adoption in the tourism context. It also forms a sound basis for future research.

7.4.2 Practical Contributions

Practically, this research provides a comprehensive understanding of OCRs, information usefulness and information adoption in the travel industry – specifically the hospitality sector – and the main factors that encourage or discourage readers of specific online review platforms (Independent websites and E-Merchants websites). Also, the researcher conducted cluster analysis to identify consumer segments based on consumer engagement and various types of online review websites. The level of consumer engagement (low, high) and various types of COP variables were used for cluster analysis so this study obtained difference segments. Therefore, the result could create groups of consumers to allow marketers to develop targeting strategies. It categorizes four groups of consumers (NEP matrix) who have different backgrounds and different likelihoods to perceive the reviews (*Quicker, Explorer, Confidance and Passionate*). This contributes to our understanding of key factors affecting the needs of consumers who read online consumer reviews in this particular context.

According to Saha and Theingi (2009, p. 354) defined consumer feedback as "the transmission of negative information (complains) or positive information (compliments) to providers about service used". OCRs is feedback which provided by consumers and very useful for marketers (Torres *et al.,* 2015). OCR can be used by hoteliers and service providers to obtain perspectives from consumers' insights free of charge (Kusumasondjaja, 2015). This research offers a number of practical contributions to enable hoteliers and other tourism service providers to learn how to deal with OCRs in various platforms, and to monitor and respond to these OCRs. For instance, although product ranking is important in both platforms and all groups of consumers, the quantity of information has more influence for E-merchants. Hence, hoteliers must work on both objective ranking and subjective aspects of their service deliveries. More qualitative comments from previous customers should be encouraged for E-merchants' websites. As consumers actively look for both positive and negative information, it is important that hoteliers constantly monitor negative feedback and focus on how to overcome these issues in their marketing communication materials (Wei *et al*., 2013). Again, due to the apparent limited influence of source expertise, hoteliers should actively promote the experiences of their previous customers in general marketing communications.

Moreover, the results from categorizing the groups of consumers can help marketers to better understand online consumers and thus to develop better marketing strategies. A better understanding of the heterogeneity among their consumers will allow them to provide customized goods/services to specific groups of consumers based on their need (Ye *et al*., 2011b). For instance, managers should differentiate their communication strategy to adapt to the differing needs of each segment. They should decide which segment they should target. Additionally, hotel marketers need to be aware of the effects of these factors on the development of marketing strategies by considering consumers' expectation from OCRs (Erkan and Evans, 2016a).

In practice, hoteliers should monitor and address OCRs from consumers' online reviews websites because they serve as testimony to others who need to search for hotel information. Most reviewers provide intensive reviews and elaborate information, which might affect the hotel's image. Indeed, consumers use these platforms as communication channels; therefore, hoteliers can also respond through these channels: for example, they could thank reviewers for positive comments or apologise for dissatisfying experiences. This means that hoteliers should build strong relationships with consumers by taking advantage of COPs (Noone *et al*., 2011 and Fili and Krizaj, 2017).

Moreover, hoteliers could use the information from online reviews to discuss and improve their services because the information is directly from consumers (Torres *et al*., 2014). This study provides useful pointers regarding consumer segmentation, which can be used by managers in understanding each group of consumers and providing employees with direction in terms of how to serve their customers. For example, several departments in the hotel could use information from OCRs to improve their strategies and bring them into line with consumers' preferences, developing products and services to meet consumers' demands. With regard to consumer segementation, from the perspective of hoteliers and service providers, the main concern is to separate consumers according to their preference to the each target groups (Kohijoki and Marjanen, 2013).

Public relations and marketing is one key department that should make use of the information from online reviews. They can use this information to create marketing

strategies in order to determine ways in which communication strategies can be enhanced in terms of achieving information usefulness and information adoption. In particular, from categorized the groups of consumers, it helps marketers to do business intelligence. In fact, they may develop their marketing strategies based on the perspectives of various platforms and also each type of consumers to distribute their information to their consumers via different routes. In addition, marketers could develop a review format in which consumers can provide their reviews in a more structured way that is easier to notice (Shan, 2016). For example, trustworthiness should be more in Booking.com. The results showed that trustworthiness is strongly significant to the *Passionate* group: therefore, marketers should use this to their advantage in advertisements and promotions, emphasising that their reviews can be trusted because of the source of reviewers. Sales and marketing can also use information from OCRs, such as product ranking, to set goals and boost satisfaction with services. Further, room division services could use the comments from OCRs to provide services that exceed expectations the next time.

With regard to the findings from this research, product ranking is of strong significance in both Independent and E-merchants' website and affects readers who have both low and high engagement. This means that readers will be likely to adopt product ranking as valuable information. However, product ranking indicates overall satisfaction with services: therefore, hoteliers need to make sure that they provide a good experience to consumers so that they will create good comments, which are related to ranking.

7.5 Limitations and Future Research Directions

In the realm of academic research, the study makes several important contributions to the existing body of knowledge, but some limitations are unavoidable. The results of this study are subject to certain limitations and it also provides a number of areas where future research would be valuable to academics and practitioners.

First, the sampling method used to collect online questionnaire responses was snowball sampling: this sampling technique might have introduced a level of non-completion and selection bias. However, this limitation did not compromise the integrity of this study,

because incomplete questionnaires were excluded from the analysis. In addition, researcher believes selection bias is minimal because all participants were chosen satisfy to participations criteria. Future studies should use other sampling technique to approach participants to achieve a balance sample structure.

Second, sample size should be considered when using multigroup analysis. This research provided two phases of findings: in the first phase, the sample was divided into two groups, and in the second phase, the same sample was divided into four groups. When the total sample was divided into smaller groups, some goodness of fit indices, namely GFI and AGFI, might not meet the recommenced criteria. However, this limitation also did not cause a problem in this study because other goodness of fit indices still provided an acceptable fit. Future research should consider a larger sample size when using multigroup analysis.

Third, the conceptual framework was mainly tested on Thai consumers; therefore, the findings provide a limited understanding that is only from Thai consumers' perspective and it would not be irrational to assume that some of the factors might have different levels of influence in other cultures, or for other demographic groups. The results might be different according to the lifestyle and cultures of different countries. Additionally, the conceptual framework has been tested and validated only in the travel industry, and specifically in the hospitality sector. It would be interesting to examine the generalizability of the framework by replicating this framework in other industries to test its validity in future studies.

Fourth, this study only focuses on Independent and E-merchants' websites, but there are various other types of consumer online review platforms. Hence, future research should replicate and extend this study to other types of online review platform, such as social media and mobile applications, to make future improvements to the theoretical framework.

Furthermore, Yan *et al.* (2016) studied the impact of multiple channels of OCRs on consumer decision-making by considering the inter-relationship between the adoption of e-commerce and social media based on the cognitive cost theory. Consumers are

simultaneously facing both types of OCRs from these two kinds of platforms. They followed the scenario that consumers were using information from e-commerce and then social media. Their study found that if OCRs from e-commerce can help consumers to make a decision, they would not prefer to use OCRs from social media. In contrast, if they could not make a decision after having searched for information from e-commerce, then they would turn to social media. However, the present study focuses only on Independent and E-merchants' websites as separate entities. Therefore, future research could investigate the interactive process between Independent websites and E-merchants' websites, which was not examined in this study.

The NEP matrix, a conceptual model, was developed based on the integration of the IAM and related components of the ELM. Future research could develop the NEP matrix by incorporating other possible constructs or replicating it in different COPs.

Moreover, it could further investigate insight the groups of consumer perspective (NEP matrix) by using qualitative approach such as in-depth interview to explain the understanding the social phenomenon.

Segmenting groups of consumers in this research is an extended area of study. Therefore, future studies should replicate this model but classify groups of consumers to understand each group more fully, considering control variables such as age, gender and education. For example, age has been found to have a significant effect on consumers' information processing (Philips and Sternthal, 1977), attitudes and behaviour (Kohijoki and Marjanen, 2013).

Future research may want to extend the conceptualization of comparing group analysis in terms of the different relationships between significant variables across two groups (Independent and E-merchants) or more groups (NEP matrix). For example, the hypothesis should be set that the positive effect of product ranking on information usefulness is stronger for Independent websites than for E-merchants' websites.

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APPENDICES

Dear Participants,

My name is Jutarat Sirithanaphonchai and I am a PhD student at Brunel University London, United Kingdom. I am conducting a research project to investigate the factors that influence consumers' adoption of information from online reviews on different platforms.

This is an anonymous survey whereby all responses will remain confidential and analysed at an aggregate, not individual level. The data collected will be used for academic purposes only and has been approved by the Brunel Business School Ethics Committee. "The results of this study will help the hotelier to better understand consumer needs, identify what kind of information can be influenced travelers' likelihood to adopt information from online reviews".

Your participation is on voluntary basis, and if you do not want to participate, please discard the questionnaire. However, I really appreciate your help in filling in this questionnaire. It will take approximately only 10 minutes to complete.

P.S. There is no right or wrong answer for the questionnaire questions.

Your Sincerely,

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Part I

Section 1: The Use of Online Review Websites

INSTRUCTION: Please select your answer for the following questions

1.1 Have you ever used online review websites when making your hotel reservation plan?

□ YES □ NO

If your answer is "Yes", please continue.
If your answer is "No", Please discard this questionnaire. Thank you!

1.2 How often do you read online reviews when making your hotel reservation plans?

□ Rarely □ Sometimes □ Often □ Very often □ Every time I plan a trip

1.3 For each trip on average, how much time do you spend to read online reviews when making your hotel reservation plans?

□ Less than ½ hour □ From ½ to 1 hour □ From 1 to 2 hours
□ From 2 to 3 hours □ More than 3 hours

1.4 What is your favorite travel website that you use to read online reviews for hotel reservation plan: (Please choose ONE from the list below)

□ TripAdvisor

□ Booking.com

□ Hotel.com

□ Expedia

□ Yelp

□ Others (Please specify .....)

Part II

Section 2: Online Customer Reviews

INSTRUCTION: This section asks questions which use rating scales. Please select the number that best describes your opinion from this following scale:

NOTED: Please describe your opinion according to your favorite travel website that you selected above.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Timeliness							
2.1 I always adopt current comments in online reviews	1	2	3	4	5	6	7
2.2 I am concerned about the timeliness of post in online reviews	1	2	3	4	5	6	7
2.3 Up to date online reviews make me confident to adopt the information	1	2	3	4	5	6	7

Accuracy							
2.5 I think the information I obtain from online reviews is correct	1	2	3	4	5	6	7
2.6 I think the information I obtain from online reviews is accurate	1	2	3	4	5	6	7
2.7 I think the information I obtain from online reviews is reliable	1	2	3	4	5	6	7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Relevance							
2.8 I think the information I obtain from online reviews is relevant to what I am looking for.	1	2	3	4	5	6	7
2.9 I think the information I obtain from online reviews is relevant as it matches my needs	1	2	3	4	5	6	7
2.10 I think the information I obtain from online reviews is appropriate for satisfying my needs	1	2	3	4	5	6	7
2.11 I think the information from online reviews in website is applicable	1	2	3	4	5	6	7
Completeness							
2.12 I think the information that I obtain from online reviews is of sufficient depth	1	2	3	4	5	6	7
2.13 I think the information that I obtain from online reviews is of sufficient breadth	1	2	3	4	5	6	7
2.14 I think online reviews in website sufficiently completes my needs	1	2	3	4	5	6	7
2.15 I think online reviews in website include all necessary value	1	2	3	4	5	6	7
Understandability							
2.16 I think the information that I obtain from online reviews is easy to read	1	2	3	4	5	6	7
2.17 I think the information that I obtain from online reviews is easy to understand	1	2	3	4	5	6	7
2.18 I think the information that I obtain from online reviews is easy to interpret	1	2	3	4	5	6	7
Value add information							
2.19 I think the information that I obtain from online reviews enable me to understand both positive and negative aspects of destination.	1	2	3	4	5	6	7
2.20 I think the information that I obtain from online reviews enable me to detect unknown aspects of destination.	1	2	3	4	5	6	7
Quantity							
2.21 I adopt online reviews when the number of reviews per accommodation is large	1	2	3	4	5	6	7
2.22 I adopt online reviews when the quantity of reviews per accommodation information is large	1	2	3	4	5	6	7
Ranking							
2.23 The ranking of different accommodations facilitate the evaluation of the alternatives available.	1	2	3	4	5	6	7
2.24 Overall ranking is a useful information to help me select the best accommodation among several alternatives	1	2	3	4	5	6	7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Sidedness							
2.25 I think information that includes only one sided opinion is usefulness	1	2	3	4	5	6	7
2.26 I think information that includes both positive and negative sided opinions are usefulness	1	2	3	4	5	6	7
2.27 I think information that only one side opinion of reviews is biased	1	2	3	4	5	6	7
Consistency							
2.28 I adopt the information when the online reviews are consistent with other reviews	1	2	3	4	5	6	7
2.29 I adopt the information when the online reviews are similar to other reviews	1	2	3	4	5	6	7
Source Expertise							
2.30 I think people who provide online reviews are knowledgeable	1	2	3	4	5	6	7
2.31 I think people who provide online reviews are experts	1	2	3	4	5	6	7
2.32 I think people who provide online reviews are reputable	1	2	3	4	5	6	7
Source trustworthiness							
2.33 I think people who provide online reviews are highly rated by other site participants	1	2	3	4	5	6	7
2.34 I think people who provide online reviews are trustworthy	1	2	3	4	5	6	7
2.35 I think people who provide online reviews are reliable	1	2	3	4	5	6	7

Section 3: Information Usefulness

INSTRUCTION: This section asks questions which use rating scales. Please select the number that best describes your opinion from this following scale:

Usefulness							
3.1 Online reviews are valuable	1	2	3	4	5	6	7
3.2 Online reviews are informative	1	2	3	4	5	6	7
3.3 Online reviews are helpful	1	2	3	4	5	6	7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Section 4: Information Adoption

INSTRUCTION: This section asks questions which use rating scales. Please select the number that best describes your opinion from this following scale:

Adoption							
4.1 I agree with the opinion suggested in the reviews	1	2	3	4	5	6	7
4.2 I closely followed the suggestions in online reviews if I feel it is useful	1	2	3	4	5	6	7
4.3 I closely followed the suggestions in online reviews and it effects my purchase intention	1	2	3	4	5	6	7

Part III

Section5: Information About Yourself

INSTRUCTION: Please place a mark in the category that best describes you – or fill in the blank. Your responses are for research purposes only. They will be kept confidential and reported as aggregate data only.

5.1 Your Nationality……

5.2 Your gender

□ Male □ Female

5.3 Your age (years)

□ 18-24 □ 25-34 □ 35-54 □ 55-64 □ 65 or above

5.4 Your latest level of education is

□ Up to high school □ Bachelor's degree

□ Master's degree or higher □ Other ……

5.5 What is your current occupation?

□ Student □ Self employed

□ Employed □ Unemployed □ Other ……..

***Thank you for taking the time to complete the questionnaire. Your information is very valuable and greatly appreciated * ☺**