

**IMPACT OF ONLINE REVIEWS ON  
CONSUMER BASED BRAND EQUITY  
DIMENSIONS AND THEIR EFFECTS ON  
PURCHASE INTENTION OF ELECTRONIC  
PRODUCTS IN INDIA**

Thesis

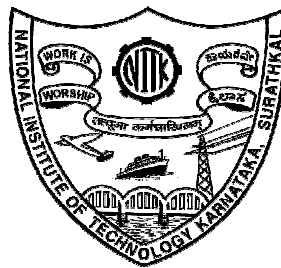
Submitted in partial fulfilment of the requirements for the  
degree of

**DOCTOR OF PHILOSOPHY**

by

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## **Declaration**

I hereby *declare* that the Research Thesis entitled **IMPACT OF ONLINE REVIEWS ON CONSUMER BASED BRAND EQUITY DIMENSIONS AND THEIR EFFECTS ON PURCHASE INTENTION OF ELECTRONIC PRODUCTS IN INDIA** which is being submitted to the National Institute of Technology Karnataka, Surathkal in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy in Management is a *bonafide report of the research work carried out by me*. The material contained in this Research Thesis has not been submitted to any University or Institution for the award of any degree.

Place: NITK-Surathkal  
Date: 28/11/2018

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## **Certificate**

This is to *certify* that the Research Thesis entitled **IMPACT OF ONLINE REVIEWS ON CONSUMER BASED BRAND EQUITY DIMENSIONS AND THEIR EFFECTS ON PURCHASE INTENTION OF ELECTRONIC PRODUCTS IN INDIA** submitted by Uttam Chakraborty, (Register Number: 145024HM14F05) as the record of the research work carried out by him, is *accepted as the Research Thesis submission* in partial fulfilment of the requirements for the award of degree of Doctor of Philosophy.

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*Uttam Chakraborty*

Dedicated to

my parents:

Mr. Pranab Chakraborty and Mrs. Mridula Chakraborty

my wife and daughter:

Mrs. Sudeshna Chakraborty and Miss Aaheli Chakraborty

## **Abstract**

Consumers are using online social media to gain and share knowledge on brands. In this virtual platform, consumers are exposed to various online reviews on brands that leave an impression of the brands on the minds of the consumers. The present study integrates three theories altogether, namely, Yale attitude change model, attribution theory and consumer based brand equity (CBBE) model proposed by Aaker (1991) to examine the factors that have an impact on perceived credible online reviews, which in turn affects CBBE dimensions, which ultimately affects consumer's purchase intention. The present study views, through the lens of Yale attitude change model, the various factors that affect perceived credible online reviews. Further, attribution theory is used as the theoretical backbone to analyze the effects of perceived credible online reviews on CBBE dimensions and finally, their effect on consumer's purchase intention. The study uses structural equation modeling to determine the measurement model, structural model and to test the hypotheses. Results indicate that source and receiver have a positive effect on perceived credible online reviews. In the context of message determinants, two out of three, namely, review quality and review consistency have a statistically significant positive effect on perceived credible online reviews. Further, perceived credible online reviews have a statistically significant positive effect on all the CBBE dimensions, namely, brand awareness, perceived value, brand personality, organization associations and perceived quality. Furthermore, all the CBBE dimensions have statistically significant positive impact on consumer's purchase intention.

**Keywords:** Yale attitude change model; Perceived credible online reviews; Attribution theory; CBBE dimensions; Consumer electronic products; Structural equation modeling; Consumer's purchase intention; India.

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## List of Abbreviations

AGFI	Adjusted goodness-of-fit index
ASV	Average shared variance
AVE	Average variance extracted
CBBE	Consumer based brand equity
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CR	Composite reliability
EFA	Exploratory factor analysis
ELM	Elaboration likelihood model
eWOM	Electronic word of mouth
FBBE	Firm based brand equity
GFI	Goodness-of-fit index
HSM	Heuristic systematic model
IAMAI	Internet and mobile association of India
MLE	Maximum likelihood estimation
MSV	Maximum shared variance
PCOR	Perceived credible online reviews
RMSEA	Root mean square error of approximation
SEM	Structural equation modeling
VIF	Variance inflation factor
WOM	Word of Mouth
YACM	Yale attitude change model

## **CHAPTER 1 INTRODUCTION**

This chapter explains the background, relevance of the study, research gaps, research questions and research objectives of the study. It also introduces the various theories and latent constructs used in the present study. Further, the chapter presents the scope of the study and chapterization of the dissertation.

### **1.1 Background of the Study**

The present era is Internet dominated, where slight decrease in star rating on Yelp can lead to significant losses for a business and slight increase in star rating can do wonders (RT 2013). In online context, large number of consumers from different parts of the world are present (Roy et al. 2017). Thus, online medium becomes a very useful platform for the marketers to connect with the global consumers. They can promote their brands through online social media. Marketing Science Institute has given top priority to social media marketing research (MSI 2016). Further, 88 percent of the companies (FMCG, retail, media, IT, telecommunication, travel and leisure) are using social media platforms and 42 percent of the companies have integrated different social media platforms in their day to day marketing activities in the US (Rapp et al. 2013). Social media marketers use online brand communities or brand pages or forums to communicate with or influence the consumers to buy their products. Many people give their opinions on brands through online reviews (E&Y 2016). Online review is a very significant instrument in the marketing mix. Marketers use online reviews to promote their brands. Top consumer electronic brands like Samsung, Apple, HP, Dell and many others have their own online brand communities and pages where they communicate with their consumers. The Fortune 500 companies also use brand communities of different social media platforms like Twitter, Facebook to interact with their consumers (Culnan et al. 2010). Through these communities or pages, marketers can understand their consumer's problems or needs. They can even give incentives to their consumers through online forum. Thus, online social media has an important role in marketing.

Word of mouth (WOM) can be described as informal communication between two or more people. Consumers communicate with each other on different products and services that can influence their purchase decisions. WOM can be more effective marketing strategy to influence others compared to some of the other popular strategies like personal selling and radio advertising (Herr et al. 1991) and, magazine and newspaper advertising (Trusov et al. 2009). In the present digital era, consumers are more willing to use WOM through online mode, which is called electronic word of mouth (eWOM). The consumers use social media platform to gain and share knowledge on brands (Gopinath et al. 2014). They participate in different virtual communities and share their brand related experiences and recommendations with others (Matzler et al. 2011). The information seeking behavior as well as information sharing behavior of consumers have been showing an increasing trend over the past few years (Grant et al. 2007; Smith 2011). Every minute consumers share almost 600,000 pieces of contents, upload 48 hours of videos, text almost 100,000 messages and create more than 25000 posts (Daugherty and Hoffman 2014).

The significant rise of online social media increases consumer's authority over brands (Zhao et al. 2018). Consumers use online reviews as a tool to share their brand usage experiences (Hsu and Yen 2016; Sukoco et al. 2016). Online review plays a significant role that influences purchase decision of the consumers (Karimi and Wang 2017). Often, online reviews are considered to be more influential than advertisements (Batra and Keller 2016). Further, those who buy products online generally seek online product reviews (Hansen and Møller Jensen 2009). Many researchers find that consumers first evaluate the credibility of online reviews and then follow the reviews (Cheng and Ho 2015; Chung et al. 2015; Hamby et al. 2015; Moe and Schweidel 2012; Ong 2011). Studies in the context of India also argue that consumers in India seek credibility of the information before accepting that information (Beldona et al. 2011; Khare et al. 2012).

## **1.2 Relevance of the Present Study**

Rapid growth of online social media makes it possible for a large number of consumers to gather over a common platform and express their opinions and feelings. In various online social media platform, such as brand communities or brand pages, consumers give their extensive opinions on brands, which can reduce the marketer's control over the brands (Bruhn et al. 2012). In more consumer centric market, consumers look for others' opinions or online reviews to take right purchase decision. Consumers in India too consider online reviews as a very important tool to take purchase decisions (KPMG 2017). All this attracts marketers to conduct research on consumer behavior in online platform. Often, marketers use social media to connect with the consumers.

The total population of Asia is around 4.116 billion. Among them, 1.428 billion are active social media users, which is around 35 percent of global social media users (WS 2016). Consumers in Asian countries, especially China, Japan, Hong Kong and India, are more influenced by online reviews compared to consumers in other countries (KPMG 2017). Online reviews are one of the important channels of communication that marketers can use to influence consumers in India (Brightlocal 2017).

According to Fang et al. (2016), online reviews are often considered to be more reliable way of obtaining information compared to other ways. Consumers use social media to gain and share knowledge on brands, which ultimately facilitate them to take better brand decision. In India, 80 percent of the brands in electronic sector advertise on website and social media (E&Y 2016). Among them, 44 percent of the brands spend more than 20 percent of their marketing budget on digital marketing and 24 percent of the brands spend more than 16 percent of their marketing budget on social media (E&Y 2016). Nearly 60 percent of urban Internet users in India generally spend an average of four hours daily on social media (Frost and Sullivan 2013).

Facebook is one of the popular social media platforms in the world and in India. Around 195 million people in India use this platform. Among them, 155 million people are active Facebook users. In fact, in India, generally a user revisits Facebook

three times a day (Frost and Sullivan 2013). Since, consumers in India prefer Facebook social media platform over any other social media platform, many leading e-commerce giants in India like Flipkart, Amazon India, Snapdeal have their own Facebook brand communities and pages where a huge number of consumers give their opinions on various products or brands. These e-commerce giants do listen to the consumer disputes through social media and often try to solve their problems (Yadav and Rahman 2017).

The present study is an attempt to contribute to the contemporary area of online social media research. The study would be useful for the researchers and practitioners in the areas of advertising, marketing and communication. The results of this study can help the marketers to make better use of online reviews to influence the consumers to purchase their brands. The study can be a basis for future research in the area of online social media and its effect on brands and purchase decision of consumers.

### **1.3 Research Gap Identification**

In the online context, recent studies have generally focused on various factors that affect sharing of product usage experiences by the consumers (Cheng and Ho 2015; Cheung et al. 2009; Chung et al. 2015). Further, there are studies that have evaluated the impact of source or message factors on the credibility of online reviews (Kim and Lee 2017; Shin et al. 2017). However, there are hardly any studies that consider all the three factors, namely, source, receiver and message to analyze the perceived credibility of the information. Therefore, the present study examines all the three factors in the context of online medium. The research presented in the dissertation contributes to fill this first research gap (RG 1).

Further, very few studies have analyzed the impact of perceived credible online reviews (PCOR) on brand equity and its subsequent effect on consumer behavior. Although, some of the previous studies did analyze the impact of online reviews on brands (Langaro et al. 2015; Ahmed et al. 2017), but they have not considered credibility aspect of the reviews before examining their impact on the brands. Moreover, the existing literature has neglected the theoretical justification behind the



relationship between online reviews and brands. In fact, there are hardly any studies that analyze the impact of PCOR on consumer based brand equity (CBBE) dimensions as proposed by Aaker (1991). The present study contributes to fill this second research gap (RG 2) in marketing literature.

In the context of online medium, there are hardly any studies that examine the impact of CBBE dimensions, especially the one proposed by Aaker (1991), on consumer's purchase intention. The present study contributes to fill this third research gap (RG 3).

#### **1.4 Research Questions**

The following research questions (RQs) are formulated after identifying the research gaps based on the literature review (presented in detail in Chapter 3).

- To fill RG 1 the study formulated RQ 1.  
RQ 1. Do source, receiver and message have any impact on PCOR?
- To fill RG 2 the present study formulated RQ 2.  
RQ 2. Do PCOR have any impact on CBBE dimensions as proposed by Aaker (1991)?
- To fill RG 3, the present study formulated RQ 3.  
RQ 3. In the context of online medium, do CBBE dimensions have any impact on consumer's purchase intention?

#### **1.5 Research Objectives**

The following research objectives are formulated based on the research questions.

1. To examine the impact of source, receiver and message on the PCOR.
2. To explore the impact of PCOR on CBBE dimensions.
3. To assess the impact of CBBE dimensions on consumer's purchase intention in the context of online medium.

## **1.6 Overview of Theories and Latent Constructs Used in this Study**

The present study combines three theories altogether, namely, Yale attitude change model (YACM), attribution theory and CBBE model proposed by Aaker (1991). In the era of online social media credibility of the information is the major concern (Johnson and Kaye 2016). The present study tries to find the factors that influence the perceived credibility of the information. The study uses YACM to determine the factors that affect the perceived credibility evaluation of online reviews. According to the model, four key factors are behind information persuasiveness. These are source of the information, receiver of the information, contents of the information, and medium of the information. In the present study three of the factors, namely, source, receiver and content or message of the information have been tested in the context of the fourth factor, that is, online medium. Source refers to the writer of the review whose expertise and trustworthiness is judged by others. Receiver refers to the person who is exposed to the online reviews and who often judges the extent to which the review is consistent with his/her prior knowledge. In the context of content or message, three determinants are considered in the present study, namely, review quality, review consistency and review sidedness. Review quality refers to the extent to which the review is logical. People try to evaluate whether the review justifies its content. Review consistency refers to the extent to which the review is similar to other reviews or the extent to which the review has got high ratings or votes. In other words, review consistency measures the extent to which the others' opinions are similar to the review. Review can be two sided or one sided. When a review contains both positive and negative aspects of the product then it is considered to be two sided review. Likewise, when the review contains any one of only positive or only negative aspect of the product then it is considered as one sided review. Thus, the present study considers altogether five factors that can affect PCOR, namely, source, receiver, review quality, review consistency and review sidedness.

In the virtual environment, consumers are exposed to various online reviews on brands that leave an impression of the brands on the minds of the consumers (Xun 2014). The present study uses attribution theory to understand the effects of PCOR on

brands. Moreover, in the present study, attribution theory connects PCOR with brand equity. According to the attribution theory, the general behavior of a person is to give meaning to his/her environment (Cattell 1982; Cort et al. 2007). In the online environment, consumers gather various brand related reviews (attributes) to form a causal judgment on brands and that affects the overall value (brand equity) of the brands (Gao et al. 2012; Gensler et al. 2015). Aaker (1991, p. 15) defines brand equity as “a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firms’ customers”. From the perspective of the consumers, brand equity can be described as the value of a brand in his or her mind (Goldfarb et al. 2009). Brand equity gets a significant position in marketing research as it gives competitive advantages to a brand over its competitors (de Oliveira et al. 2015; Jain et al. 2017). Therefore, the present study explores the impact of PCOR on the five CBBE dimensions, namely, brand awareness, perceived value, brand personality, organizational associations and perceived quality. Brand awareness measures the extent to which consumers are aware about the brand. Perceived value determines the cost efficiency of the brand. Brand personality determines the suitability of the brand to the consumer's personality. Organizational associations refer to the extent to which the consumer feels connected to the manufacturer of the brand. Perceived quality refers to the relative superiority of the brand over other brands as perceived by the consumer.

CBBE has a significant impact on consumer's purchase intention (Aaker 1996). Prior studies noted that online communications can affect brand related outcomes (Culotta and Cutler 2016; Jin and Phua 2014). The higher a brand's equity, the greater is its purchase (Hariharan et al. 2018). Thus, the present study considers 12 latent constructs. These are, source, receiver, review quality, review consistency, review sidedness, PCOR, brand awareness, perceived value, brand personality, organizational associations, perceived quality and purchase intention.

## **1.7 Scope of the Study**

The study presented in the dissertation integrates three concepts, namely, YACM, attribution theory and CBBE model proposed by Aaker (1991) to understand the impact of PCOR on CBBE dimensions, which ultimately impacts consumer's purchase intention. In other words, first the study attempts to examine the factors that make online reviews to be perceived as credible in the mind of the consumers. Next, the study examines the impact of PCOR on CBBE dimensions as proposed by Aaker (1991). Finally, the study tries to understand the effects of various dimensions of CBBE on consumer behavior in terms of purchase intention.

To achieve these objectives, the present study collects data from a specific brand community on the popular Facebook social media. This community is the common brand community of Flipkart, Snapdeal and Amazon India e-commerce sites on Facebook and is named "Flipkart | Amazon | Snapdeal Offer". Further, the study focuses on consumer electronic products, which is one of the important categories with respect to online reviews in India (KPMG 2017).

## **1.8 Organization of the Chapters**

In the present study, the chapters are organized as follows,

Chapter One - The first chapter "INTRODUCTION" discusses the background of the study. The chapter then discusses the relevance of the present study. Then the chapter depicts the research gaps, research questions and research objectives of the study. The chapter also introduces the various theories and latent constructs used in the present study. Further, the chapter demonstrates the scope of the study. The chapter ends with information on the organization of the chapters.

Chapter Two - The chapter "ONLINE SOCIAL MEDIA AND CONSUMER ELECTRONIC PRODUCTS" discusses about evolution of online social media. The chapter also highlights online reviews in the context of World and India. Next, the chapter discusses about consumer electronic products sector in India. The chapter presents the rationales for choosing consumer electronic products as a product

category for the present study and for choosing Facebook's brand community, namely, "Flipkart | Amazon | Snapdeal Offer" for data collection.

Chapter Three - The chapter "LITERATURE REVIEW" describes the three main conceptual theories/models in detail, namely, YACM, the attribution theory and CBBE model proposed by Aaker (1991). The chapter also presents an extensive literature review on the variables used in this study, namely, source, receiver, review quality, review consistency, review sidedness, PCOR, brand awareness, perceived value, brand personality, organizational associations, perceived quality and purchase intention. The literature review chapter ends with the construction of the conceptual framework for the study.

Chapter Four - The chapter "RESEARCH METHODOLOGY" describes the research design of the study. The chapter illustrates the research methods used for the study. Further, the chapter explains the reliability and validity techniques used for the study. The chapter discusses the source of the data, sample size calculation and data collection procedure. The chapter ends with a description on the methods of data analysis.

Chapter Five - The chapter "RESULTS AND DISCUSSIONS" begins with the respondent's demographic profiles followed by content validity of the scales. The chapter presents and discusses the results of the pilot and the final empirical studies.

Chapter Six - The chapter "CONCLUSIONS AND IMPLICATIONS" is the final chapter of the study. The chapter begins with the overall summary of the findings. The chapter discusses the theoretical and managerial implications of the study. The chapter discusses the limitations of the study. The chapter also enlightens upon the directions for further research.

## **CHAPTER 2 ONLINE SOCIAL MEDIA AND CONSUMER ELECTRONIC PRODUCTS**

This chapter gives a brief history of online social media and highlights the significance of online social media in India. The chapter also discusses the importance of consumer electronic products in India.

### **2.1 Evolution of Online Social Media**

The word "social" is derived from a Latin word "socii" which means allies and media refers to the tools which are used to store and deliver information. When the word "social" is coupled with "media", it means a set of tools used for social interactions and communications. Initially marketers mostly depended on traditional media like newspaper, televisions (TV), radio, and magazines for product promotions. However, nowadays, one can notice marketers using the online media for product promotions.

Jim Ellis and Tom Truscott from Duke university created Usenet in the year of 1979 (Kaplan and Haenlein 2010). Usenet was a platform which allowed the Internet users to post messages from all over the world. After nearly 20 years, in the year 1997, Bruce and Susan Ableson developed "Open Diary", a social networking site, which brought together all the online diary writers into one community. The term "weblog" was first used at the same time and after one year it was shortened to "blog". High speed Internet added popularity to the concept of social media. In the year 2004, the popular social media site "Facebook" was introduced (Schneider 2016).

During the time period 2000-2017, the world has seen high growth rate in the Internet usage (IWS 2017). This enormous growth of Internet usage is attributed mainly to online social media. The total population of the world is 7.476 billion. Among them 3.773 billion are Internet users and 2.789 billion are active social media users. The growth rate of Internet users and active social media users in the world is more than 10 percent since January 2016 (see Table 2.2).

Table 2.1 World's Internet user facts

Total population 7.476 Billion	Internet users 3.773 Billion (penetration 50%)
	Active social media users 2.789 Billion (penetration 37%)
Annual growth	Internet users more than 10% since January 2016 (more than 354 million)
	Active social media users more than 10% since January 2016 (more than 482 million)

Source - WS (2017)

In various social media, like social networking sites, blogs, online communities and discussion boards, consumers share their brand related experiences and opinions which have an impact on different aspects of consumer behavior including awareness about brands, information acquisition on brands, opinions and attitudes on brands and purchase decision (Chu and Kim 2011). The popular social media website, Facebook, witnesses more than a billion active users every month (Facebook 2017). The present era's online social media is a virtual environment which facilitates easy transmission of information in the form of words, videos, audios and pictures (Sheth and Kim 2017). It provides the virtual space where users can form groups or communities to share common interests or goals, exchange opinions and form relationships with other users. The significant rise and development of online social media has revolutionized consumers' communication preferences. Various tools of online social media provide a platform to consumers to express their views. Globally, one out of seven individuals has a Facebook account and four out of five individuals frequently visit online blogs and social networking sites (Nielsen 2013). More than 1.5 billion people around the world use social media, which is 80 percent of total Internet users (McKinsey 2012). Several people are inclined towards social media because of its ease of use, convenience and speed of information dissemination. Online social media improves social interactions globally (WEF 2017).

In India there are more than 462.1 million Internet users of which 191 million are active social media users (Statista 2017). Many companies in India are taking advantage of social media as a new marketing tool. Prior studies acknowledge that firms regularly post about their products in social media and thereby influence their consumers to spread their product information online (Erkan and Evans 2016; Shang et al. 2017; Zhu et al. 2016). E-commerce giants in India like Flipkart, Amazon India, Snapdeal try to influence (through offers and incentives) their consumers to stick with them by using various online social media platforms (Lim and Kumar 2017).

## **2.2 Online Reviews**

Traditionally oral communication was the primary source to know about products, where people shared their opinions about product with others orally. After the significant growth of the Internet and online social media, people have started to share their opinions about products through online reviews as well. Online consumer reviews can be defined as “peer-generated product evaluations posted on company or third-party websites” (Mudambi and Schuff 2010, p.186). Some researchers observe that many consumers consider online reviews to be more credible source of information as against other traditional sources of information (Fang et al. 2016). O’Neil and Eisenmann (2017) examined the effectiveness of various information channels that ultimately affect the credibility of the information. They identified four types of information channels, namely, paid channel (traditional advertising), earned channel (traditional news story), shared channel (consumer reviews) and owned channel (company own blog). Further, they found that consumers have highest level of trust on shared channels like online consumer reviews or social media. Consumers generally search for opinions and recommendations of other consumers to evaluate the brand performance (Chen and Xie 2008). Recent research has provided considerable evidence that online reviews offer deep insights about the brand (Lim and Kumar 2017). In various e-commerce sites, online reviews are given along with product descriptions, which facilitate the consumers to take right purchase decision



(Thakur 2018). Thus, consumers search for online reviews to know about the brand's utility, which ultimately affects the consumer's purchase decisions.

Generally, consumers read online reviews before making an online purchase (PRC 2016). In the world 84 percent people consider online reviews as personal opinions about brands. Seven out of ten consumers write online reviews if they are requested for. Moreover, 47 percent consumers recommend brands or products through social media (BL 2017).

In India, online reviews play a vital role in online shopping environment, where one consumer can recommend products or brands to other consumers. The participatory nature of Indian consumers in sharing their brand or product experiences affect the online shopping environment (Kim et al. 2013). A report by the Internet and mobile association of India (IAMAI) reveals that 40 million Indian consumers use online reviews (IAMAI 2015). Many Internet retailers like Flipkart and Snapdeal have added a mechanism where consumers can give their opinions or reviews for the products, which other consumers can also view (Yan et al. 2016).

### **2.3 Consumer Electronic Products**

The consumer durables industry can be classified into two segments, namely, consumer electronics and consumer appliances (see Table 2.1). In the year 2015, the total revenue of consumer durables in India was USD 9.7 billion which increased to USD 12.5 billion in the year 2016. The growth rate of consumer durables was 13 percent per year. Urban population in India contributed to two-thirds of the total revenue of consumer durables, while rural population contributed to the remaining one-thirds of the total revenue of consumer durables. It is anticipated that, by 2020 the market value of consumer durables in India will reach USD 20.6 billion and by the year 2025 India will rise from 12th to 5th largest consumer durables market in the world (IBEF 2017). The product lines under the two segments of the consumer durables are also shown in Table 2.1. Consumer electronics can be referred to as any device that contains an electric circuit board that is intended for everyday use by the people (Webopedia 2017). Consumer electronic products is a very important segment

of the electronics industry (ASA 2015). This sector is growing at a rate of 9.5 percent per year in recent years (ET 2016).

Table 2.2 Consumer durables

Consumer Durables	Consumer Electronics	<ol style="list-style-type: none"> <li>1. Mobile Phones</li> <li>2. Televisions</li> <li>3. MP3 Players</li> <li>4. DVD Players</li> <li>5. Desktop Computers</li> <li>6. Laptops</li> <li>7. Tablets</li> <li>8. Printers</li> <li>9. Cameras</li> <li>10. Camcorders</li> </ol>
	Consumer Appliances	<ol style="list-style-type: none"> <li>1. Refrigerators</li> <li>2. Washing Machines</li> <li>3. Air-conditioners</li> <li>4. Vacuum Cleaners</li> <li>5. Sewing Machines</li> <li>6. Watches and Clocks</li> <li>7. Other domestic appliances</li> </ol>

Source - IBEF 2017

### 2.3.1 Online Reviews in the Context of Consumer Electronic Products

Consumer electronics is considered as the highest reviewed product category (Chan and Ngai 2011). Consumers are more inclined towards online reviews in this product category because companies frequently release updated versions of consumer electronic products and consumers are interested in quick information about the updates before making any purchase (Park and Kim 2008). Hence, online review is an important tool for brand evaluation in the case of consumer electronic products.

A report by PWC reveals that in the context of online shopping, consumer electronics is the highest online selling product category in India (PWC 2014). Consumer electronics has 34 percent market share of online sales in India. Therefore, this study considers consumer electronic product category for the present study.

### **2.3.2 Flipkart | Amazon | Snapdeal Offer**

The present study considers e-commerce sites because e-commerce sites are one of the very important channels of online sales (Goldsmith and Flynn 2004). According to a Government of India report, in January, 2014 the top five e-commerce sites which gave highest satisfaction to the Indian consumers, were 1- Flipkart, 2- Jabong, 3- Myntra, 4- Snapdeal and 5- Amazon India (DCA 2014). But Myntra focuses only on apparels and Jabong has very limited consumer electronic product lines. Hence, the present study focuses on three e-commerce sites, namely, Flipkart, Snapdeal and Amazon India.

An online brand community is treated as an Internet tool which is used by the consumers to exchange information on products and brands (Martínez-López et al. 2017; Sijoria et al. 2018). In Facebook, a common brand community of Flipkart, Snapdeal and Amazon India is present, where the members can write reviews online. Its name is "Flipkart | Amazon | Snapdeal Offer" and the consumers of the three e-commerce sites are present in this brand community. The total number of these members are 52347. Hence, to obtain data, the present study considers the above mentioned Facebook's community. Data collected from real virtual community enhances the study's realism (Cheung et al. 2009; Luo et al. 2015).

Thus, to summarize, the chapter discussed about online social media, especially about online reviews in the context of India. The present chapter explained the importance of consumer electronic products sector in India. The present chapter also discussed the rationale for choosing consumer electronic product as a product category for the present study and Facebook's brand community "Flipkart | Amazon | Snapdeal Offer" for data collection. The following chapter discusses about the literature review of the study.

## **CHAPTER 3 LITERATURE REVIEW**

The chapter describes the three theories that have been used for the present study. Further, the chapter explains the formulated hypotheses and research model of the present study. As mentioned earlier, this study integrates three theories altogether. They are, YACM, attribution theory, and CBBE dimensions proposed by Aaker (1991). The three theories are described in detail in sub-sections 3.1, 3.3 and 3.4 respectively.

### **3.1 Yale Attitude Change Model (YACM)**

Hovland et al. (1953) introduced YACM at Yale university. The model concentrates on persuasive communication. In other words, YACM describes the various factors that make information credible. Carl Hovland started this study based on his experiences of attempting to increase the confidence of the US soldiers during World War II. The study found that four factors play very important role to boost the morale of the US soldiers. They are, source of the information, receiver of the information, message or content of the information and the medium of the information. YACM has been used by the researchers in various contexts. The following paragraphs give an overview of these studies.

The model has been used to develop theories on information persuasion. For example, Chaiken (1980) followed YACM to develop heuristic systematic model (HSM) to depict information persuasion process. According to HSM people choose systematic route to give responses for high involvement subjects whereas they choose heuristic route to give responses for low involvement subjects. Further, Chaiken (1980) found that source and message have significant impact on the credibility of the information. Another study on information persuasion process, that is, Petty and Cacioppo (1986) followed YACM to develop elaboration likelihood model (ELM) to describe the information persuasion process. According to ELM two routes are behind information persuasion, namely, central and peripheral. People choose any one of the routes according to their own convenience. Further, Petty and Cacioppo (1986) noted that attributes of source have significant impact on the credibility of the arguments.

Fishbein and Ajzen (2011) adopted YACM to understand the reasons behind people pursuing information, which ultimately changes the people's behavior. They used the model as a theoretical background to discuss credibility of the source of the information. The study noted that the information given by a credible source is more persuasive than the same information given by a less credible source. Another study followed YACM to understand how people choose information to pursue. Khataei and Arya (2015) developed individualization pyramid based on the model to propose personalization model. The model illustrates the factors of the information that influence people to pursue the information. Burgoon et al. (2016) followed YACM to describe the process of information persuasion by gaining receiver's attention. Their book is mainly based on non-verbal communication. They have used YACM to discuss how to make effective non-verbal communication between employee and consumer and how to get consumer's attention through non-verbal communication. Thus, various theories that extend YACM have focused mainly on source and message aspects of the information.

Fear is an unpleasant psychological state that individuals want to reduce (Perloff 2010). Strong fear appeal can produce high levels of perceived severity and susceptibility (Witte and Allen 2000). People look for credibility of the information to reduce the fear of taking wrong decision (O'keefe 2002). Further, people look for credibility of recommended actions to reduce the fear appeal, which can also influence the attitude and the behavior of the people (Jowett and O'donnell 2014). Therefore, these studies have used YACM to investigate credibility of the information to reduce the fear appeal (Jowett and O'donnell 2014; O'keefe 2002; Perloff 2010).

Several prior studies have followed YACM to evaluate the importance of trustworthiness of the source of the information. For example, YACM has been used to evaluate the trustworthiness of the leaders. Conger and Kanungo (1987) made use of the YACM to suggest that credibility of the leaders is a very significant attribute of a charismatic leader. Conger and Kanungo (1987) mainly focused on the knowledge, trustworthiness and likability of the leaders. YACM has also been used in the context of spokesperson's trustworthiness. For example, Moorman et al. (1993) used YACM

to understand the characteristics of the spokesperson that are the major drivers of the spokesperson's, that is, the source's, trustworthiness. Morgan and Hunt (1994) followed the model to examine the impact of relationship commitment and trust on relationship marketing activities based on the data drawn from automobile-tire retailers. They noted that the credibility of the speaker has significant impact on the listeners. Mayer et al. (1995) followed YACM to illustrate the trustworthiness of the source of the information in organizational context. They proposed an integrative model of organizational trust. Robinson (1996) empirically tested the relationships between the employees' trust on their employers and employee's experiences of psychological contract breach by their employers. YACM was used to understand the reasons for the employees' prior trust on their employers. Lee and See (2004) used YACM to understand the predictors of the performance and noted that trust is the significant predictor of performance. More recently, Tedeschi (2013) used YACM in the context of impression management. The study found that credible source can give positive impression or trust on others, which ultimately influence others to pursue the information. Pruitt (2013) used YACM as a theoretical base to discuss the trustworthiness of the mediator in the context of organizational environment. The focus of the book was on the negotiation behavior of the individuals in an organizational environment. Pruitt (2013) noted that if the credibility of the communicator is high then the negotiation capability of the person is also high.

Kelman (1961) used the theoretical lens of YACM to evaluate in detail the source of the information. Kelman (1961) evaluated the processes of opinion change in individuals and groups. The study noted that the credibility of the source of the information influences the opinion of the people. Uzzell (1984) followed YACM as a theoretical backbone to examine the credibility of the information. The study found that credibility of the source of the information can influence the people to pursue the information which ultimately influences people's opinion. YACM has also been used to understand the factors behind people's attitude formation. For example, Rose (1998) used the model to describe the construction of the attitudes. The study found that credibility of the source can influence people to pursue the information, which ultimately influences their attitude.

YACM has been used to examine the communication process. For example, Carey (2008) used the model and noted that credibility of the source and the message are psychological variables. Further, these are the antecedents of communication process. Shoemaker and Reese (2011) used YACM to show the importance of the message factor that can influence the mass (Jin et al. 2011). Their work was mainly based on human communication theories (Carey 2008; Jin et al. 2011; Shoemaker and Reese 2011).

YACM has been used in other contexts also. YACM has been used to reduce the intergroup conflicts. For example, Sherif (1958) used the model to evaluate intergroup relationships. The study had an experimental tone that came out with some measures which can reduce intergroup conflicts. Van Eemeren et al. (2013) used YACM in the context of argumentation theory and noted that people look for reasons or justifications behind the argument in the information to consider that specific information as credible. YACM has been used in psychology, crime and law contexts also. For example, Wright et al. (2015) followed YACM to prove the importance of rapport building for law enforcement officers. Qian et al. (2017) used YACM to evaluate the involvement of Chinese youths toward Chinese professional soccer.

Thus, time and again researchers have considered YACM to support their research work, whether theoretical or empirical. However, most of these studies have focused primarily on the source aspect. There are hardly any studies that have consider multiple aspects, namely, the source, the receiver and the message together to check the credibility of the information. Therefore, the present study examines all the three factors in the context of online medium. As mentioned earlier, this is the first research gap (RG 1) in the literature. YACM suggests four factors that make information credible, namely, source of the information, receiver of the information, message of the information and medium of the information. In the present study source, receiver and message are examined in the context of online medium.

### **3.1.1 Source**

Source determinants can be described as the factors that evaluate the credibility and competency of the source of the information (Lee et al. 2011). People are more likely to believe the information if they perceive the source of the information to be credible. In other words, source refers to the "message source's perceived ability (expertise) or motivation to provide accurate and truthful information (trustworthiness)" (Cheung, and Thadani 2012, p. 466). Thus, two salient features are often found to be important in assessing the credibility of the communicators, which are, expertise and trustworthiness (Cheung and Thadani 2012; Djafarova and Rushworth 2017; Luo et al. 2013; Shan 2016). Expertise can be defined "as the extent to which a person is perceived to possess knowledge, skills or experience and thereby is considered to provide accurate information" (Ohanian 1990, p. 44). If any recommendation is given by an expert, then the receiver of the message will form an attitude as per the recommendation (Dou et al. 2012). Trustworthiness of the sender is another determinant of source credibility. Trust can be described as a behavioral aspect that forms an intention to rely on another person (Muruganatham and Bhakat 2013; Oliveira et al. 2017; Thomas 2008). If any recommendation is made by a trustworthy source, then the receiver of the message will doubt less on that recommendation (Cheung et al. 2009; Reimer and Benkenstein 2016). Previous studies have suggested that source credibility can directly form or change people's attitude or behavior (Cheung et al. 2009; Luo et al. 2013).

In offline context, Hovland and Weiss (1951) noted that communicator's attractiveness, physical appearance, expertise, trustworthiness and familiarity are the attributes which have significant impact on the credibility of the information sources. According to Eagly and Chaiken (1993), communicators with more positive attributes are more persuasive than those who have less positive attributes. Source of the information has significant positive impact on credibility of word of mouth (Hou et al. 1995). Further, personality of the speaker has significant positive impact on the credibility of the speaker (Kyung et al. 2010). Self-congruity (match between brand image and individual's self-concept) is also a significant predictor of source credibility in offline context (Yoon and Kim 2016).



However, in the computer mediated communication, where virtual text messages are exchanged, it is difficult for the receivers to assess some of the communicator's attributes like attractiveness or physical appearance. Nevertheless, in the context of online communication too researchers have found that source credibility has a significant effect on information credibility evaluation (Wathen and Burkell 2002). Information or reviews from the brand users on social media have significant impact on consumer's brand attitude (Kim and Lee 2017; O'Reilly et al. 2016; Wu and Wang 2011). Further, higher source credibility of online information leads to higher consumer's information adoption (Hussain et al. 2017; Luo et al. 2013). Personalized reviews, that is, online reviews that describe the individual's personal experiences, have a significant impact on source credibility of the information (Yilmaz and Quintero Johnson 2016). For example, Housholder and LaMarre (2014) measured source credibility of the politicians through online social media. The study was based on samples drawn from Facebook social media and it found that expertise and trustworthiness of the source (politician) have significant impact on the credibility of the source.

### **3.1.2 Receiver**

The receiver is the person who is exposed to the reviews. In other words, receiver is the person who responds to the communication. Product knowledge of the receiver can affect credibility of the message (Cheung and Thadani 2012; Wang et al. 2013). Receiver's prior knowledge acts as a central influence on information adoption in computer mediated communication contexts (Cheung and Thadani 2012). The receiver perceives the reviews are credible if the reviews are consistent with the product knowledge and experiences of the receiver (Cheung et al. 2009). Consumers compare a given review with their previous knowledge and experiences on products (Park and Kim 2008). When a consumer reads online review and the review concurs with the consumer's existing belief, he/she perceives that the review is credible. However, on the flip side, if the review disconfirms the consumer's existing belief then the consumer most probably refuses to accept the information (Shan 2016). Although, receiver is acknowledged as an important factor that affects credibility

evaluation of information, very few studies have explicitly considered receiver as a determinant of credibility evaluation of information, especially in online context.

### **3.1.3 Message**

Message deals with the credibility evaluation of the contents of the review. Three aspects of the review, namely, review quality, review consistency and review sidedness have been widely considered in credibility evaluation studies. The following paragraphs give more details on those research studies.

#### **Review Quality**

Review quality refers to "the strength or plausibility of persuasive argumentation" (Eagly and Chaiken 1993, p. 325). In simple words, it refers to the extent to which the consumers perceive the reviews to be logical and reliable. Huang et al (2015) noted that it is not necessary that the reviewer who writes more reviews is able to write helpful reviews. Consumers generally investigate the justification behind the recommendations given by the sources. A review is perceived as strong or weak based on its relevance, timeliness, accuracy and comprehensiveness (Shin et al. 2017). A strong review reflects the reviewer's attitude on the brand and it also contains why the reviewer formed that attitude. On the other hand, weak review is based on the reviewer's subjective feelings on the brands without any supporting evidence regarding the quality of the brand (Shin et al. 2017). Review quality has positive influence on perceived ease of use and perceived usefulness of the information (Li 2015). Rational information improves review quality (Luttrell et al. 2017). Review quality can affect the attitude of the receiver (Filiari 2015). If the receivers perceive that the messages have valid arguments, then they are likely to adopt a positive attitude towards the reviews and consider the messages as credible (Cheung and Thadani 2012).

### Review Consistency

Review consistency means "whether the current eWOM recommendation is consistent with other contributors' experiences concerning the same product/service evaluation" (Cheung and Thadani 2012, p. 465). Review consistency can be defined as the extent to which other consumers agree with a specific review. Consumers rely more on group of reviews than individual reviews to update their beliefs. In various online platforms many consumer opinions exist. It is very difficult for an individual consumer to select one specific review to follow. Therefore, he/she generally looks for opinions which are more frequent. In other words, the consumer considers a review to be credible if it is consistent with other reviews and if other consumers too like or vote for that review (Cheung et al. 2009). Therefore, perceived consistency of opinions of the group of reviewers influences the consumer's decision (Mannes 2009). The opinions that are similar from the point of view of various members of the group will be considered as more accurate in terms of objectivity and representativeness (Zhao et al. 2018). In other words, consumers look for consistent consumer opinions from other consumers and perceive the review as credible if it has high ratings (Cheung et al. 2009; Godes and Silva 2012).

### Review Sidedness

Review sidedness can be either two-sided or one-sided (Cheung and Thadani 2012; Eisend 2006). Two-sided reviews focus on mentioning both positive and negative aspects of the product or service whereas one-sided reviews focus on either positive or negative aspect of the products or services (Floh et al. 2013). Some researchers believe that two-sided reviews are complete in nature and therefore the review recipients perceive them as credible (Chintagunta et al. 2010; Doh and Hwang 2009). According to Pierro et al. (2013), two-sided advertisements are more effective than one-sided advertisements in changing intentions since the former are complete in nature. Inoculation theory suggests that two sided messages are more persuasive because they have both the aspects like positive and negative (Uribe et al. 2016). Two-sided information often induces favorable attitudes on brands (Winter et al.

2015). Two-sided information also has significant impact on information helpfulness (Huang et al. 2015).

### **3.2 Linking YACM and PCOR**

The word credibility is defined as "quality or power of inspiring belief" or "capacity for belief" (Osidele 2002, p. 33). Perceived credibility evaluation of online reviews can be considered as the assessment of the validity of online reviews as per the receiver's perception. It is a process by which consumers perceive the accuracy of online reviews (Zha et al. 2015). PCOR is the extent to which the consumers perceive the review as truthful, logical and believable (Cheung et al. 2009; Lee and Shin 2014).

There are empirical studies that have considered the effect of source, message and receiver on the PCOR. Credibility of the source has significant impact on the credibility evaluation of online reviews (Banerjee et al. 2017; Kakol et al. 2017). Trustworthiness and expertise of the source of the online reviews have significant impact on credibility of the online reviews (Banerjee et al. 2017; Shan 2016). If source is untrustworthy then positive review can lead to negative purchase intention (Reimer and Benkenstein 2016).

Message also affects PCOR (Wu 2017). For example, according to Fang et al. (2016) review quality has a significant influence on PCOR. People look for explanation behind the argument in the review (Huang et al. 2015). Receiver's personal experiences and the contents of the reviews have significant influence on the credibility of online reviews (Clare et al. 2016). For searched products (products which are not yet used by the receiver) credibility of the review depends on the detail in a review whereas for experienced products (products which are already used by the receiver) credibility of the review depends on the level of the receiver's agreement with the review (Jiménez, and Mendoza 2013; Luan et al. 2016).

Product reviews can be manipulated; and therefore, consumers look for credible product reviews to get authentic information (Bambauer-Sachse and Mangold 2013). Credible reviews intensify consumer's knowledge on brands (Bambauer-Sachse and

Mangold 2013). Even votes of the reviews also make the review credible (Li et al. 2017; Xu 2014). Higher the vote for higher is its credibility (Shariff et al. 2017; Xu 2014). Previous studies didn't consider all the three factors, namely, source, the receiver and message simultaneously to evaluate each of the factors impact on PCOR (RG 1). To fill this gap, the present study uses YACM to examine all the three factors in the context of online medium to evaluate their impact on PCOR.

### **3.3 Attribution Theory**

Heider, in the year of 1920, introduced the attribution theory, which acts as a foundation for the subsequent theories on people's perception proposed by various authors. The motivation for that study was to solve the problems between sensory information and real objects. Later Heider concentrated on the social interaction area and studied how people make sense of other's behavior. According to Heider, "persons are perceived as action centers and as such can do something to us. They can benefit or harm us intentionally, and we can benefit or harm them. Persons have abilities, wishes and sentiments; they can act purposefully, and can perceive or watch us" (Heider 1958, p. 21).

Attribution theory can be considered as "a theory that describes the cognitive processes by which people determine the causes of behavior and events in their world" (Mullen and Johnson 2013, p. 174). Heider used the term attribution theory in his study on psychology of interpersonal relationship. This theory concentrated on the people's reactions to events and the subsequent effects of those reactions on the people's behavior (Heider 1958). "Attribution theory deals with how people interpret incidents or behaviors in terms of their causal inferences, and their interpretations play a significant role in determining reactions to these incidents or behaviors" (Chang et al. 2015, p. 50). Attribution theory believes that people try to give meaning to the attributes that they come across. According to the theory, people gather information and try to form a causal judgment. Social psychologists use attribution theory to understand how people interpret their world (Weiner 2000). Attribution theory can define the inferences that people make for a particular behavior

(Tsachouridi and Nikandrou 2016). Attribution theory evaluates the satisfaction of the consumers due to brand's attributes, which ultimately influence them to buy the brand (Chang and Wu 2014). In the present study attribution theory acts as a bridge that connects PCOR to brand equity. When consumers are exposed to online reviews on brands, it creates a distinct place for the brand in the consumer's mind which stimulates consumers to have a greater sense of association with the brand (Foroudi 2019). Moreover, consumers try to evaluate those brands based on the online reviews, which ultimately effects CBBE dimensions. Attribution theory can explain the receiver's interpretation of the message which can ultimately affect the receiver's attitude towards the message. Further, attribution theory suggests that causal inference behavior will influence receiver's subsequent actions. If receiver forms an attribution that the review is credible then he/she will perceive the review as legitimate, believable and actionable (Weitzl et al. 2018).

### **3.4 Brand Equity**

According to the American Marketing Association (AMA) a brand "is a name, term, design, symbol, or other feature that distinguishes an organization or product from its rivals in the eyes of the customer." In other words, a brand is a product, service, or concept that is publicly distinguished from other products, services, or concepts so that it can be easily communicated and usually marketed. Some brands are more than 100 years old. For example, Quaker Oats, Coca Cola, Pepsi, Levis etc. In India too there are brands like Godrej and Tata that are more than a century old. The term "brand equity" didn't exist until 1980. Before 1980 researchers were interested to measure the combined effect of brands. For example, Srinivasan (1979) points out the added value of the brand to the product. In the year of 1980 the term "brand equity" was first used in the Marketing Science Institute sponsored research to demonstrate the incremental value of the brand through brand equity. Aaker (1991, p.15) defined brand equity as "a set of brand assets and liabilities linked to a brand, its name and symbol, that adds to or subtracts from the value provided by a product or a service to a firm and/or to that firm's customers". According to the American Marketing

Association (AMA) brand equity refers to the “value of a brand from a consumer perspective, brand equity is based on consumer attitudes about positive brand attributes and favorable consequences of brand use”. According to the Lassar et al. (1995, p. 13), brand equity can be defined as “the enhancement in the perceived utility and desirability a brand name confers on a product. It is the consumers' perception of the overall superiority of a product carrying that brand name when compared to other brands”.

### **3.4.1 Measures of Brand Equity**

Brand equity is a latent construct (Christodoulides and de Chernatony 2010). Hence, it is difficult to determine the effect of online reviews on brand equity. There are two approaches to determine brand equity, firm based brand equity (FBBE) and consumer based brand equity (CBBE). FBBE can be measured either through product market outcomes like price premiums, market share, and relative price and/or through financial market outcomes like purchase price of the brand and discounted cash flow of licenses and royalties (Atilgan et al. 2009). In CBBE approach, brand equity is measured through various dimensions of brand value (Christodoulides and de Chernatony 2010). The FBBE measures brand equity by determining the total value of a brand as a separate asset from the perspective of the firm whereas CBBE measures the mindset of consumers towards a specific brand (Christodoulides and de Chernatony 2010).

Prior studies suggest that FBBE merely looks at the brand performance whereas CBBE considers various aspects that affect brand equity (Keller 1993; Tong and Hawley 2009). CBBE is the most preferred approach to determine brand equity (Chaudhuri 1995; Chieng and Goi 2011; Vázquez et al. 2002; Winters 1991). Hence, this study also adopts CBBE approach to determine brand equity.

The popular CBBE models are Aaker (1991) and Keller (1993). Aaker (1991) proposed five brand equity dimensions, namely, brand awareness, brand associations, perceived quality, brand loyalty and other proprietary brand assets and Keller (1993) noted that brand knowledge is the dimension of brand equity. According to Keller (1993), brand knowledge consists of brand awareness and brand image. According to

the Christodoulides and de Chernatony (2010), Keller (1993) description of brand image is same as brand associations described by Aaker (1991). Therefore, the present study considers CBBE dimensions as proposed by Aaker (1991).

### **3.4.2 Empirical Studies on CBBE**

Prior studies have used the concept of brand equity (as a whole) in different contexts. More information on these contexts are provided in the following paragraphs.

The concept of CBBE has been extended to develop other concepts. Consumer based brand retailer channel equity has been developed by extending CBBE concept (Pappu and Quester 2017). Consumer based brand retailer channel equity can be defined as "the incremental utility or value added to a retailer by its brand name" (Jinfeng and Zhilong 2009, p. 487). It is a strategy which can be implemented to improve the performance of the retailers (Anselmsson et al. 2017). Brand awareness and perceived quality have significant positive impact on retail brand equity (Jara and Cliquet 2012). CBBE has also been extended to propose franchisee based brand equity (Felício et al. 2014; Nyadzayo et al. 2011). Franchisee based brand equity can be defined as " the value added by the brand to the franchise package, for the franchisee, and that drives the franchisee's responses to the marketing of the franchise package by the franchisor" (Ghantous and Jaolis 2012, p. 114). Franchisee based brand equity is a concept which can be used by the franchisors to attract new franchisees and retain existing ones (Nyadzayo et al. 2016).

CBBE has been extended in the context of place branding and developed as consumer based destination brand equity (Im et al. 2012) and consumer based place brand equity (Bose et al. 2016). Consumer based destination brand equity is a concept which can be used to attract the tourist towards certain destination (Kladou and Kehagias 2014; Tasci 2018). Im et al. (2012) based on the 326 Malaysian citizens' responses from Kuala Lumpur noted that brand awareness and brand associations are positively related to brand equity. The goal of consumer based place brand equity is to promote a particular place as an attractive option for investment (Andersson and Ekman 2009; Zavattaro et al. 2015). Liu (2016) in the context of tourism and based on the responses from the tourists of different countries; such as, China, Hong Kong, Macau, Japan,



Korea, America, Canada, New Zealand, Australia and Europe noted that brand equity has significant impact on tourist's satisfaction.

Brand equity concept has been used to develop hotel brand equity (Tsang et al. 2011). The hotel brand equity concept mainly concentrates on satisfying needs of the external consumers. Further, Tsang et al. (2011) noted that employee commitment, employee engagement, employee identification, and service quality are the drivers that effect three hotel brand equity dimensions, namely, brand image, brand awareness and perceived quality. CBBE concept has been followed to develop cruise brand equity (Douglas et al. 2010). Cruise brand equity is a strategy to attract tourists towards cruise vacation.

CBBE concept has been extended in many other directions including sports brand equity concept (Wang and Tang 2017), casino brand equity concept (Tsai et al. 2013) and political brand equity concept (MacDonald et al. 2015). In sports the concept has been used for branding the sport team which will help the team to get sponsors, huge fan base and so on (Bauer et al. 2005). Tsordia et al. (2018) measured brand equity dimensions in the context of sport sponsorship noted that perceived quality makes the fans of a given team loyal towards the sponsors of the given team. Casino brand equity concept can be used to attract casino consumers and to improve revisit intention of the casino consumers. Political brand equity is a technique which can be used to improve the voter's association towards political parties.

Further, CBBE concept has been extended in the context of employee perspective (King and Grace 2009), namely, employee based brand equity. Employee based brand equity concept mainly focused on employee's work related behavior and the objective of the concept is employees should ensure that the brand is providing the products as per its promise. King and Grace (2009) noted that internal brand management has significant positive impact on employee based brand equity which ultimately influences CBBE.

The concept of CBBE has been used in the context of global brands. Heinberg et al. (2017) based on the samples drawn from China (1180 respondents) and India (554 respondents) noted that corporate image has significant positive impact on CBBE.

Vukasović (2016) based on the samples drawn from Slovenia and Croatia in the context of food industry noted that brand associations and perceived quality have significant positive impact on CBBE. Ioannou and Rusu (2012) based on the data collected from USA, China, Moldova and Cyprus in the context of car sector noted that perceived quality has significant positive impact on CBBE. Atilgan et al. (2009) based on the data drawn from three economically and culturally dissimilar countries, namely, USA, Turkey and Russia noted that brand association and perceived quality have significant positive impact on CBBE. Buil, et al. (2009) based on the samples drawn from UK and Spain noted that brand extension has a significant impact on CBBE. Oliveira-Castro et al. (2008) based on the samples drawn from UK and Brazil reported that brand performance has significant positive impact on CBBE.

The concept of CBBE has been used in other contexts also. Sensory marketing uses CBBE concept. Moreira et al. (2017) noted that sensory stimulation has significant impact on CBBE. Girard et al. (2017) used brand equity concept in the context of private level branding. Girard et al. (2017), based on online Wal-Mart shoppers' data, noted that brand awareness and perceived quality are the key drivers that reduce perceived risk and increase perceived value of private level brands. Further, in-store communication and its distribution (availability in number of stores) and perceived price have significant impact on private level brand equity (Abril, and Rodriguez-Cánovas 2016). Martínez and Nishiyama (2017) used CBBE concept in the context of CSR (corporate social responsibility). Martínez and Nishiyama (2017) in the context of hotel industry noted that corporate social responsibility has positive impact on brand awareness and perceived quality. Jillapalli and Jillapalli (2014) based on the responses (survey data) from 465 Southwest US University business students noted that professor's brand characteristics like quality of instruction, competence and reputation have significant impact on student's feeling of attachment with the professor which ultimately effects professor's brand equity. Herrmann et al. (2007) based on the 376 responses collected from Germany noted that product quality has significant positive impact on CBBE in the context of insurance company.

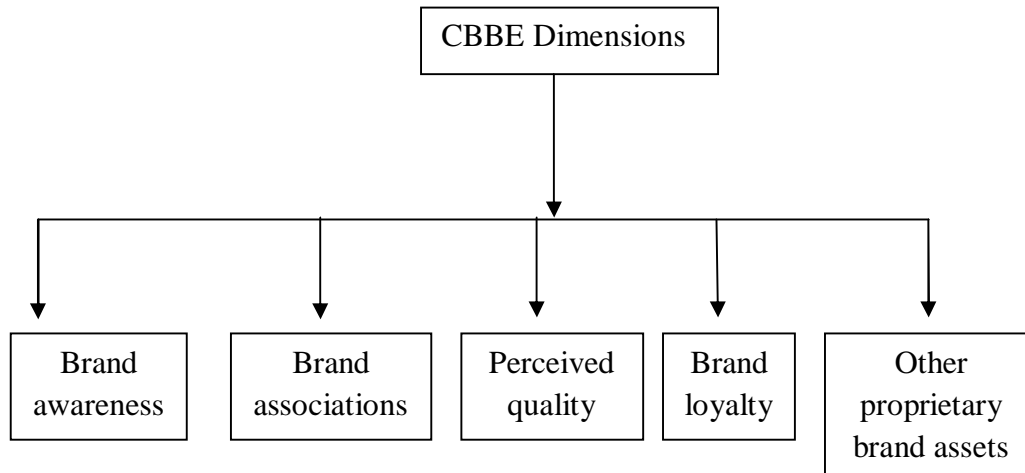
The concept of CBBE has been used in the context of online social media activities. For example, Seo and Park (2018) examined the effects of social media marketing

activities on brands and noted that social media activities have positive impact on brands, which ultimately influences consumer's purchase intention. Social media activities engage consumers with the brands (Chahal and Rani 2017). Traditional media such as television, radio, and newspapers are ineffective in establishing a valuable rapport with consumers whereas social networks build bonds and engage online users into amusing dialogs, play, and interactions with the brands (Karpińska-Krakowiak 2016; Sasmita and Mohd Suki 2015). Consumer brand interaction in social media influences consumer towards brands which ultimately effects consumer's brand knowledge and consumer's brand perception (Morra et al. 2018; Yazdanparast et al. 2016). Advertisement on online social media like Facebook have positive impact on brands (Anselmsson and Tunca 2017; Schivinski and Dabrowski 2015). Godey et al. (2016) noted that social media activities have significant positive impact on brands and which ultimately influence consumer behavior towards a brand (Ng 2014). Further, user generated social media activities like vote for reviews or brand user written online reviews have significant positive impact on brand attitude (Schivinski and Dabrowski 2016).

### **3.4.3 Aaker's CBBE Model**

Aaker (1991) developed a conceptual framework on CBBE and suggested five dimensions of CBBE. They are, brand awareness, brand associations, perceived quality, brand loyalty and other proprietary brand assets see figure 3.1. Several empirical studies have empirically tested brand equity dimensions suggested by Aaker (1991) and found them to be valid. For example, Pappu et al. (2005) empirically tested the dimensions on two product categories, namely, cars and televisions in the context of Australia. Their results provide evidence for the validity of Aaker's (1991) CBBE dimensions. Buil, et al. (2008) and Buil, et al. (2013) tested Aaker's (1991) CBBE dimensions in UK and Spain, and found the dimensions to be valid across the two countries in the context of various consumer electronic products.

Figure 3.1 CBBE model as proposed by Aaker (1991)



Source - Aaker (1991)

The present study analyzes the impact of PCOR on CBBE dimensions proposed by Aaker (1991) and its consequence on consumer behavior (purchase intention). The fourth and fifth dimensions of Aaker (1991) are not relevant in the present study although prior studies do report that brand credibility has significant effect on brand loyalty (Alam et al. 2012; Sweeney and Swait 2008). American Marketing Associations (AMA) defines brand loyalty as “the situation in which a consumer generally buys the same manufacturer-originated product or service repeatedly over time rather than buying from multiple suppliers within the category” or “the degree to which a consumer consistently purchases the same brand within a product class”. In other words, the fourth dimension, namely, brand loyalty, suggests that consumers become loyal towards a brand when they use a particular brand and get interested in repeat purchases (Aaker 1996; Keller et al. 2011). However, the present study did not consider the effects of PCOR on consumer's intention to repurchase. Hence, brand loyalty dimension is out of scope of this study. Again, the present study did not consider the fifth dimension, namely, other proprietary brand assets. Other proprietary brand assets include patents, channel relationships and trademarks (Christodoulides and de Chernatony 2010). Patents save the companies from direct competition, which means if a company has patent to sell a specific product then other companies can't

sell that particular product. Channel relationships includes distribution of product from manufacturer to consumers, which directly affects product's availability in the market. Trademarks protect the company from its competitors where other companies can't use the same brand name. The fifth dimension, namely, other proprietary brand assets is normally omitted in CBBE research because it is not directly related to consumers (Buil et al. 2008). Hence, the fifth dimension is also not within the scope of this study. Thus, the present study considers three CBBE dimensions of Aaker (1991), namely, brand awareness, brand associations and perceived quality.

### **Brand Awareness**

Brand awareness is the ability of the consumers to recognize a brand and recall the brand under different circumstances (Aaker 1991). Keller (1993) describes brand awareness as the extent to which consumer is familiar with the distinct qualities of the brand. According to the Keller et al. (2011), brand awareness consists of brand recognition and brand recall. Brand recognition can be defined as the capability of the consumers to identify prior exposure to the brand when the brand is given as a cue. Brand recall is the ability of the consumers to retrieve the brand name from the memory (Keller 1993). Brand awareness is the reason behind well-known brands performing better compared to less-known brands in the marketplace (Huang and Sarigöllü 2012; Ye and Van Raaij 2004). "Brand awareness enacts a decisive role in the set of brands that interest consumers when selecting a product or service" (Barreda et al. 2015, p. 601). Further, the ability of the consumers to identify a brand under certain situation is the consequences of his or her brand awareness level. Brand awareness is the combination of individual recognition, knowledge dominance and recall of brands (Barreda et al. 2015). When consumers are uncertain about a brand they base their choice based on the brand's popularity or awareness level (Lin et al. 2014). Brand awareness positively impacts brand choice, market share, increases consumer retentions and profit margins (Liu et al. 2017).

Prior studies have used brand awareness concept in different contexts, especially luxury brands and tourism. For example, Kapferer and Valette-Florence (2018) based on the samples drawn from France, USA, Brazil, China, Japan and Germany noted

that brand awareness has significant positive impact on luxury brand penetration. Liu et al. (2017) based on 327 tourist's responses in the context of luxury hotels in Macau noted that brand awareness has significant positive impact on brand attitude. Chow et al. (2016) in the context of industrial tourism based on the 312 samples drawn from Taiwan noted that brand awareness has significant positive impact on perceived brand quality. Xu et al. (2015) in the context of entrepreneurial hotel chains noted that brand awareness has significant influence on brand loyalty. Lin et al. (2014) based on the data collected from two popular tourist destinations in Taiwan, namely, Chingjing farm and Alishan national forest recreation area noted that tourism brand franchise store has higher brand awareness and consumer's trust compared to independent local tourism store.

Brand awareness has been used in the context of online social media. Ahmed et al. (2017) based on the 2565 samples drawn from four South Asian countries, namely, India, Pakistan, Bangladesh and Sri Lanka noted that interacting over the online social media has significant impact on brand awareness. Barreda et al. (2015) noted that high brand awareness leads to more word of mouth in online social media based on the 230 samples drawn from USA in the context of travel related online social media. Ho et al. (2015) conducted a study based on experimental design with 2134 samples from Taiwan. The study found that Internet blogs have significant impact on brand awareness. Langaro et al. (2015) conducted a study where survey data from 1066 respondents were collected from Facebook via online survey. The study noted that active Facebook brand page participation by the consumers increases their own brand awareness. Further, brand awareness has significant positive impact on brand attitude. Lu et al. (2014) noted that high brand awareness leads to high consumer's confidence and trust on the brand.

Brand awareness has been used in other contexts too. For example, Sasmita and Mohd Suki (2015) found that brand awareness has significant impact on overall brand equity in the context of casual wear and sport attires. Shahin Sharifi (2014) also noted that brand awareness positively influences consumer's cognition, affection and connotation in the context of Tehran. Wang and Yang (2010) focused on middle class Chinese automobile consumers. Wang and Yang (2010) based on the 469 samples collected

from four Chinese cities, namely, Beijing, Shanghai, Guangzhou and Chengdu and noted that brand awareness has significant impact on brand credibility and brand purchase intention of consumers.

### **Brand Associations**

Brand associations can be defined as “anything linked in memory to a brand” Aaker (1991, p. 109). Various brand associations collectively create brand image (Keller 1993). Furthermore, brand associations describe the degree to which consumers perceive their associations with the brand. Moreover, higher degrees of associations indicate stronger relationships between consumers and brands (Keller 1993; Koll and von Wallpach 2014).

Previous studies have measured brand associations in different contexts. For example, the concept of brand associations has been used in the context of sports and fitness. Bouzdine-Chameeva et al. (2015) examined brand associations in the context of European Football Associations Champions League and noted that brand associations can influence behavior of fans of the sports team. Further, Williams et al. (2012) measured brand associations in the context of health club in the Midwestern US. Williams et al. (2012), based on 148 responses, noted that brand associations have significant impact on consumer's brand attitude. Brand associations have been used to determine strategic brand association map (Till et al. 2011). Strategic brand association map is a strategic tool which can compare brand's performance with the brand's expected performance (French and Smith 2013). Higher brand association of a sports team leads to higher loyal fan base (Alexandris et al. 2008; Gladden and Funk 2001). Quester and Farrelly (1998) noted that strong brand association leads to better sponsorship to a sports team in the context of Australian Formula One Grand Prix.

Andéhn et al. (2016) evaluated the impact of brand associations in the context of country-of-origin (COO) effects. Andéhn et al. (2016) based on the 100 responses collected from Stockholm, Sweden noted that consumer's brand association with a place (for example Darjeeling tea) can potentially influence their judgment of the brand. The concept of brand association has been used in the context of celebrity endorsement. When a brand is associated with a celebrity endorser, it can affect

consumer's attention towards brand (Ilicic and Webster 2015). Further, celebrity trustworthiness impacts consumer brand relationship. Brand associations have significant impact on consumer brand relationships (Romaniuk and Nenycz-Thiel 2013). Brand association has been used in the context of brand extension. For example, Michel and Donthu (2014) noted that higher consistency in the brand extension (that is, brand extension in similar kind of products) leads to higher brand associations. Further, brand associations have significant impact on product category extensions (Wu and Yen 2007). Further, Ugglá (2006) focused on strategic positioning of the brands and noted that brand associations have significant impact on brand to brand collaboration. Brand associations have significant impact on alliances between brands (James 2005). Hal Dean (2004) examined brand associations through conjoint analysis and market simulation and noted that higher brand association leads to higher consumer preference. Cheng-Hsui Chen (2001) used free association (free association is a thought process where one word or image spontaneously suggest another without any necessary logical connection) noted that brand associations have significant positive impact on CBBE.

Various studies have divided brand associations into three components, namely, perceived value, brand personality and organizational associations (Aaker 1996; Buil et al. 2008; Buil et al. 2013). Perceived value can be explained as the opinion of the consumers on product's cost efficiency (Buil et al. 2008). It is an indicator of the brand's success because the focus is on the value rather than any specific functional benefits (Aaker 1996). Brand personality can be defined as the extent to which the brand is suitable to the consumer's personality (Buil et al. 2013). Often, brand personality connects consumers and brands as an emotional bridge. Even a brand can make a visible statement about the consumer. For some brands, the brand personality can provide a link to the brand's emotional and self-expressive benefits as well as a basis for consumer/brand relationships and differentiation (Aaker 1996). The third component, namely, organizational association, is the consumer's perception on product's manufacturer (Buil et al. 2008). This perspective is very important when



brands have similar attributes which shows brands represent more than just the products or services offered by the company.

Online social media activities have significant impact on brand associations, which ultimately affect the perception of the consumers on brand attributes. Crawford Camiciottoli et al. (2014), based on the data collected from fashion bloggers, noted that distinctive brand association affects blog participant's brand attributes. Ranfagni et al. (2014) noted that brand associations have significant impact on brand knowledge in the context of online community.

### **Perceived Quality**

Perceived quality is the extent to which the brand is considered to provide good quality products to the consumers (Aaker 1991). In other words, perceived quality refers to the consumer's perception on the overall quality or superiority of a product or service with respect to its intended purpose (Zeithaml 1988). Perceived quality is a perception or overall feeling about a brand. The concept of perceived quality facilitates a brand in various ways. It helps in brand extensions, influences the consumers to pay higher price for a product or service, it gives a distinguished position to the brand among competing brands and is the major reason behind purchase of a product or a service (Aaker 1991). If the perceived quality of a brand is high then it leads the consumers to select that brand over other competing brands (Yoo et al. 2000).

Previous studies have measured perceived quality in different contexts. For example, the concept perceived quality has been measured in the context of food sector. Consumer consider brand as a sign of quality (Vranešević and Stančec 2013). Perceived quality has significant positive impact on consumer satisfaction (Howat and Assaker 2013; Joung et al. 2016; Mannion et al. 2000; Pedraja et al. 2004). Türen et al. (2017) measured perceived quality of the meals in the organization based on 597 employee responses in Turkey. High perceived quality of meal has significant positive impact on employee's job performance (Türen, et al. 2017). Moreover, positive word

of mouth has significant positive impact on perceived quality (Aqueveque 2015). Further, higher perceived quality leads to higher consumer's loyalty (Frank et al. 2014; Pappu and Quester 2016; Yu et al. 2005). Trust towards brand has significant impact on perceived quality (Alonso et al. 2002; Martínez-Carrasco et al. 2012). Higher perceived quality leads to consumer's brand adoption (Cheung et al. 2015). ST Wang (2013) points out visual packaging of food significantly impacts perceived quality. The concept perceived quality has been measured in the context of clothing. Previous studies on clothing based on samples drawn from Generation Y consumers noted that perceived quality makes the consumer loyal towards the brand (Erdoğan and Büdeyri-Turan 2012; Lu and Xu 2015).

The concept of perceived quality has been measured in the context of destination. Styliadis et al. (2017) noted that destination image has significant positive impact on perceived quality of the brand which ultimately influence consumer's behavioral intention (Ranjbarian and Pool 2015). González Menorca et al. (2016) noted that consumer's satisfaction towards the destination of the origin of the brand has significant impact on the perceived quality of the brands (Reza Jalilvand et al. 2014).

The concept perceived quality has been measured in other contexts also. For example, Wang and Lin (2017) in the context of location based app noted that perceived quality has significant positive impact on consumer's usage intention. Tamimi and Sebastianelli (2016) in the context of online selling noted that online reviews have significant positive impact on perceived quality of e-tailers. Esmailpour (2015) based on the samples drawn from Generation Y consumers (born between 1977-1994) in Iran noted that perceived quality is a significant predictor of consumer's attitude on brands in the context of luxury brands. Hyun Baek and Whitehill King (2011) credibility of the brand has strong influence on perceived quality of the brand. Han and Kwon (2009) in the context of sports sector noted that perceived quality has an impact on value of the brand. Story and Sue Loro (2005) in the context of technology brands, noted that higher technology content leads to higher perceived quality. Huang (2009) in the context of store brand noted that higher service quality can increase the perceived quality of the store brand.

Some of the previous studies have analyzed the impact of online reviews on brands. However, these studies ignore the credibility aspect of the reviews before examining the impact of online reviews on brands, especially in the context of CBBE dimensions proposed by Aaker (1991) (RG 2).

### **3.5 Purchase Intention**

The term purchase intention is broadly treated as a predictor of purchase. Purchase intention can be considered as consumer's interest to buy a particular product (Huang 2012). In other words, purchase intention determines the strength of consumer's willingness to purchase the commodity (Lee et al. 2017). It is crucial to recognize consumer's purchase intention because consumer's actions are usually predicted through their intentions (Hsu et al. 2017). Purchase intention is the behavioral consequence of brand equity dimensions (Aaker 1996; Chang and Liu 2009; Keller 1993). Wu et al. (2015) noted that purchase intention acts as a conjunction between consumer's concentration on buying a product and the likelihood of buying.

Brand awareness plays a significant role in the consumer's purchase decision. Liu et al. (2017) noted that brand awareness has significant positive impact on brand attitude which ultimate effects consumer's purchase intention. Wang and Yang (2010) noted that brand awareness has significant impact on brand credibility which further impacts consumer's brand purchase intention. Higher brand associations influence consumer's purchase behavior (Romaniuk and Nenycz-Thiel 2013). Researchers have found that self congruity (match between brand image and individual's self-concept) also affects consumer's purchase intention in the context of fashion retail brands (Das 2015). Perceived quality is another major reason behind purchase of a product or a service (Aaker 1991). Cham et al. (2017), based on the responses from Generation Y consumers (consumers born between 1977-1994) in Kuala Lumpur in Malaysia, measured perceived quality in the context of clothing. The study noted that perceived quality influences the consumers towards the brand and ultimately impacts consumer's purchase intention. Further, Hee Kwak and Kang (2009), in the context of sports merchandise, noted that higher perceived quality leads to higher consumer's purchase intention. Positive perceived quality shows that the brand has excellent

features and the quality of the brand is high which finally influence consumers to buy the brand (Buil et al. 2013). Prior studies suggest that purchase intention is related to actual behavior (Park and Kim 2016; Shin 2015). Hence, purchase intention construct is considered as an outcome variable in the present study and is included as the dependent variable in the final model.

Although prior studies evaluated the impact of some of the brand equity dimensions on purchase intention. However, there are hardly any studies that have examined the impact of CBBE dimensions proposed by Aaker (1991) on purchase intention in the context of online medium. The research presented in this dissertation contributes to this research gap (RG 3).

### **3.6 Hypotheses Development and the Proposed Research Model**

The following paragraphs explain the various hypotheses that have been formulated for the study.

#### **3.6.1 Determinants of PCOR**

Source is one of the important factors that affect the credibility evaluation of a review (Metzger and Flanagin 2013; Van Der Heide and Lim 2015). Source credibility acts as a peripheral cue which can improve the credibility of the online reviews (Filieri et al. 2018). If online reviews originate from a credible source then they will influence the opinions, attitudes and behaviors of the consumers (Hayes and Carr 2015; Ong 2011). Further, source credibility is more prominent in the context of shared medium like online reviews (O'Neil and Eisenmann 2017). High source credibility strengthens the receiver's judgment on purchase.

However, On the other hand, Cheung et al. (2008) in the context of online food community in Hong Kong noted that source credibility doesn't influence perceived information usefulness. The research presented in the dissertation tries to examine the importance of source on the credibility evaluation of the online reviews in the context of consumer electronic products in India. Therefore, the present study tries to evaluate the impact of source on PCOR. Thus, the present study proposes that,

***H1.*** Source has a positive impact on PCOR.

Receiver's perception and product knowledge have significant effect on perceived credibility evaluation of a review (Cheung and Thadani 2012). Receivers compare the review information with their own personal product knowledge and experiences. If they are similar, then the consumers perceive the particular review as credible (Eisend 2006). In various online discussion forum consumers share their experiences on brands. Consumers compare the information with their own knowledge. If consumers believe that the information conforms to their existing knowledge then they consider the new information as credible, which ultimately influences their purchase behavior. Thus, the next hypothesis is formulated as,

**H2.** Receiver has a positive impact on PCOR.

Review quality and transparency are the trust building factors for the reviews. Logical justifications behind the review make a review credible (Cheung and Thadani 2012). In other words, review quality refers to what extent the receiver views the reviews as valid or convincing in supporting its position (Cheung et al. 2009). Consumers are keen towards review quality, which implies that consumers measure the extent to which the reviews seem practical and real (Myers 2014). Therefore, improving consumer's review is a major focus for the marketers. Further, Internet users rely on information quality (Nilashi et al. 2016). If the receiver perceives that the reviews have valid arguments, then they will develop positive attitude towards the reviews and consider the reviews as credible. Thus, the present study proposes that,

**H3a.** Review quality has a positive impact on PCOR.

People's opinions (in terms of votes and ratings) on a specific online review affects its credibility (Flanagin et al. 2014). Further, consumers often gather opinions of others on a specific brand or product and compare the consistency between the opinions (Cheung et al. 2009). In online platform various comments specific to a product are available. Therefore, receiver can see all those comments in the same online platform. If a comment is consistent with other comments, then the receiver perceives that the specific comment is credible. However, if the specific comment is inconsistent with the other comments, then the receiver feels confused and may not consider the specific comment as credible (Zhao et al. 2018). Thus, the next hypothesis is formulated as,

**H3b.** Review consistency has a positive impact on PCOR.

Two-sided review is a review that contains positive as well as negative information about the product. This makes a review seem credible (Doh and Hwang 2009; Chen 2016). Consumers in general believe that every product has its own merits as well as demerits. If any review focuses on both these aspects, then the consumers feel that the particular review is credible (Cheung et al. 2009). Hsu and Liao (2014), in the context of linkages between perceived information accessibility and microblog stickiness, found that two-sided information is generally perceived to be more credible as compared to one-sided information. Winter et al. (2015) in the context of blog articles, observed that two sided reviews can impact more on PCOR than one sided reviews. More recently, a study by Uribe et al. (2016), which was based on a sample of 295 under graduate and postgraduate students in Chile, found that two sided reviews increased the credibility of the information and thus influenced consumer's behavioral intention. All the three studies argue that two-sided review facilitates cognitive evaluation of the review compared to one-sided review (Hsu and Liao 2014; Uribe et al. 2016; Winter et al. 2015). Contrary to this belief, Folse et al. (2016) believe that negatively framed reviews may be considered logical by consumers because it is unlikely to be contributed by the manufacturer or seller. Nevertheless, as most of the researchers have found that two sided reviews as compared to the one sided reviews have relatively higher impact on the credibility of the reviews; therefore, the next hypothesis is formulated as,

**H3c.** Two sided review has a positive impact on PCOR.

### **3.6.2 Impact of PCOR on CBBE**

As explained in the earlier section 3.4.3, the present study focuses on three of the five brand equity dimensions proposed by Aaker (1991, 1996), namely, brand awareness, brand associations and perceived quality.

Brand awareness is very important for the word of mouth in online social media (Homburg et al. 2010). Brand awareness is viewed as a means through which individuals become informed and accustomed to a brand name. Online reviews on brands facilitate the consumers to get aware on the brands. Brand awareness makes

the consumers more informed about the brand. Brand awareness plays a decisive role in choosing the brand over the competing brands (Barreda et al. 2015). Further, widely known brands are likely to be repeatedly purchased than the unknown brands. High brand awareness motivates consumers to buy brands (Liu et al. 2017; Umit Kucuk 2011). Consumers use brand awareness as decision heuristic (Huang and Sarigöllü 2012). Various advertisements from the marketers are one-way communication where consumers can't express their opinion on brands. In various online platforms there is an added benefit that the non-paid consumers can also express their opinion on the brands, which ultimately facilitates others to become aware about the brands. Further, the consumers would be inclined to read online reviews and thereby learn about the brands only when they perceive that the online reviews are credible (Cheung et al. 2009). Thus, the present study proposes that,

***H4.*** PCOR has a positive impact on brand awareness.

Online reviews focused on product's price can add to the perceived value of the products. Consumers can judge the cost worthiness of the brands. Perceived value can influence consumer's purchase intention. From various reviews consumers get information on the added value of the product which ultimately drive them to buy the brand (Buil et al. 2013). High perceived value ensures that the brand will provide more than the money's worth and consumers perceive that high perceived value product is a good deal to buy (Aaker 1996). If the consumers perceive that the online reviews stating the value of the product are credible, they would be more inclined to agree with the perceived value of the product. Thus, the following hypothesis is proposed,

***H5a.*** PCOR has a positive impact on perceived value.

Online review provides the knowledge about the type of consumers who should use certain brands which is very important for the consumers to take right purchase decision. Brand personality leads better consumer trust on brands. Brand personality ensures that consumers have preference on that brand. Thus, the following hypothesis is proposed,

***H5b.*** PCOR has a positive impact on brand personality.

Online reviews facilitate the consumers to know about the unique characteristics of the manufacturer of the product. Further, high organizational association leads to the positive impression about the manufacturer of the brands. Positive organizational associations ensure consumer's preference and trust on the manufacturer of the product (Buil et al. 2013). However, consumers would trust the manufacturer only when they perceive that the online reviews are the real depiction of the organization. Thus, the following hypothesis is proposed,

**H5c.** PCOR has a positive impact on organizational associations.

Perceived quality is the consumer's judgement which is formed when the consumer evaluates the quality of the brand (Liu et al. 2017). Moreover, high perceived quality improves competitive advantages, brand preferences and profits. Through online reviews consumers can get to know about brand's quality or superiority over other competing brands. However, consumers would perceive that the quality of the product is indeed high (or low) only when they perceive that the online reviews that describe about the superior (or inferior) features of the product are reliable. Thus, the following hypothesis is proposed,

**H6.** PCOR has a positive impact on perceived quality.

### **3.6.3 Impact of CBBE Dimensions on Purchase Intention**

"Purchase intention represents the likelihood that an individual will purchase a particular product based on the interaction between customer needs, attitude and perception towards the product or the brand" (Beneke et al. 2016, p.176). Online review affects consumer's perception on brands and thus ultimately affects consumer's purchase intention (Hayes and Carr 2015). Purchase intention is a psychological variable which is considered as a consequence of high CBBE dimensions. Further, consumers are more inclined towards buying a brand that they are familiar with and high CBBE dimensions is an indicator of purchase intention. High brand awareness can provide high market share to the brand and better quality evaluation (Bruhn et al. 2012). Purchase intention can be treated as an estimator of consumer behavior (Wu et al. 2011). Many well-known brands have higher purchase intention as compared to lesser known brands (Jeng 2017). Thus, the present study proposes that,



**H7.** Brand awareness has a positive impact on purchase intention.

Perceived value can influence consumer's purchase intention. The various reviews inform the consumers about the added value of the product, which ultimately drives them to buy the brand (Buil et al. 2013). High perceived value improves purchase intention because high perceived value ensures that the brand value is cost worthy. Further, consumers perceive that high valued product is a good deal to buy (Aaker 1996). Thus, the present study proposes that,

**H8a.** Perceived value has a positive impact on purchase intention.

Brand personality has significant positive influence on purchase intention. High brand personality implies that the consumer can relate with that particular brand. High brand personality suggests that the brand is suitable as per the consumer's need. Brand personality is a psychological variable that is used by the marketers to shape the people's feeling on the brands or products that ultimately drives consumers to purchase the brand (Buil et al. 2013). Thus, the present study proposes that,

**H8b.** Brand personality has a positive impact on purchase intention.

High organizational association leads to positive impression towards the manufacturer of the brands (Buil et al. 2008). Positive organizational associations ensure that the consumers like and trust the manufacturer of the product. Moreover, high organizational associations ensure that the product has credibility to purchase. Thus, the present study proposes that,

**H8c.** Organizational associations have positive impact on purchase intention.

High perceived quality ensures that consumer perceives that the product quality is good. Further, positive perceived quality shows that the brand has excellent features and the brand maintains high quality which finally influence consumers to buy the brand (Buil et al. 2013). Thus, the present study hypothesizes that,

**H9.** Perceived quality has a positive impact on purchase intention.

Table 3.1 gives the summary of the hypotheses according to the research questions and research objectives.

Table 3.1 Summary of the hypotheses

Research questions and research objectives	Hypotheses
<p>RQ 1 - Do source, receiver and message have any impact on PCOR?</p> <p>RO 1- To examine the impact of source, receiver and message on the PCOR.</p>	<p><i>H1.</i> Source has a positive impact on PCOR.</p> <p><i>H2.</i> Receiver has a positive impact on PCOR.</p> <p><i>H3a.</i> Review quality has a positive impact on PCOR.</p> <p><i>H3b.</i> Review consistency has a positive impact on PCOR.</p> <p><i>H3c.</i> Two sided review has a positive impact on PCOR.</p>
<p>RQ 2- Do PCOR have any impact on CBBE dimensions as proposed by Aaker (1991)?</p> <p>RO 2- To explore the impact of PCOR on CBBE) dimensions.</p>	<p><i>H4.</i> PCOR has a positive impact on brand awareness.</p> <p><i>H5a.</i> PCOR has a positive impact on perceived value.</p> <p><i>H5b.</i> PCOR has a positive impact on brand personality.</p> <p><i>H5c.</i> PCOR has a positive impact on organizational associations.</p> <p><i>H6.</i> PCOR has a positive impact on perceived quality.</p>
<p>RQ 3- In the context of online medium, do CBBE dimensions have any impact on consumer's purchase intention?</p> <p>RO 3- To assess the impact of CBBE dimensions on consumer's purchase intention in the context of online medium.</p>	<p><i>H7.</i> Brand awareness has a positive impact on purchase intention.</p> <p><i>H8a.</i> Perceived value has a positive impact on purchase intention.</p> <p><i>H8b.</i> Brand personality has a positive impact on purchase intention.</p> <p><i>H8c.</i> Organizational associations have positive impact on purchase intention.</p> <p><i>H9.</i> Perceived quality has a positive impact on purchase intention.</p>

Based on the literature review and hypotheses development, the present study proposes the research model presented in Figure 3.2.

To summarize, this chapter discussed the theoretical background of the study. It shows how the three concepts, namely, YACM, attribution theory and CBBE dimensions proposed by Aaker (1991) can be integrated to examine the impact of PCOR on CBBE dimensions and their consequence on consumer's purchase intention. YACM has been followed to determine the factors that make online reviews credible. Source, the receiver and message are the factors that influence the PCOR. Further, attribution theory acts as a bridge between PCOR and CBBE dimensions proposed by Aaker (1991). When people go through various online reviews on brands then an image of the brand creates in the people's mind and this leads to the concept of brand equity which ultimately effects people's purchase intention. The chapter also presented the research model of the study. The following chapter discusses about the research methodology of the study.

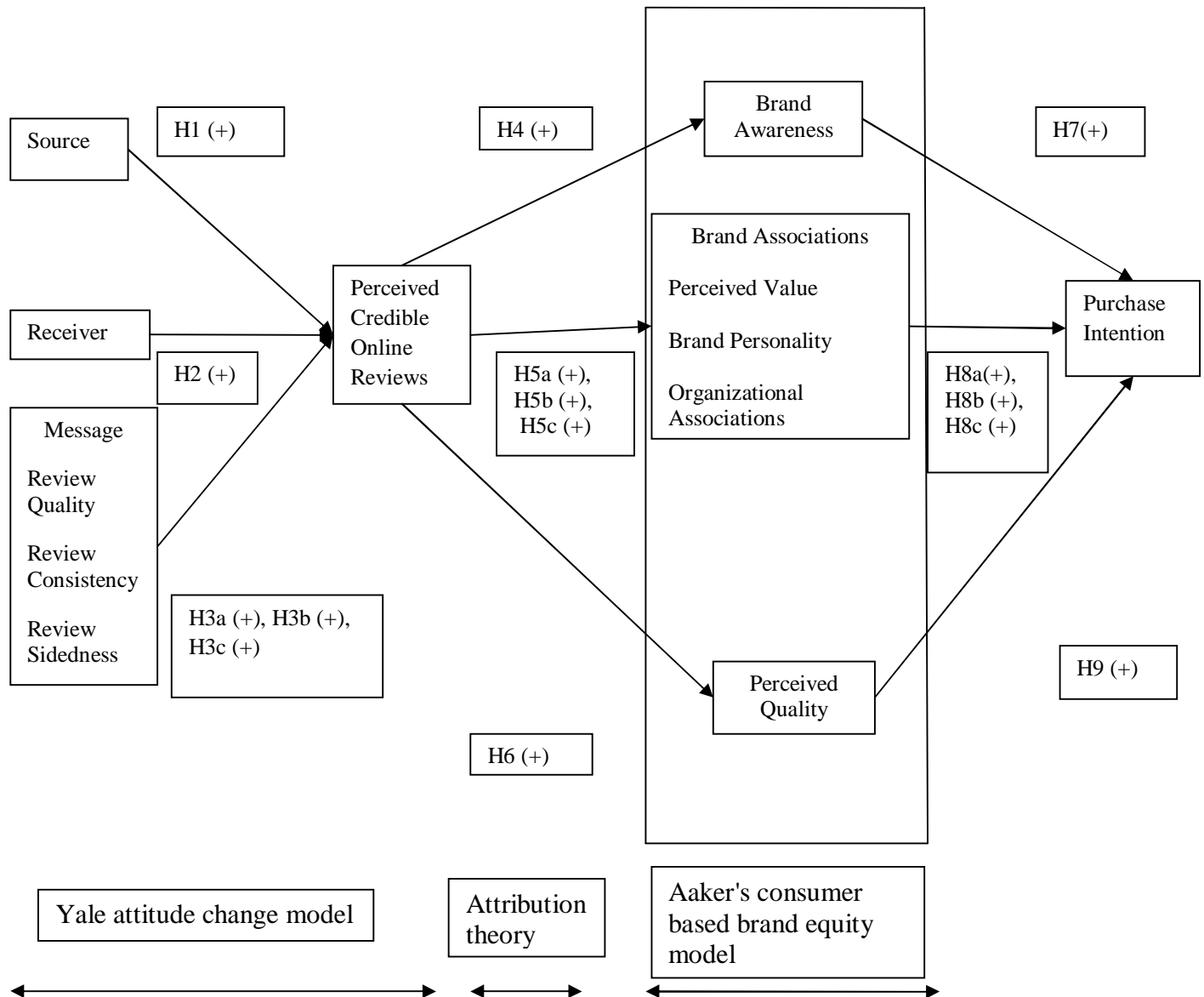


Figure 3.2 - The proposed research model of the study.

## **CHAPTER 4 RESEARCH METHODOLOGY**

The present chapter deals with the research methodology of the study. Research methodology is the course of action to conduct the study to achieve the objectives of the study. Thus, this chapter explains the methodology for collection, measurement and analysis of data. As mentioned earlier, the present study aims to determine the important factors that make online reviews credible and the impact of PCOR on CBBE dimensions, which ultimately leads to consumer's purchase intention.

### **4.1 Development of the Measurement Scales for Latent Constructs**

A literature review was carried out to determine the best possible way to measure each latent construct. Latent construct can be defined as a construct that "cannot be measured directly but can be represented or measured by one or more variables (indicators)" (Hair et al. 2015, p. 544). To measure such latent constructs, often researchers include multiple questions (called items or indicators) in the survey instrument. The combination of the responses to these items give a reasonably accurate measure of the latent construct for the respondent. In the present study 12 latent constructs are in the research model. These are source, receiver, review quality, review consistency, review sidedness, PCOR, brand awareness, perceived value, brand personality, organizational associations, perceived quality and purchase intention. Each of these latent constructs have been measured based on the items or indicators used in different studies. The details of the same are presented in Table 4.1. All the variables were measured using 5 point Likert scale with 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree.

Table 4.1 Development of the Measurement Scales for the Latent Constructs

Latent construct used in the final study			References used to develop the measurement scale
1. Source	S_1	Reviewers of brand X's products are knowledgeable.	Dou et al. (2012) and Filieri (2015)
	S_2	Reviewers of brand X's products are reliable.	
	S_3	Reviewers of brand X's products are believable.	
	S_4	Reviewers of brand X's products are dishonest. (R)	
2. Receiver	R_1	Online reviews on brand X products are matching with my point of view.	Cheung et al. (2009) and Park and Kim (2008)
	R_2	I always pay attention towards online reviews on brand X products.	
	R_3	Online reviews on brand X products are not at all important to me. (R)	
	R_4	Online reviews on brand X products are dissimilar to my belief. (R)	
3. Review Quality	RQ_1	Online reviews on brand X's products are defined.	Li (2015) and Nilashi et al. (2016)
	RQ_2	Online reviews on brand X's products are detailed.	
	RQ_3	Online reviews on brand X's products are explained.	
	RQ_4	Online reviews on brand X's products are confusing. (R)	
4. Review Consistency	RC_1	High voted reviews on brand X's products are believable	Flanagin et al. (2014) and Luo et al. (2015)
	RC_2	Online reviews on brand X's products are different to other reviews. (R)	
	RC_3	High voted reviews on brand X's products are unreliable. (R)	
	RC_4	Online reviews on brand X's products are related to other reviews.	
5. Review Sidedness	RS_1	Online reviews on brand X's products that contain positive and negative both aspects of the products are dependable.	Cheung et al. (2009) and Luo, et al. (2015)
	RS_2	Online reviews on brand X's products that contain merits and demerits both aspects of the products are persuasive.	
	RS_3	Online reviews on brand X's products that contain strength and weakness both aspects of the products are convincing.	
	RS_4	Negative online reviews on brand X's products are reliable. (R)	

6. PCOR	PCOR_1	Online reviews on brand X's products are accurate.	Cheung et al. (2008) and Zha et al. (2015)
	PCOR_2	Online reviews on brand X's products are realistic.	
	PCOR_3	Online reviews on brand X's products are invalid. (R)	
	PCOR_4	Online reviews on brand X's products are logical.	
7. Brand awareness	BA_1	My knowledge on brand X's products improves after reading online reviews.	Yoo et al. (2000) and Buil et al. (2013)
	BA_2	Online reviews on brand X's products do not influence my viewpoint on brand X.(R)	
	BA_3	My understanding on brand X's products improves after reading online reviews.	
	BA_4	My know-how on brand X's products improves after reading online reviews.	
8. Perceived Value	PV_1	Online reviews help me to buy those products which are cost efficient.	Netemeyer et al. (2004) and Aaker (1996)
	PV_2	Online reviews make it easier for me to buy those products which would be a value for money.	
	PV_3	Online reviews do not make it easier for me to buy those products which would be cost worthy. (R)	
	PV_4	Online reviews help me in deciding what products to buy which I would get much more than my money's worth.	
9. Brand Personality	BP_1	Online reviews guide me in selecting those products which takes care of my requirements.	Aaker (1996) and Buil et al. (2013)
	BP_2	Online reviews do not give me an idea which products suit my needs. (R)	
	BP_3	Online reviews do not give me a clear picture of the nature of person who would use a particular product. (R)	
	BP_4	Online reviews give me a clear picture of the type of person who would use a particular product.	
10. Organizational Associations	OA_1	Going through the online reviews of the products help me in knowing the manufacturer of the products.	Pappu et al. (2006) and Buil et al. (2008)
	OA_2	Looking at the products' reviews help me to develop trust with the manufacturer.	
	OA_3	Online reviews of the products do not help me to develop faith with the manufacturer. (R)	

	OA_4	Online reviews help me to get an understanding on products' manufacturer.	
11. Perceived Quality	PQ_1	Online reviews facilitate me to assess the quality of brand X's products.	Buil et al. (2013) and Pappu et al. (2005)
	PQ_2	Online reviews do not facilitate me to evaluate the quality of brand X's products. (R)	
	PQ_3	Online reviews facilitate me to evaluate the quality of brand X's products.	
	PQ_4	Online reviews do not facilitate me to measure the quality of brand X's products. (R)	
12. Purchase Intention	PI_1	Online reviews facilitate me to decide which product I would consider to procure.	Erdem et al. (2006) and Luo et al. (2013)
	PI_2	Online reviews help me to decide which product I am likely to buy.	
	PI_3	Online reviews guide me to consider the product that I am likely to obtain.	
	PI_4	I never follow online reviews to decide what to buy. (R)	

Source - Compiled by author based on literature review

The items proposed in the studies mentioned in Table 4.1 have been followed and modified to determine the measurement scales of the respective latent variables since those studies also measured the above mentioned latent variables and found the variables to be valid.

#### 4.2 Content Validity of the Scales

Content validity can be defined as the extent to which the particular scale measures all the facets of a given construct. Content validity is also known as logical validity. Content validity is a process to check the validity of the contents of the scale. Content validity is done before the actual test or study is conducted. After the content validity of the questionnaire, pilot study was undertaken.

#### 4.3 Pilot Study

An offline pilot study was performed to validate the questionnaire. Reliability alpha (Cronbach's alpha) was determined for each variable. To check the unidimensionality



of the variables exploratory factor analysis (EFA) (principle components analysis extraction method and varimax rotation method) was performed. There were 208 respondents for the pilot study. The results of the pilot study are presented in section 5.2. In the pilot study, two extra questions were asked to the respondents apart from the questionnaire. The first extra question was asked to gather information about the number of consumer electronic brands whose online reviews the respondents had seen in the previous year (November 2014 to October 2015). The second extra question was asked to obtain the list of names of the consumer electronic brands for which the respondents had seen the online reviews in the previous year (November 2014 to October 2015). The following sub-sections give more details about some of the measures that were calculated for the analysis of the data obtained during pilot study.

#### 4.3.1 Reliability Analysis for Pilot Study

Reliability measures the internal consistency of a scale. It measures the extent to which the individual items or indicators of the scale are measuring the same construct. Various individual items or indicators of a scale should be highly inter-correlated. The diagnostic measure to assess the internal consistency of a scale is Cronbach's alpha. The cut off value of Cronbach's alpha for a scale is 0.70. The Cronbach's alpha of a construct should be more than 0.70. For the pilot study, reliability test for the 12 latent constructs were performed with 208 responses. The formula of Cronbach's alpha (Johnson and Christensen 2008, p. 142) is

$$r_{\alpha} = \frac{\kappa \bar{r}}{1 + \kappa \bar{r} - \bar{r}}$$

where  $r_{\alpha}$  is Cronbach's alpha,  $\kappa$  is the number of items and  $\bar{r}$  is the average correlation between the items.

#### 4.3.2 Exploratory Factor Analysis (EFA)

Factor analysis defines and explains the underlying patterns or relationships for a large number of variables and also examines whether the data can be condensed or summarized in a small set of factors. EFA, with appropriate extraction and rotation, is conducted for the pilot study data to determine the underlying factors. According to

Hair et al. (2015), factor loading refers to the correlation of the latent variable and the factor (observed variable). Squared loading is the amount of the latent variable's total variance accounted for by the factor. Therefore, a factor loading of 0.30 implies that nearly 10 percent (square of the factor loading) of the variance is accounted for by the factor and a factor loading of 0.50 implies that 25 percent of the variance is accounted for by the factor. Thus, to ensure more than 50 percent variance to be accounted for by any factor, the factor loading should be above 0.70. Factor loadings above 0.70 are considered indicative of a well-defined structure and are the goal of any factor analysis (Hair et al. 2015). In the present study, 0.71 is considered as the cut off for factor loadings. This means the factors having 0.71 or above factor loadings are retained for the study.

#### Kaiser-Meyer-Olkin (KMO)

KMO is a measure that determines the sample adequacy for EFA (Malhotra and Dash 2017). KMO compares the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. KMO value can be in the range from 0 to 1. Small KMO value indicates that the correlations between the pairs of variables can't be explained by other variables and factor analysis may not be appropriate. KMO value of greater than 0.50 is acceptable in any study (Malhotra and Dash 2017). KMO formula is (Pett et al. 2003, p. 78),

$$KMO = \frac{\sum_{i \neq j} r_{ij}^2}{\sum_{i \neq j} r_{ij}^2 + \sum_{i \neq j} u_{ij}^2}$$

Where the Pearson correlation between  $\chi_i$  and  $\chi_j$  is  $r_{ij}$  and the partial correlation coefficient between  $\chi_i$  and  $\chi_j$  is  $u_{ij}$ . The overall KMO measure of sample adequacy is given by the above formula taken over all combinations and  $i \neq j$ .

#### Extraction method

Factor extraction method is used to understand the structure of the observed variables or indicators or items in the analysis. Principal components analysis is used for factor extraction because the primary goal for the study is to extract minimum number of factors that will account for maximum variance in the data. Principal components

analysis considers the total variance and derives factors that contain small proportions of unique variance and in some instances error variance. In principal components analysis, the total variance in the data is considered. The diagonal of the correlation matrix consists of unities (values of 1) and the full variance is brought into the factor matrix (Hair et al. 2015).

#### Criteria for the number of factors to extract

Latent root criterion is one of the criteria that is used by researchers to determine the number of factors to extract. This criterion was suggested by Guttman (1954) and adapted and popularized by Kaiser (1960, 1961). Therefore, this criterion is also commonly known as Guttman-Kaiser criterion. According to the Yeomans and Golder (1982, p. 222) the criterion provides “a lower bound for the number of common factors underlying a correlation matrix of observed variable having unities in the main diagonal. More intuitively the argument has been advanced that no component "explaining" less than the variance of an original variable can be deemed to represent a significant source dimension". Eigen value refers to the column sum of squared loadings for a factor. It represents the amount of variance explained by a factor. Therefore, only the factors having latent roots or Eigen values greater than 1 are considered significant. The factors with Eigen value less than 1 are insignificant and disregarded.

$$\text{Eigen value} = \text{column sum of squared loadings for a factor}$$

#### Rotation method

For the present study, principal components analysis with varimax rotation method is considered. Rotation redistributes the variance from earlier factors to later ones to achieve a simpler and theoretically more meaningful factor pattern (Malhotra and Dash 2017). The simplest case of rotation is an orthogonal factor rotation. Varimax is an orthogonal rotation technique. Varimax simplifies the columns of the factor matrix. In varimax rotation maximum possible simplification is reached if there are only 1s and 0s in a column. That is, the varimax method maximizes the sum of variances of required loadings of the factor matrix. Rotated factors simplify the factor structure

and provide more theoretically meaningful factor solutions (Hair et al. 2015). Further, rotated factors provide better interpretation by reducing the ambiguities which can be present in the unrotated factor solutions.

### **4.3.3 Questionnaire Length**

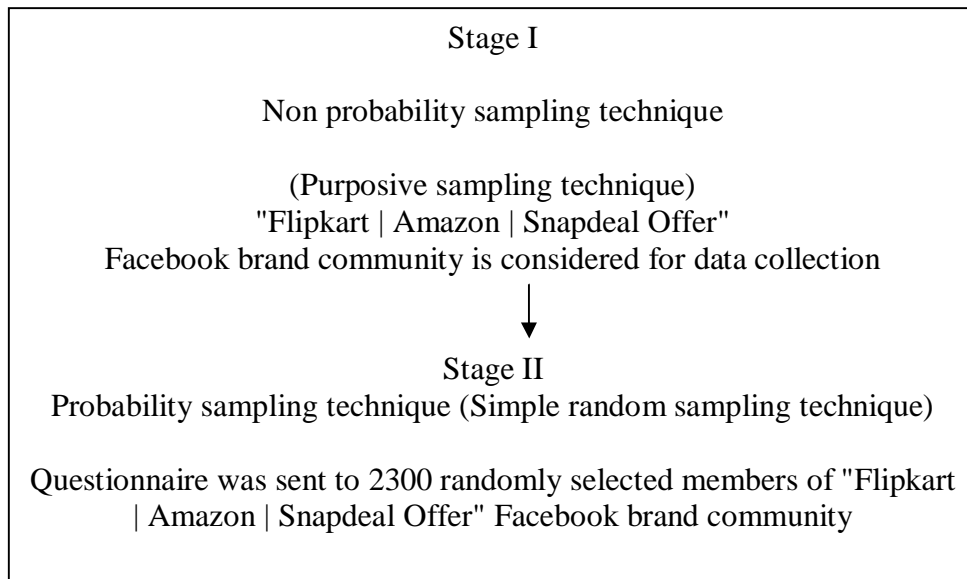
Thumb rule on the average rate of reading a web based survey questionnaire is 24 words per minute (Callegaro et al. 2015). A web based questionnaire that can be filled within 30 minutes by the respondents is considered to be an appropriate web based survey questionnaire.

Initially, to measure each variable or latent construct, six items were considered. However, after EFA, top four items (as per their factor loadings) for each variable or latent construct were retained for final questionnaire. Only four items were selected for each latent construct because with the six items for each variable the number of words of the questionnaire was 925, which exceeds the length of an appropriate web based questionnaire (Callegaro et al. 2015). With four-item scale the number of words of the questionnaire was 608. That means respondents can fill this questionnaire within  $608/24= 25.33$  minutes. Complete questionnaire is in the appendix section.

## **4.4 Data Collection Procedure for Final Study**

The schematic representation of sampling approaches is presented in Figure 4.1. In the present study target population was those who saw or considered online reviews on consumer electronic products. To reach the whole population was difficult. Therefore, the present study followed mixed method sampling approach. In stage I the present study followed purposive sampling to select the representative and subset of population ("Flipkart | Amazon | Snapdeal Offer" Facebook brand community as explained in the section 2.3.2). In stage II the present study followed simple random sampling to select the respondents from the subset of population ("Flipkart | Amazon | Snapdeal Offer" Facebook brand community) since simple random sampling can reduce the researcher's biasness in the data (Askalidis et al. 2017).

Figure 4.1 Schematic representation of sampling approaches



Source - Author's representation

IAMAI report reveals that 40 million Indian consumers use online reviews (IAMAI 2015). To determine the sample size, this study followed Slovin's (1960) formula (Tejada and Punzalan 2012).

Slovin's formula  $n = N / (1 + N \times e^2)$

$n$  = sample size,  $N$  = total population and  $e$  = margin of error. This study determined its sample size with 95 percent confidence level. Hence, margin of error = 5 percent.

$40 \text{ millions} / (1 + 40 \text{ millions} \times 0.05^2) = 400$ .

To conduct the study minimum sample size should be 400.

The procedure that was used to identify the random respondents in the Facebook brand community was as follows. Initially, all the names of the members in "Flipkart | Amazon | Snapdeal Offer" brand community in Facebook were listed manually according to their order in the brand community. Next, through the random number generator website named 'www.random.org', 2300 random numbers were generated between 1 and 52347 (both inclusive). The link of the survey tool (the questionnaire prepared in Google docs) was posted in the message box of the 2300 members (according to the random numbers generated) of the selected brand community in Facebook.

#### 4.5 Data Screening

Responses from the below 18 years were removed. In the questionnaire some "reverse coded" questions were included. Reverse coded questions are the questions which rephrase a positive item in a negative way (Solís Salazar 2015). The answer to the reverse coded questions should be the opposite to the normal questions. If any respondent's response is similar for reverse coded questions as well as normal questions, it means that the respondent didn't read the questions properly. In such a case response should be removed (Bryman and Bell 2011). In the present study, after data screening, 1690 valid responses were obtained. Thus the present study considered a sample of 1690 respondents, which was well above the minimum sample size of 400.

#### 4.6 Response Rate

The online link to the questionnaire was posted in the message box of 2300 members of the community. Of these 2300 members, 1690 were valid responses. Hence, the response rate was  $1690/2300 = 0.73$  which was well above 0.40. Therefore, the sample size was sufficient to conduct all kinds of tests (Callegaro et al. 2015).

#### 4.7 Final Study

##### 4.7.1 Descriptive Statistics

Descriptive statistics refers to the information on the basic characteristics of the data. In this study under descriptive statistics, the information on mean, standard deviation, skewness and kurtosis of each latent variable were measured.

##### Mean

The mean is the average value of the data. It is used to measure the central tendency of the data. The formula of the mean is (Malhotra and Dash 2017, p.452),

$$\text{Mean } \bar{X} = \sum_{i=1}^n \frac{X_i}{n}$$

Where  $\bar{X}$  refers to the mean of variable X,  $X_i$  refers to the observed values of the variable X and n refers to the number of observations (sample size).

### Standard deviations

The difference between the mean of the variable and an observed value of the variable is called the deviation from the mean. The variance is the mean of the squared deviation from the mean. The variance is always positive. When data points (observed values) are nearer to the mean it means variance is small. The standard deviation is the square root of the variance. The formula of standard deviation is (Malhotra and Dash 2017, p.453),

$$SD (X) = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n-1}}$$

Where SD (X) refers to the standard deviation of variable X,  $\bar{X}$  refers to the mean of variable X,  $X_i$  refers to the observed values of the variable X and n refers to the number of observations (sample size).

### Skewness

A distribution of the data is either symmetric or asymmetric (skewed). In symmetric distribution all the data points are on the either side of the centre of the distribution. In symmetric distribution mean, median and mode values of the data are same. In skewed distribution the positive and negative deviations of the data points (number of observations) from the mean of the variable are unequal. Skewness is the tendency of the deviations from the mean to be larger in one direction than in the other. Which means one tail of the distribution is heavier than the other one. Skewness in the data means responses of the variable didn't fall into a normal distribution and heavily weighted towards one end of the scale. If the skewness of the variable data is within +/-1 it indicates that the distribution of the data is normal (Malhotra and Dash 2017).

### Kurtosis

Kurtosis measures the relative peaked or flatness of data distribution curve. According to the Byrne (2010, p. 103) "the standardized kurtosis index ( $\beta_2$ ) in normal distribution has a value of 3, with larger values representing positive kurtosis and lesser values representing negative kurtosis. However, computer programs typically rescale this value by subtracting 3 from the  $\beta_2$  value, thereby making zero the indicator of normal distribution and its sign is the indicator of positive and negative

kurtosis". Therefore, kurtosis of the normal distribution is zero (Malhotra and Dash 2017). Positive kurtosis indicates that the distribution is more peaked than a normal distribution and negative kurtosis indicates that the distribution is flatter than a normal distribution. Kurtosis gives an idea about the outliers in the distribution of data. Data with outliers have large kurtosis. If kurtosis value of the variable is below 2.20, it indicates that the variable is free from outliers (Sposito et al. 1983).

#### **4.7.2 Reliability Analysis for the Final Study**

For the final study reliability analysis (same as discussed under subsection of 4.3.1) of all the 12 latent constructs were performed with 1690 responses.

#### **4.7.3 Structural Equation Modeling (SEM)**

Structural equation modeling (SEM) has a history of more than 100 years. Spearman in the year of 1904 used SEM for the measurement model in his work on psychical activities and mental tests (Spearman 1904). Through SEM Spearman tried to extract the underlying factors in a large number of variables. After fourteen years, Wright (1918, 1921) introduced path analysis. Wright mainly focused on observed variables. Later social science researchers Blalock (1961, 1971) and Duncan (1975) wrote books on how to use SEM for social science studies. In the year 1972, Goldberger used SEM in the context of economics (estimation of supply and demand). In the very next year, that is, 1973 Jöreskog developed LISREL (linear structural relations) program for analyzing paths. After LISREL, other computer programs were developed by various other researchers to carry out SEM analysis. For example, RAM (reticular action model) was developed by McArdle and McDonald (1984) and EQS (equations) was developed by Bentler (1985). Arbuckle (1989) introduced AMOS (analysis of moment structures) program, which is used in the present study to carry out SEM

SEM is a multivariate technique that combines factor analysis and multiple regression. This facilitates the researcher to examine a series of interrelated dependence relationships between the observed variables and the latent constructs. The difference between SEM and other multivariate techniques is that for other multivariate techniques researcher have to do separate analysis for each dependent



variable whereas SEM can analyze all together. Through the structural model of the SEM, which is drawn based on the theory, the researcher can develop path diagram where all the relationships between the variables (independent as well as dependent) can be drawn using paths. Path diagram is the series of structural equations which are shown through paths. SEM can directly measure the relationships between latent and observed variables (Hair et al. 2015). Moreover, it can also measure error variance. Hence, the present study uses SEM to measure the relationships between latent and observed variables. SEM generally involves two stages, which were also performed in the present study. The first stage is the measurement model and the second stage is the structural model.

#### **4.7.3.1 Measurement Model**

Measurement model refers to the SEM model that explains the indicators or items for each latent construct and enables the researcher to assess the construct validity. To determine the measurement model confirmatory factor analysis (CFA) is performed.

Confirmatory factor analysis (CFA)

CFA analyses to what extent the measured variables systematically and logically represent the constructs that are involved in a theoretical model. CFA depicts the validity and unidimensionality of the constructs. CFA explains how observed variables represent a latent construct (Malhotra and Dash 2017). In CFA five elements must be specified, which are,

- (1) Latent construct - The construct which cannot be measured directly but can be measured through one or more items.
- (2) Item - The observed value that can be measured directly.
- (3) Item loadings or factor loadings - The item loading or factor loading of the item represent the extent to which the particular item represents the respective latent construct. Basically it is the correlation between the latent construct and the factor.
- (4) Relationships among latent constructs and items - The relationships between the latent constructs and items are depicted through arrows.
- (5) Error term for each item - The error term for each item explains the extent to which the particular item does not represent the respective latent variable.

### Estimation technique

Maximum likelihood estimation (MLE) technique is a preferred estimation technique in SEM. MLE is the technique that is used to find the parameters for a given statistic where the known likelihood distribution is maximized, which means parameters are estimated as the values that have the largest probability of producing the sample covariance matrix. MLE is unbiased estimation technique when the assumption of multivariable normality is met.

### Measurement model validity

Measurement model validity depends on two aspects, namely, (1) acceptable level of goodness-of-fit (GOF) and (2) construct validity.

(1) Goodness-of-fit (GOF) for measurement model - GOF defines the extent to which a specified model reproduces the covariance matrix among the variables. The indicators of GOF presented in the present study are Normed chi-square, Goodness-of-fit index (GFI), Adjusted goodness-of-fit index (AGFI), Comparative fit index (CFI) and Root mean square error of approximation (RMSEA).

### Normed chi-square

Normed chi-square is the simple ratio of chi-square ( $\chi^2$ ) to the degrees of freedom for a model (Malhotra and Dash 2017). If normed chi-square value is in between 1 to 3 that indicates better model fit (Hair et al. 2015).

### Goodness-of-fit index (GFI)

GFI is a measure of the relative amount of variance and covariance in sample data. The possible range of GFI value is 0 to 1. Higher value indicating better fit for the model. Thus GFI can be classified as absolute index of fit that basically compares the hypothesized model with no model at all. GFI value greater than 0.90 implies better model fit (Hair et al. 2015). The formula of GFI is (Malhotra and Dash 2017, p. 712),

$$GFI = 1 - F_k / F_o$$

where  $F_k$  is the minimum fit function of the estimated model and  $F_o$  is the fit function of the baseline model with no free parameter.

#### Adjusted goodness-of-fit index (AGFI)

AGFI tries to take into account the different degrees of model complexity. AGFI is estimated when GFI is adjusted for the number of degrees of freedom compared to the number of parameters. AGFI value greater than 0.90 implies better fit model. Like GFI, AGFI can also be classified as absolute index of fit. The formula of AGFI is (Malhotra and Dash 2017, p. 712),

$$AGFI = [1 - (p(p+1)/2df) (1 - GFI)]$$

where  $p$  is the total number of observed variables,  $df$  is the degree of freedom of the model and  $GFI$  is the goodness-of-fit index value.

#### Comparative fit index (CFI)

CFI is an incremental fit index that assess how well the measurement model fits compared to some alternative baseline model. The most common baseline model is null model where all the observed variables are assumed as uncorrelated. CFI improves by the specification of related multi-item constructs. CFI is normed which means the values of CFI are in 0 to 1 range. Higher value indicates better fit. CFI value above 0.95 implies better model fit. CFI considers degrees of freedom for the model complexity. The formula of CFI is (Malhotra and Dash 2017, p. 713),

$$CFI = 1 - (\chi^2_{prop} - df_{prop}) / (\chi^2_{null} - df_{null})$$

where  $\chi^2_{prop}$  and  $df_{prop}$  are the chi-square value and degree of freedom value for the theoretically based proposed model and  $\chi^2_{null}$  and  $df_{null}$  are the chi-square value and degree of freedom value for the null model.

#### Root mean square error of approximation (RMSEA)

RMSEA takes into account the error of approximation in the population and explains to what extent the model with unknown but optimally chosen parameter values fits the population covariance matrix. This discrepancy, measured by RMSEA, is expressed per degrees of freedom. Therefore, it is sensitive to the number of parameters in the model. RMSEA examines the difference between the actual and predicted covariance. RMSEA adjusts the chi-square value by factoring in the degrees of freedom and the sample size (Malhotra and Dash 2017). Lower RMSEA value indicates better fit.

RMSEA value should be below 0.08 (Hair et al. 2015). The formula of RMSEA is (Malhotra and Dash 2017, p. 712),

$$\text{RMSEA} = \sqrt{\frac{(\chi^2/df - 1)}{(n-1)}}$$

where  $\chi^2$  = chi-square,  $df$  is the degree of freedom and  $n$  = sample size.

(2) Construct validity - Validity is the extent to which the research model is accurate. Construct validity is the extent to which a set of measured items actually reflects the theoretical latent construct. One of the primary objectives of the CFA is to examine the construct validity of the measurement model. In CFA summation of the scales are not required because SEM can measure latent construct score for each respondent. CFA allows relationships between the constructs to be automatically corrected for the amount of error variance that exist in the construct measures. Construct validity of the measurement model depends on two aspects. They are, convergent validity and discriminant validity.

Convergent validity of the latent constructs

The items that are the indicators of a specific latent construct should converge or share a high proportion of variance in common, which is known as convergent validity. Convergent validity examines the extent to which the item correlates positively with other items of the same latent construct. Three techniques are followed to ensure convergent validity, (i) factor loadings, (ii) average variance extracted (AVE) and (iii) composite reliability (CR).

(i) Factor loadings

Factor loadings refer to the correlations between the latent construct and its items (factors). Factor loading of an item shows the extent to which that particular item explains the latent construct. High factor loadings indicate that the observed items converge on the same construct. All the items of a latent construct should be statistically significant. Standardized factor loadings are in the range of -1.0 and + 1.0.

Standardized loadings of the items should be more than 0.5 to ensure convergent validity of the latent constructs (Hair et al. 2015).

(ii) Average variance extracted (AVE)

AVE is the variance in the items that is explained by the latent construct. AVE varies from 0 to 1. AVE should be calculated for each latent variable in the measurement model and the AVE value of more than 0.5 indicates acceptable result. The formula of AVE is (Malhotra and Dash 2017, p. 714),

$$AVE = \frac{\sum_{i=1}^n \lambda_i^2}{\sum_{i=1}^n \lambda_i^2 + \sum_{i=1}^n \delta_i}$$

where AVE is the average variance extracted,  $\lambda$  = completely standardized factor loading,  $\delta$  = error variance and  $n$  = number of indicators or observed variables.

(iii) Composite reliability (CR)

CR is also an indicator of convergent validity. It is the total amount of true score variance in relation to the total score variance. Higher CR value indicates that internal consistency of the latent variable exists, which means all the items represent the same latent variable. CR is computed as (Malhotra and Dash 2017, p. 713),

$$CR = \frac{(\sum_{i=1}^p \lambda_i)^2}{(\sum_{i=1}^p \lambda_i)^2 + (\sum_{i=1}^p \delta_i)^2}$$

where CR = composite reliability,  $\lambda$  = standardized factor loading,  $\delta$  = error variance and  $p$  = number of indicators or observed variables.

Discriminant validity of the latent constructs

Discriminant validity defines the extent to which a construct is truly distinct from other constructs. Discriminant validity ensures that a construct is unique and captures some phenomena which other constructs do not. Two techniques are followed to assess the discriminant validity. They are (i) square root of AVE of an underlying latent construct should be higher than all inter construct correlations (ii) the AVE of an underlying latent construct should be higher than the maximum shared variance (MSV) and average shared variance (ASV) of the same latent construct (Hair et al.

2015). MSV is the maximum shared variance of the latent construct and ASV is the shared variance of the latent construct.

#### Common method bias

The present study uses self-designated technique for collecting data from the respondents. Common method bias arises because of common method variance which is more attributed to the measurement model rather than the construct (Podsakoff et al. 2003). Common method variance is the spurious variance that is attributed to the measurement model. When survey respondents are predisposed to provide strongly positive or negative answers, it inflates the relationships between the variables measured through survey. Common method variance leads to confounding influence and that leads to misleading results (Podsakoff et al. 2003). Therefore, the common method bias test needs to be performed. One of the methods to do the test, which this study also followed, is the common latent factor method. In this method, the CFA is again performed with an additional same source first order factor (common latent factor). That extra factor is considered as an indicator for all the measures (Belschak et al. 2006). If the difference between the standard regression weights of the observed variables of the research model without the common latent factor and the standard regression weights of the observed variables of the research model with common latent factor are less than 0.2, it implies that the data is free from common method bias.

#### Multicollinearity

Multicollinearity is a phenomenon where one predictor (independent) variable can be explained by the other variables. It arises when the correlations between the independent variables are high. To test for multicollinearity, variance inflation factor (VIF) for each independent variable are measured (O'brien 2007). VIF is a measure of collinearity. The formula of VIF is (Kock and Lynn 2012, p. 550),

$$VIF_i = \frac{1}{1 - R_i^2}$$

$VIF_i$  = VIF value of the predictor variable  $i$  and  $R_i^2$  = variance explained for the predictor variable  $i$  by the other remaining predictor variables. If VIF values of the predictor variables are less than 3.3, it indicates that the data is free from multicollinearity problem (Kock and Lynn 2012). If correlation between the independent variables are less than 0.80, it also indicates that the data is free from multicollinearity problem (Hutcheson and Sofroniou 1999).

#### **4.7.3.2 Structural Model**

After examining the validity of the measurement model, the next step is to assess the structural model. Structural model includes the assessment of the significance of the relationships between the variables. Structural model focuses on the relationships between the latent constructs. The model is the set of one or more dependence relationships linking the hypothesized model's constructs. Thus, the model represents the interrelationships between the variables. Structural model depends on two aspects, namely, (1) acceptable level of goodness-of-fit (GOF) and (2) Path diagram and analysis.

##### **(1) Acceptable level of goodness-of-fit (GOF)**

For structural model the indicators of GOF are the same as discussed in the section 4.7.3.1 "*Goodness-of-fit (GOF) for measurement model*". They are Normed chi-square, Goodness-of-fit index (GFI), Adjusted goodness-of-fit index (AGFI), Comparative fit index (CFI) and Root mean square error of approximation (RMSEA) (Hair et al. 2015).

##### **(2) Path diagram and analysis**

Theory is the foundation of the research model. Through hypotheses all the relationships are specified before estimating the path diagram. In the research model some are independent and some are dependent variables. The path diagram demonstrates the expected relationships between the variables. Path diagram is the schematic representation of relationships between the variables, where dependence relationships are shown through straight arrows and correlation relationships are shown by curved arrows. Path analysis is carried out to determine the strength of the

paths shown in the path diagram. To do path analysis three aspects are considered. They are (i) beta value ( $\beta$ ) or path coefficient value, (ii) critical ratio (CR) or  $t$  value and (iii) significance level ( $p$ ) value.

(i) Beta value ( $\beta$ ) or path coefficient value

$\beta$  value is the standardized regression coefficient that explains the direct effect of an independent variable on the dependent variable in the path model.

(ii) Critical Ratio (CR) or  $t$  value

CR values are the values of beta coefficients divided by their standard errors.

(iii) Significance level ( $p$ ) value

Significance level ( $p$ ) value shows the significance level of the path. In the present study, three significance level are considered for acceptable results. They are 0.001 (denoted by \*\*\*), 0.01 which was denoted as \*\* and 0.05 which was denoted as \*. If the significance level of the paths were fall under above mentioned significance level, then the results were considered as acceptable.

To summarize, this chapter discussed the methodology adopted for the present study. The following chapter presents the results of the study.



## **CHAPTER 5 RESULTS AND DISCUSSIONS**

The present chapter deals with the data analysis and interpretation of the findings. The chapter presents the results of the measurement model, structural model and the tested hypotheses.

### **5.1 Content Validity**

As mentioned in section 4.3.3, to measure each latent construct, initially 6 items were considered. However, after EFA, top four items (as per their factor loadings) for each variable or latent construct were retained in the final questionnaire. The number of words in the questionnaire was 608. For content validity of the questionnaire, the procedure suggested by Zaichkowsky (1985) was followed. Four experts in the online communication field and three academicians were consulted to ensure each item's specificity, clarity and representativeness. Then, to detect the unclear and difficult questions, an offline pilot study was conducted. Thus, the items were purified and used for the data collection under final study.

### **5.2 Pilot Study**

An offline pilot study was conducted with 208 respondents. Based on the responses, it was found that in the previous year (November 2014 to October 2015) the various consumer electronic brands considered by the respondents were Acer, Apple, Asus, Canon, Dell, Google, HP, HTC, Karbonn, Lenevo, LG, Micromax, Microsoft, Motorola, Nikon, Samsung, Sony, Toshiba and Xiaomi. Therefore, the present study considered all the 19 brands for the final study.

#### **5.2.1 Reliability Analysis for Pilot Study**

Cronbach's alphas were determined for all the 12 latent constructs, namely, source, receiver, review quality, review sidedness, review consistency, PCOR, brand awareness, perceived value, brand personality, organizational associations, perceived quality and purchase intention. Reliability alpha values were in the range of 0.933 to 0.957 as presented in Table 5.1. The Cronbach's alpha results were above the

recommended minimum of 0.7 (Nunnally 1978, p. 245). This implies that the scales of the latent constructs were reliable to do further statistical tests.

Table 5.1 Reliability analysis for the pilot study

Variable name	Cronbach's alpha value
1. Source	0.948
2. Receiver	0.957
3. Review quality	0.944
4. Review consistency	0.938
5. Review sidedness	0.934
6. PCOR	0.941
7. Brand awareness	0.934
8. Perceived value	0.933
9. Brand personality	0.948
10. Organizational associations	0.948
11. Perceived quality	0.946
12. Purchase intention	0.949

### 5.2.2 Exploratory Factor Analysis (EFA)

In EFA 12 factors were identified and the total explained variance was 80.67 percent. EFA revealed that all the 12 variables were unidimensional with Eigen values more than 1. Sample adequacy test, namely, Kaiser-Meyer-Olkin test (KMO) value was 0.761, which is well above the recommended minimum of 0.5 as suggested by Malhotra and Dash (2017).

In the final questionnaire, only the top four items as per their factor loadings were considered for each of the variables (see Appendix). The top four items and their factor loadings for each of the 12 latent constructs are mentioned in Tables 5.2 and 5.3. It should be noted that in the questionnaire (R) denotes reverse coded questions. Brand X means those consumer electronic brands for which the respondents viewed the online reviews.

Table 5.2 Measurement instruments for the factors of YACM and PCOR

Variable	Item no.	Questions	Factor Loadings
Source	S_1	Reviewers of brand X's products are knowledgeable.	.890
	S_2	Reviewers of brand X's products are reliable.	.853
	S_3	Reviewers of brand X's products are believable.	.821
	S_4	Reviewers of brand X's products are dishonest. (R)	.809
Receiver	R_1	Online reviews on brand X products are matching with my point of view.	.908
	R_2	I always pay attention towards online reviews on brand X products.	.900
	R_3	Online reviews on brand X products are not at all important to me. (R)	.839
	R_4	Online reviews on brand X products are dissimilar to my belief. (R)	.833
Review quality	RQ_1	Online reviews on brand X's products are defined.	.866
	RQ_2	Online reviews on brand X's products are detailed.	.863
	RQ_3	Online reviews on brand X's products are explained.	.841
	RQ_4	Online reviews on brand X's products are confusing. (R)	.794
Review consistency	RC_1	High voted reviews on brand X's products are believable	.869
	RC_2	Online reviews on brand X's products are different to other reviews. (R)	.830
	RC_3	High voted reviews on brand X's products are unreliable. (R)	.827

	RC_4	Online reviews on brand X's products are related to other reviews.	.812
Review sidedness	RS_1	Online reviews on brand X's products that contain positive and negative both aspects of the products are dependable.	.853
	RS_2	Online reviews on brand X's products that contain merits and demerits both aspects of the products are persuasive.	.832
	RS_3	Online reviews on brand X's products that contain strength and weakness both aspects of the products are convincing.	.822
	RS_4	Negative online reviews on brand X's products are reliable. (R)	.817
PCOR	PCOR_1	Online reviews on brand X's products are accurate.	.918
	PCOR_2	Online reviews on brand X's products are realistic.	.906
	PCOR_3	Online reviews on brand X's products are invalid. (R)	.898
	PCOR_4	Online reviews on brand X's products are logical.	.883

Table 5.3 Measurement instruments for the CBBE dimensions and purchase intention

Variable	Item no.	Questions	Factor Loadings
Brand awareness	BA_1	My knowledge on brand X's products improves after reading online reviews.	.872
	BA_2	Online reviews on brand X's products do not influence my viewpoint on brand X.(R)	.859
	BA_3	My understanding on brand X's products improves after reading online reviews.	.811
	BA_4	My know-how on brand X's products improves after reading online reviews.	.785
Perceived	PV_1	Online reviews help me to buy those products which are cost efficient.	.913
	PV_2	Online reviews make it easier for me to buy those products which would be a value for money.	.895

value	PV_3	Online reviews do not make it easier for me to buy those products which would be cost worthy. (R)	.885
	PV_4	Online reviews help me in deciding what products to buy which I would get much more than my money's worth.	.849
Brand personality	BP_1	Online reviews guide me in selecting those products which takes care of my requirements.	.917
	BP_2	Online reviews do not give me an idea which products suit my needs. (R)	.903
	BP_3	Online reviews do not give me a clear picture of the nature of person who would use a particular product. (R)	.882
	BP_4	Online reviews give me a clear picture of the type of person who would use a particular product.	.866
Organizational associations	OA_1	Going through the online reviews of the products help me in knowing the manufacturer of the products.	.902
	OA_2	Looking at the products' reviews help me to develop trust with the manufacturer.	.900
	OA_3	Online reviews of the products do not help me to develop faith with the manufacturer. (R)	.870
	OA_4	Online reviews help me to get an understanding on products' manufacturer.	.861
Perceived quality	PQ_1	Online reviews facilitate me to assess the quality of brand X's products.	.939
	PQ_2	Online reviews do not facilitate me to evaluate the quality of brand X's products. (R)	.917
	PQ_3	Online reviews facilitate me to evaluate the quality of brand X's products.	.910
	PQ_4	Online reviews do not facilitate me to measure the quality of brand X's products. (R)	.885
Purchase intention	PI_1	Online reviews facilitate me to decide which product I would consider to procure.	.835
	PI_2	Online reviews help me to decide which product I am likely to buy.	.813
	PI_3	Online reviews guide me to consider the product that I am likely to obtain.	.807
	PI_4	I never follow online reviews to decide what to buy. (R)	.779

### 5.3 Final Study

The following sub-sections present the descriptive statistics, reliability analysis, demographics of the respondents, measurement model, structural model and discussion on the results of the final study.

#### 5.3.1 Descriptive Statistics of the Final Study

Skewness values of all the latent constructs were between +/-1 (see Table 5.4). Therefore, the distribution of the data of latent constructs can be considered to be following the normal distribution curve (Malhotra and Dash 2017). Moreover, kurtosis values of the latent constructs were below 2.20, which means that the data of latent constructs were free from outliers (Sposito et al. 1983).

Table 5.4 Descriptive statistics of the final study

Variable name	Mean	Standard Deviations	Skewness	Kurtosis
Source	3.5961	.83400	-.602	.247
Receiver	2.9080	.73576	-.183	-.348
Review quality	3.6610	.84816	-.530	.222
Review consistency	3.2688	.85457	-.285	-.234
Review sidedness	3.3598	.90397	-.363	-.381
PCOR	3.8018	.78383	-.426	.220
Brand awareness	3.5174	.93740	-.464	-.384
Perceived value	3.8664	.74920	-.571	.433
Brand personality	3.5294	.81609	-.539	.259
Organizational associations	3.3222	.92601	-.269	-.535
Perceived quality	3.5447	.78483	-.335	.065
Purchase intention	3.8332	.55511	-.494	.739

### 5.3.2 Reliability Analysis for the Final Study

Cronbach's alpha determines internal consistency of the constructs. Internal consistency of a latent construct determines how closely the items of the latent construct are related. Cronbach's alphas were determined for all the 12 latent constructs, namely, source, receiver, review quality, review consistency, review sidedness, PCOR, brand awareness, perceived value, brand personality, organizational associations, perceived quality and purchase intention. Reliability alpha values were in the range from 0.889 to 0.944 as presented Table 5.5. The Cronbach's alphas were above the recommended minimum of 0.7 (Nunnally 1978, p. 245).

Table 5.5 Reliability analysis for the final study

Variable name	Cronbach's alpha value
1. Source	0.920
2. Receiver	0.906
3. Review quality	0.926
4. Review consistency	0.920
5. Review sidedness	0.944
6. PCOR	0.909
7. Brand awareness	0.930
8. Perceived value	0.898
9. Brand personality	0.906
10. Organizational associations	0.921
11. Perceived quality	0.929
12. Purchase intention	0.889

### 5.3.3 Demographics of the Respondents in Final Study

As mentioned in section 4.5 the final study consisted of a sample of 1690 respondents. Among these 1690 respondents, 1217 (72%) were males and 473 (28%) were females. With regards to the age of the respondents, 976 respondents were within the age bracket of 18 to 29 years, 468 respondents were 30 to 39 years old and rest were above 39 years. With regards to the education qualifications of the respondents, 63 were diploma holders, 414 were undergraduates, 632 were graduates and rest were post graduates.

### 5.3.4 Measurement Model

Various values for the measurement model indices were, Normed chi square = 2.888, Goodness-of-fit index (GFI) = 0.932, Adjusted goodness-of-fit index (AGFI) = 0.921, Comparative fit index (CFI) = 0.970 and Root mean square error of approximation (RMSEA) = 0.033. All the results were within the acceptable level as recommended by Hair et al. (2015) (see Table 5.6).

Table 5.6 Measurement model indices

Indices	Threshold Value	Present study results
Normed chi square	>1 Normed chi square <3 (Hair et al. 2015)	2.888
GFI	>0.90 (Hair et al. 2015)	0.932
AGFI	>0.90 (Hair et al.2015)	0.921
CFI	>0.95 (Hair et al. 2015)	0.970
RMSEA	<0.08 (Hair et al. 2015)	0.033



## Convergent validity

Convergent validity ensures that the items of a particular latent construct share a high proportion of variance in common. Factor loadings of each of the retained four items per latent constructs were more than 0.5. Average variance extracted (AVE) of all the latent constructs were more than 0.5 and construct reliability (CR) of all the latent constructs were more than 0.7, therefore results indicated an acceptable level (Hair et al. 2015) (see tables 5.7 and 5.8).

Table 5.7 Convergent validity for the factors of YACM and PCOR

Variable	Measurement Instruments	Factor Loadings	Construct Reliability (CR)	Average Variance Extracted (AVE)	Maximum Shared Squared Variance (MSV)	Average Squared Shared Variance (ASV)
Source	S_1	0.935	0.921	0.745	0.119	0.014
	S_2	0.789				
	S_3	0.846				
	S_4	0.875				
Receiver	R_1	0.791	0.906	0.707	0.007	0.003
	R_2	0.820				
	R_3	0.863				
	R_4	0.887				
Review quality	RQ_1	0.953	0.926	0.760	0.079	0.013
	RQ_2	0.778				
	RQ_3	0.866				
	RQ_4	0.881				
Review consistency	RC_1	0.911	0.922	0.747	0.014	0.003
	RC_2	0.778				
	RC_3	0.912				

	RC_4	0.849				
Review sidedness	RS_1	0.940	0.945	0.812	0.014	0.003
	RS_2	0.848				
	RS_3	0.922				
	RS_4	0.891				
PCOR	PCOR_1	0.878	0.909	0.715	0.119	0.030
	PCOR_2	0.827				
	PCOR_3	0.866				
	PCOR_4	0.809				

Table 5.8 Convergent validity for the CBBE dimensions and purchase intention

Variable	Measurement Instruments	Factor Loadings	Construct Reliability (CR)	Average Variance Extracted (AVE)	Maximum Shared Squared Variance (MSV)	Average Squared Shared Variance (ASV)
Brand awareness	BA_1	0.937	0.931	0.772	0.039	0.008
	BA_2	0.871				
	BA_3	0.902				
	BA_4	0.798				
Perceived value	PV_1	0.907	0.899	0.693	0.038	0.007
	PV_2	0.736				
	PV_3	0.772				
	PV_4	0.900				

Brand personality	BP_1	0.913	0.909	0.715	0.014	0.003
	BP_2	0.839				
	BP_3	0.902				
	BP_4	0.713				
Organizational associations	OA_1	0.962	0.923	0.752	0.027	0.006
	OA_2	0.822				
	OA_3	0.899				
	OA_4	0.774				
Perceived quality	PQ_1	0.913	0.929	0.766	0.019	0.004
	PQ_2	0.851				
	PQ_3	0.869				
	PQ_4	0.866				
Purchase intention	PI_1	0.837	0.889	0.668	0.058	0.018
	PI_2	0.835				
	PI_3	0.778				
	PI_4	0.817				

### Discriminant validity

As mentioned earlier, discriminant validity assesses whether the constructs are different from each other. In the final study, the square roots of AVEs of the latent constructs were higher than all the inter construct correlations (see Table 5.9) (Hair et al. 2015). Further, AVE of the latent variables were higher than their maximum shared squared variance (MSV) and average squared shared variance (ASV) (Fornell and Larcker 1981). The results are at acceptable levels (Hair et al. 2015), which means all the 12 latent constructs are different from each other.

Table 5.9 Discriminant validity

	<b>1</b> Purchase intention	<b>2</b> Source	<b>3</b> Review quality	<b>4</b> Review consistency	<b>5</b> Review Sidedness	<b>6</b> Perceived credible online reviews	<b>7</b> Brand awareness	<b>8</b> Perceived value	<b>9</b> Organizational associations	<b>10</b> Perceived quality	<b>11</b> Receiver	<b>12</b> Brand personality
1	<b>0.817</b>											
2	0.074	<b>0.863</b>										
3	0.130	0.098	<b>0.872</b>									
4	0.006	-0.042	0.014	<b>0.864</b>								
5	0.079	-0.074	0.019	0.010	<b>0.901</b>							
6	0.241	0.345	0.281	0.111	0.024	<b>0.845</b>						
7	0.198	0.056	0.084	0.009	0.047	0.113	<b>0.878</b>					
8	0.195	0.053	0.123	-0.010	-0.005	0.116	0.082	<b>0.832</b>				
9	0.112	0.021	0.085	-0.004	0.118	0.165	-0.003	0.033	<b>0.867</b>			
10	0.137	0.063	0.072	0.032	0.005	0.071	0.052	0.037	0.008	<b>0.875</b>		
11	-0.012	-0.056	0.018	0.079	0.071	0.068	-0.082	-0.020	0.049	0.057	<b>0.841</b>	
12	0.065	-0.009	0.032	0.117	-0.016	0.058	-0.085	0.022	0.008	0.068	0.027	<b>0.845</b>

\*Diagonal bold figures indicate the square root of AVE. Off-diagonal figures indicate the correlations between the constructs.

### Common method bias

The differences in the standard regression weights of the observed variables of the research model without and with the common latent factor were less than 0.2 (see Tables 5.10 and 5.11). Therefore, the data can be considered to be free from common method bias.

Table 5.10 Common method bias estimations for the factors of YACM and PCOR

Variable	Measurement Instruments	Regression weights without common latent factor	Regression weights with common latent factor	Difference
Source	S_1	0.935	0.918	0.017
	S_2	0.789	0.773	0.016
	S_3	0.846	0.81	0.036
	S_4	0.875	0.87	0.005
Receiver	R_1	0.791	0.787	0.004
	R_2	0.82	0.819	0.001
	R_3	0.863	0.861	0.002
	R_4	0.887	0.883	0.004
	RQ_1	0.953	0.944	0.009
	RQ_2	0.778	0.772	0.006

Review quality	RQ_3	0.866	0.857	0.009
	RQ_4	0.881	0.875	0.006
Review consistency	RC_1	0.911	0.909	0.002
	RC_2	0.778	0.775	0.003
	RC_3	0.912	0.91	0.002
	RC_4	0.849	0.845	0.004
Review sidedness	RS_1	0.940	0.93	0.01
	RS_2	0.848	0.845	0.003
	RS_3	0.922	0.92	0.002
	RS_4	0.891	0.89	0.001
PCOR	PCOR_1	0.878	0.749	0.129
	PCOR_2	0.827	0.701	0.126
	PCOR_3	0.866	0.742	0.124
	PCOR_4	0.809	0.807	0.002

Table 5.11 Common method bias estimations for the CBBE dimensions and the purchase intention

Variable	Measurement Instruments	Regression weights without common latent factor	Regression weights with common latent factor	Difference
Brand awareness	BA_1	0.937	0.934	0.003
	BA_2	0.871	0.868	0.003
	BA_3	0.902	0.900	0.002
	BA_4	0.798	0.796	0.002
Perceived value	PV_1	0.907	0.905	0.002
	PV_2	0.736	0.733	0.003
	PV_3	0.772	0.771	0.001
	PV_4	0.900	0.898	0.002
Brand personality	BP_1	0.913	0.907	0.006
	BP_2	0.839	0.831	0.008
	BP_3	0.902	0.900	0.002
	BP_4	0.713	0.710	0.003

Organizational associations	OA_1	0.962	0.959	0.003
	OA_2	0.822	0.820	0.002
	OA_3	0.899	0.895	0.004
	OA_4	0.774	0.772	0.002
Perceived quality	PQ_1	0.913	0.912	0.001
	PQ_2	0.851	0.849	0.002
	PQ_3	0.869	0.865	0.004
	PQ_4	0.866	0.861	0.005
Purchase intention	PI_1	0.837	0.828	0.009
	PI_2	0.835	0.824	0.011
	PI_3	0.778	0.770	0.008
	PI_4	0.817	0.811	0.006

### Multicollinearity

To test the presence of multicollinearity problem, VIF for each of the independent variables was measured (O'brien 2007). The VIF values were less than 3.3 (see Tables 5.12), which means the present study was free from any multicollinearity problem (Kock and Lynn 2012). Further, the correlations between independent variables were less than 0.80, which indicate that the present study was free from multicollinearity issues (Hutcheson and Sofroniou 1999).



Table 5.12 Multicollinearity test results using VIF technique

Dependent variable	Independent variables	Collinearity Statistics - VIF
Review quality	Source	1.011
	Receiver	1.016
	Review consistency	1.009
	Review sidedness	1.011
Receiver	Source	1.020
	Review quality	1.012
	Review consistency	1.002
	Review sidedness	1.007
Review consistency	Source	1.021
	Receiver	1.009
	Review quality	1.012
	Review sidedness	1.012
Source	Receiver	1.013
	Review quality	1.001
	Review consistency	1.007
	Review sidedness	1.006
Review sidedness	Source	1.017
	Receiver	1.011
	Review quality	1.012
	Review consistency	1.009

### 5.3.5 Structural Model

After acceptable construct validity results, the present study determined the structural model and tested the hypotheses. Various indices of structural model, namely, Normed chi square = 2.947, Goodness-of-fit index (GFI) = 0.928, Adjusted goodness-of-fit index (AGFI) = 0.920, Comparative fit index (CFI) = 0.967 and Root mean square error of approximation (RMSEA) = 0.034. All the results were within the accepted level (Hair et al. 2015).

Table 5.13 Structural model indices

Indices	Threshold Value	Present study results
Normed chi square	>1 normed chi square <3 (Hair et al. 2015)	2.947
GFI	>0.90 (Hair et al. 2015)	0.928
AGFI	>0.90 (Hair et al. 2015)	0.920
CFI	>0.95 (Hair et al. 2015)	0.967
RMSEA	<0.08 (Hair et al., 2015)	0.034

#### Path analysis

Path analysis of SEM was used to test the various hypotheses of the research model (Tables 5.14, 5.15, 5.16). From the path significance tests, it was found that source and receiver have statistically significant positive effects on PCOR. In the context of message determinants, two out of three, namely, review quality and review consistency, had statistically significant positive effects on PCOR. The remaining one message determinant, namely, review sidedness, was statistically insignificant in this model. Hence, hypothesis H3c was rejected.

With regards to the brand equity dimensions, PCOR had statistically significant positive effects on all the five CBBE dimensions, namely, brand awareness, perceived value, brand personality, organization associations and perceived quality. In the context of purchase intention, CBBE dimensions, namely, brand awareness, perceived value, brand personality, organization associations and perceived quality had statistically significant positive effects on purchase intention.

Table 5.14 Path analysis for the factors affecting PCOR

Path	Standardised Coefficient ( $\beta$ )	<i>t value</i>	Hypothesis	Results
Source $\longrightarrow$ PCOR	0.332***	13.459	H1	Supported
Receiver $\longrightarrow$ PCOR	0.070**	2.841	H2	Supported
Review quality $\longrightarrow$ PCOR	0.247***	10.235	H3a	Supported
Review consistency $\longrightarrow$ PCOR	0.115***	4.784	H3b	Supported
Review sidedness $\longrightarrow$ PCOR	0.040	1.686	H3c	Not Supported

\*\*\* Significance at the  $p < 0.001$  level, \*\*  $p < 0.01$ .

Table 5.15 Path analysis for the impact of PCOR on CBBE dimensions

Path	Standardised Coefficient ( $\beta$ )	<i>t value</i>	Hypothesis	Results
PCOR → Brand awareness	0.117 <sup>***</sup>	4.478	H4	Supported
PCOR → Perceived value	0.122 <sup>***</sup>	4.626	H5a	Supported
PCOR → Brand personality	0.059 <sup>*</sup>	2.250	H5b	Supported
PCOR → Organizational associations	0.166 <sup>***</sup>	6.430	H5c	Supported
PCOR → Perceived quality	0.077 <sup>**</sup>	2.933	H6	Supported

\*\*\* Significance at the  $p < 0.001$  level, \*\*  $p < 0.01$  and \*  $p < 0.05$

### 5.16 Path analysis for the impact of CBBE dimensions on purchase intention

Path	Standardised Coefficient ( $\beta$ )	<i>t value</i>	Hypothesis	Results
Brand awareness $\longrightarrow$ Purchase intention	0.186 <sup>***</sup>	7.251	H7	Supported
Perceived Value $\longrightarrow$ Purchase intention	0.174 <sup>***</sup>	6.694	H8a	Supported
Brand personality $\longrightarrow$ Purchase intention	0.069 <sup>**</sup>	2.675	H8b	Supported
Organizational associations $\longrightarrow$ Purchase intention	0.106 <sup>***</sup>	4.194	H8c	Supported
Perceived quality $\longrightarrow$ Purchase intention	0.117 <sup>**</sup>	4.575	H9	Supported

\*\*\* Significance at the  $p < 0.001$  level, \*\*  $p < 0.01$

### 5.3.6 Discussion of the Findings

In line with the findings of some of the prior studies like Djafarova and Rushworth (2017) and Shan (2016), the present study did find source to have statistically significant positive effect ( $\beta$  value = 0.332,  $t$  value = 13.459 &  $p < 0.001$ ) on PCOR. Thus, consumers of the consumer electronic products segment in India too try to assess the knowledge and technical expertise of the sources before considering their opinions, in the form of reviews, as credible. However, this result is different from what Cheung et al. (2008) found for another Asian country, namely, Hong Kong. In that study source had no impact on information usefulness. One possible reason for the differing results might be due to the fact that the study by Cheung et al. (2008) was based on services category (food and restaurant's online reviews) in Hong Kong, whereas the present study deals with the online reviews in the context of a physical product category in a developing country like India. In the case of services, where experience of individual is important, people may not be completely convinced about the review unless they themselves experience the service. However, in the case of electronic products where the information is often more technical, consumers would try to seek opinions of others whom they perceive as experts. Therefore, in the present study, source credibility turned out to be important for credibility evaluation of online reviews.

The results of the study show that receiver's previous knowledge and experiences affect PCOR ( $\beta$  value = 0.070,  $t$  value = 2.841 &  $p < 0.01$ ). Thus, consumers in India try to compare the online reviews with their own prior knowledge. If reviews are consistent with their prior knowledge and experiences, then they are likely to consider those online reviews as credible.

Review quality had a statistically significant positive effect on PCOR ( $\beta$  value = 0.247,  $t$  value = 10.235 &  $p < 0.001$ ). This implies that consumers in India too look for not just any review. They search for reviews that contain justifications for those reviews (Yang et al. 2016). If the review is described with real life examples, it improves the consumer's perception towards the credibility of online reviews (Singh et al. 2017). Review consistency also affects credibility evaluation of online reviews ( $\beta$  value = 0.115,  $t$  value = 4.784 &  $p < 0.001$ ). Consumers in India consider those

online reviews as credible that are similar too online reviews written by other reviewers.

Contrary to the hypothesis formulated, in the present study, review sidedness was found to be statistically insignificant in determining PCOR. However, this finding is consistent with the findings of Cheung et al. (2009) and Luo et al. (2015) and unlike the finding of Uribe et al. (2016). Uribe et al. (2016) found that two sided reviews have significant positive impact on the credibility of blog advertisements. While, Uribe et al. (2016) used experimental design where each and every review was analyzed by the respondents, the present study as well as Cheung et al. (2009) and Luo et al. (2015) used the descriptive research design (survey), where the reviews were viewed in aggregate by the respondents. It seems the underlying design of the study is the reason for differences in the findings between the present study and the study by Uribe et al. (2016). According to Baker et al. (2016) too, in the real world, consumers do not consider sidedness of one review at a time but rather they consider reviews as an aggregate. Thus, review sidedness may not be that important for credibility evaluation of online reviews.

To assess the impact of PCOR on CBBE dimensions, the present study considered five CBBE dimensions that ultimately influence consumer's intention to purchase. PCOR had a statistically significant positive effect on all the CBBE dimensions, namely, brand awareness ( $\beta$  value = 0.117,  $t$  value = 4.478 &  $p < 0.001$ ), perceived value ( $\beta$  value = 0.122,  $t$  value = 4.626 &  $p < 0.001$ ), brand personality ( $\beta$  value = 0.059,  $t$  value = 2.250 &  $p < 0.05$ ), organizational associations ( $\beta$  value = 0.166,  $t$  value = 6.430 &  $p < 0.001$ ) and perceived quality ( $\beta$  value = 0.077,  $t$  value = 2.933 &  $p < 0.01$ ). Thus, when the consumers view the online review of the consumer electronics and perceive them to be credible, there are effects on the CBBE dimensions. Consumers in India use online reviews as tool to improve their knowledge on consumer electronic products. Further, through online reviews the consumers evaluate the cost worthiness of consumer electronic products. The consumers follow others' online opinions on consumer electronic products to assess the extent to which the particular consumer electronic brand can fulfil their own

requirements. Online reviews influence even the consumer's trust towards the manufacturer of the consumer electronic products. Moreover, consumers in India pursue online reviews to assess the quality or utility of the consumer electronic products.

All the CBBE dimensions had statistically significant positive effects on purchase intention. In other words, as visible in Table 5.16, brand awareness ( $\beta$  value = 0.186,  $t$  value = 7.251 &  $p < 0.001$ ), perceived value ( $\beta$  value = 0.174,  $t$  value = 6.694 &  $p < 0.001$ ), brand personality ( $\beta$  value = 0.069,  $t$  value = 2.675 &  $p < 0.01$ ), organizational associations ( $\beta$  value = 0.106,  $t$  value = 4.194 &  $p < 0.001$ ) and perceived quality ( $\beta$  value = 0.117,  $t$  value = 4.575 &  $p < 0.01$ ), are important for purchase intention of consumer electronic products in India.

Any consumer who is thinking of purchasing a consumer electronic product and browsing through online reviews on the various brands, would come across a large amount of information, arguments and comparisons in the online reviews written by others. These reviews, if perceived credible by the consumer, would improve his/her awareness about the consumer electronic brands. The reviews can also help the consumer to assess the value of the brand, quality of the brand, and suitability of the brand to his/her own requirements. The PCOR can also affect the perception of the organization that owns the brand in the mind of the consumers. Thus, with more informed CBBE dimensions values in the mind, the consumer is likely to take more effective decision with regards to his/her intention to purchase the particular brand of electronic product. Thus, the present study can be treated as evidence that PCOR do affect CBBE dimensions proposed by Aaker (1991), which ultimately affect consumer's purchase intention of the consumer electronic products in India.



## **CHAPTER 6 CONCLUSIONS AND IMPLICATIONS**

### **6.1 Summary and Conclusion**

The following paragraphs summarize the findings of the study with respect to the consumer electronics segment in India. The chapter also gives the theoretical and managerial implications of the study and explains how the research gaps identified in the literature review section have been filled by the present study. The first objective of the study was to determine the factors that make online reviews credible. To achieve this objective, the present study followed YACM. The model states that four factors have significant influence on information persuasiveness, namely, source of the information, receiver of the information, message or content of the information and the medium of the information. The present study considered the medium of the information to be online. The other three factors that remain, namely, source of the information, receiver of the information and message of the information were examined in the context of the online medium. The study found that source of the reviews, receiver of the reviews, quality of the reviews and consistency of the reviews have significant positive impact on PCOR. The second objective of the study was to assess the impact of PCOR on CBBE dimensions. With regards to this objective, attribution theory was used as the theoretical background. Attribution theory suggests that people have tendency to give meaning to their environment to arrive at a causal judgment. Therefore, the CBBE dimensions get affected when consumers go through various online reviews on brands (that they perceive as credible) and try to evaluate them to make judgments about the brand. The present study did find that PCOR have statistically significant positive impacts on brand awareness, perceived value, brand personality, organizational associations and perceived quality. The third objective of the study was to analyze the effect of CBBE dimensions on purchase intention. Aaker's CBBE model (1991, 1996) was the basis for this objective as he proposed that the behavioral consequence of CBBE is consumer's purchase intention. The present study did find that all the five CBBE dimensions, namely, brand awareness, perceived value, brand personality, organizational associations and perceived quality have statistically significant positive impact on purchase intention. Thus, the present study

found support for 14 out of 15 hypotheses formulated to achieve the three broad objectives of the study.

## **6.2 Theoretical Implications**

The theoretical contribution of this dissertation to the extant literature is hidden in the overall research model used in the study. These contributions are in terms of (1) understanding the factors that make online reviews credible, (2) analyzing the impact of PCOR on CBBE dimensions and (3) analyzing the impact of CBBE dimensions on consumer's purchase intention.

First, till date, in online medium context, the literature lacks studies that investigate all the three dimensions, namely, source of the information, the receiver of the information and message of the information as factors that affect perceived credibility of reviews. The message and the receiver dimensions have especially suffered from lack of sufficient empirical studies. In addition, extant literature has hardly made any attempt to theoretically explain the interconnections between all the four factors that can make online reviews credible. The research presented in this dissertation contributes to this research gap (RG1) by making use of the YACM. Thus, empirical evidences in the present study suggest that source and receiver have significant positive effect on PCOR. In the context of message factor, review quality and review consistency are relevant while review sidedness doesn't seem to be important for credibility evaluation of online review. In online environment people do not know each other but they follow the others' opinions. They consider some factors to believe others' reviews, namely, source of the review, receiver's prior knowledge on that review topic, quality of the review content, and other's opinion towards that review. Thus, the present study supports the source credibility theory in online context. Source credibility theory argues that source of the information has significant influence on credibility of the information. The present study confirms the same in the context of online medium. Expertise and trustworthiness of the source are important for credibility evaluation of online reviews. Consumers compare review contents with their own prior knowledge on the specific topic. If the review content is consistent with the prior knowledge of the consumers, then the consumers perceive that the

review is credible. In terms of content quality of the review, consumers seek the explanation behind the argument of the review, which means review content should give proper reasons. Even consistency of the other's opinion towards the review can make the review credible. Consumers seek concurrence in the reviews. Hence, high rated reviews are perceived as credible.

Second, in this study attribution theory acts as a theoretical bridge that connects PCOR and CBBE dimensions. The study reinforces the relevance of online reviews on brand value creation. Through the lens of attribution theory, the present study argues that consumers try to evaluate credible online reviews, thereby creating an impression of the brand in the consumer's mind, which ultimately affects CBBE dimensions. Extant literature has neglected the theoretical justification behind the relationship between online reviews and brands. Thus, the present study analyzes the importance of online reviews for brand value creation. The study provides evidence that PCOR have significant positive effect on the five CBBE dimensions, namely, brand awareness, perceived value, brand personality, organizational associations and perceived quality. In online environment vast amount of consumer reviews exist. However, all the reviews can't be trusted (Johnson and Kaye 2016). Hence, consumers seek credibility of the information. Some of the earlier researchers have attempted to understand the impact of online reviews on brands. However, these studies have not attempted to check the credibility of the reviews before examining its impact on brands. There are hardly any studies that analyze the impact of PCOR on CBBE dimensions as proposed by Aaker (1991). The present study contributes to fill this research gap in marketing literature (RG 2). Online reviews on brands can give awareness of the brands to others. Other consumers get to know about brand's utility or performance from the online reviews. In online forum where geographic boundaries are absent and huge number of people from all over the world are present, brand information can be disseminated very fast. Online reviews can help the consumers to assess the cost worthiness of the brand. Online reviews can facilitate the consumers to judge whether a given product can suit their own personality. Consumers have their own likes or dislikes or style of living. From online reviews consumers can understand the extent to which the brand matches their own

personality. Online reviews often provide information about the manufacturers of the brand, where the uniqueness of the manufacturer of the brand is especially highlighted. This ultimately influences consumer's perception on the brand. Online reviews also provide the information on quality or overall superiority of the brand thereby affecting the brand perceptions of the consumers.

Third, the present study finds that, in the online medium context, the five CBBE dimensions proposed by Aaker (1991), namely, brand awareness, perceived value, brand personality, organizational associations and perceived quality have significant positive effect on purchase intention. Very few studies on online medium have considered the impact of CBBE dimensions proposed by Aaker (1991) on purchase intention. The present study contributes to this research gap (RG 3). Online reviews on brands can create a perception of the brand in terms of its utility, value, cost worthiness, and quality, which ultimately influence others to purchase the brand.

Thus, the overall research model presented in the study holds in the context of online reviews for consumer electronics category in India. The dissertation has attempted to create a unique research model by interconnecting multiple theories.

### **6.3 Managerial Implications**

The research contributes to the understanding of the credibility aspect of online reviews which ultimately have strong influence on CBBE dimensions and thereby impact consumer's purchase intention of consumer electronic products. The findings of the study can facilitate managers in their online brand building efforts. Special attention should be paid to the source and review quality aspects. These two variables have significant impact in determining the credibility of online review. A well-articulated message with convincing arguments about consumer electronic brands can help consumers to assess the usefulness and ease of using consumer electronic products. Since the current study indicates that the argument quality of product review has a positive effect on the credibility of online reviews, the managers and third-party product review websites who are interested in obtaining online feedback should try to adopt a structured review format where the reviewers can express their opinions in a more structured way. Further, product review sites can use marketing analytics

techniques such as data mining and document indexing tools to sort reviews based on their source attributes and structures, which will allow consumers to access useful information on demand. Product review sites can adopt peer-rating system to improve the credibility of online product reviews. Managers should continually monitor customer feedback and public opinion to learn about customer preferences. In addition, managers should respond to both praises and criticisms proactively to make online reviews more valuable for the consumers. Often, consumers are more vigilant and suspicious towards consumer reviews. Therefore, product review sites should try to improve the authenticity of information by investing in fraud management software and/or giving an option to the users to flag out suspicious reviews.

The focus of the marketers should be to make the present customers believe that their association with the brand is indispensable to the company. The present customers are the promoters of the brand. Hence, marketers can come up with advertisements where they give their present customers a chance to share their experiences on the brand. The endorsement of the brand by the existing customers through convincing arguments can trigger trial of the brand by the prospect customers.

Marketers can also use authenticated brand pages of social media websites such as Facebook to share their plans on the expansion of products of the brands. Marketers can announce the launch of new products and their specific features via brand page or communities in the social media. This, in turn, can create a buzz among its consumers. Marketers can create a social forum like brand community or brand page which is dedicated only for a specific brand, which can facilitate the marketers to engage in meaningful conversation with their present consumers and get their feedback on product improvements.

To ensure that the credibility of online reviews is improved through good quality reviews, marketers can go for a consumer education drive where they can educate their present consumers. Such education drives can try to educate the existing consumers on product usage, company policy and value of the product. This, in turn will help the customers to enhance their expertise on the brand. This would ensure that better and logical reviews are written by the existing customers, which enhance

the credibility of the reviews, thereby improving the CBBE dimensions and ultimately affecting the purchase intention of the consumers.

#### **6.4 Limitations of the Study**

Although the present study provides both theoretical and empirical explanations about the impact of PCOR on CBBE dimensions and its consequence on consumer behavior, there are some limitations to the study. The study considers only consumer electronics category. Hence, the findings of the study are limited to the specific product category. The study considers "Flipkart | Amazon | Snapdeal Offer" online brand community in Facebook as representative and subset of population. The study is based on India. The study measures all the variables through consumer's self-reporting technique. The present study did not consider the effects of credible online reviews on brand loyalty, channel relationships, trademarks and patents.

#### **6.5 Future Research Directions**

The research model of this study can be used in other emerging and developed countries. There are other developing countries like China, Malaysia where one can notice increasing trends in online shopping. In future, researchers can use this model in other product category contexts. There are studies that have tested online behavior in the context of high and low involvement consumer electronics and the complete analytical model proposed in this study can be tested for those products and comparisons can be drawn to what extent consumer behavior with regards to consumer reviews may differ across high and low involvement product categories. Further, cultural differences of the consumers can be taken into consideration in the research model as it influences consumer's online behavior (Özbölük and Dursun 2017). Longitudinal study can be done to see the evolution of brand equity through online reviews (Veloutsou and Guzman 2017). One interesting topic that can be explored is the effect of perceived credible online reviews on brand sabotage where consumers are determined to do damage to the brand (Kähr et al. 2016). Moreover, in future, researchers can investigate the effect of perceived credible online reviews on brand switching which has become one of the pertinent issues that companies are trying to deal with in the present digital world (Msaed et al. 2017).

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## **Appendix**

### **Questionnaire of the Study**

Title: The Impact of online reviews on consumer based brand equity dimensions and their effects on purchase intention of consumer electronic products.

Recently did you see or consider any online reviews about TV, Mobile phones, Camcorder, Digital Cameras, CD and DVD players, Laptop, Tablets, Mobile or Laptop Accessories, etc. which are the products of one or more of the brands- Acer, Apple, Asus, Canon, Dell, Google, HP, HTC, Karbonn, Lenevo, LG, Micromax, Microsoft, Motorola, Nikon, Samsung, Sony, Toshiba and Xiaomi? If yes, then answer the questionnaire. In the questionnaire, brand X means the brand's online reviews that you saw or considered.

Respondent's participation is voluntary and their data will be kept anonymous and confidential. Please read the questions carefully and answer them. There are no "right" or "wrong" answers and I am interested in your own thoughts and feelings.

(Mark the appropriate)

1. What is your gender? Male \_\_\_\_\_, Female \_\_\_\_\_

2. What is your age (in years)? Below 18 \_\_\_\_\_, 18 - 29 \_\_\_\_\_, 30 - 39 \_\_\_\_\_, 40 and above \_\_\_\_\_

3. What is your Education qualification? Diploma \_\_\_\_\_, Undergraduate \_\_\_\_\_, Graduate \_\_\_\_\_, Post Graduate \_\_\_\_\_

Source

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Reviewers of brand X's products are knowledgeable.					
Reviewers of brand X's products are reliable.					
Reviewers of brand X's products are believable.					
Reviewers of brand X's products are unreliable.					
Reviewers of brand X's products are unbelievable.					
Reviewers of brand X's products are dishonest.					

Receiver

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews on brand X products are matching with my point of view.					
Online reviews on brand X products are similar to my opinion.					
I always pay attention towards online reviews on brand X products.					
Online reviews on brand X products are not at all important to me.					
Online reviews on brand X products are dissimilar to my belief.					
I do not like to surf online reviews on brand X products.					

## Review Quality

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews on brand X's products are defined.					
Online reviews on brand X's products are explained.					
Online reviews on brand X's products are complex.					
Online reviews on brand X's products are detailed.					
Online reviews on brand X's products are confusing.					
Online reviews on brand X's products are complicated.					



## Review Consistency

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews on brand X's products are related to other reviews.					
High voted reviews on brand X's products are unreliable.					
High voted reviews on brand X's products are convincing.					
High voted reviews on brand X's products are believable.					
Online reviews on brand X's products are different to other reviews.					
Online reviews on brand X's products are similar to other reviews.					

## Review Sidedness

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews on brand X's products that contain strength and weakness both aspects of the products are convincing.					
Online reviews on brand X's products that contain positive and negative both aspects of the products are dependable.					
Online reviews on brand X's products that contain merits and demerits both aspects of the products are persuasive.					
Negative online reviews on brand X's products are reliable.					
Negative online reviews on brand X's products are trustworthy.					
Negative online reviews on brand X's products are dependable.					

PCOR

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews on brand X's products are inaccurate.					
Online reviews on brand X's products are illogical.					
Online reviews on brand X's products are invalid.					
Online reviews on brand X's products are accurate.					
Online reviews on brand X's products are logical.					
Online reviews on brand X's products are realistic.					

## Brand Awareness

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews on brand X's products do not influence my viewpoint on brand X.					
Online reviews on brand X's products do not influence my understanding on brand X.					
Online reviews on brand X's products do not influence my knowledge on brand X.					
My know-how on brand X's products improves after reading online reviews.					
My understanding on brand X's products improves after reading online reviews.					
My knowledge on brand X's products improves after reading online reviews.					

Perceived Value

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews help me to buy those products which are cost efficient.					
Online reviews make it easier for me to buy those products which would be a value for money.					
Online reviews help me in deciding what products to buy which I would get much more than my money's worth.					
Online reviews do not make it easier for me to buy those products which would be cost worthy.					
Online reviews do not help me to buy those products which are cost efficient.					
Online reviews do not make it easier for me to buy those products which would be a value for money.					

## Brand Personality

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews give me a clear picture of the type of person who would use a particular product.					
Online reviews give me an idea which products suit my needs.					
Online reviews guide me in selecting those products which takes care of my requirements.					
Online reviews do not give me a clear picture of the type of person who would use a particular product.					
Online reviews do not give me an idea which products suit my needs.					
Online reviews do not give me a clear picture of the nature of person who would use a particular product.					

## Organizational Associations

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews of the products do not help me to develop faith with the manufacturer.					
Going through the online reviews of the products do not help me in knowing the manufacturer of the products.					
Looking at the products' reviews do not help me to develop trust with the manufacturer.					
Online reviews help me to get an understanding on products' manufacturer.					
Looking at the products' reviews help me to develop trust with the manufacturer.					
Going through the online reviews of the products help me in knowing the manufacturer of the products.					

## Perceived Quality

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews facilitate me to assess the quality of brand X's products.					
Online reviews facilitate me to determine the quality of brand X's products.					
Online reviews facilitate me to evaluate the quality of brand X's products.					
Online reviews do not facilitate me to measure the quality of brand X's products.					
Online reviews do not facilitate me to determine the quality of brand X's products.					
Online reviews do not facilitate me to evaluate the quality of brand X's products.					



Purchase Intention

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Online reviews help me to decide which product I am likely to buy.					
Online reviews facilitate me to decide which product I would consider to procure.					
Online reviews guide me to consider the product that I am likely to obtain.					
I never follow online reviews to decide what to buy.					
Online reviews assist me to consider the product that I am likely to get.					
I do not like to follow online reviews to decide what to buy.					

**NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL**

**List of Publications based on Ph.D. Research Work**

Sl.NO	Title of the paper	Authors (in the same order as in the paper, Underline the Research Scholar's name )	Name of the Journal/Conference Symposium, Vol., No., Pages	Month & year of Publication	Category*
1	Opinion leadership measurement scale for offline and online.	<u>Uttam Chakraborty</u> and Savita Bhat	In Somnath Chakbarti (Eds.), Globalizing Brand India: Opportunities and Challenges (1st edition)	November & 2016	3
2	The effect of credible online reviews on brand equity dimensions and its consequence on consumer behavior	<u>Uttam Chakraborty</u> and Savita Bhat	Journal of promotion management. Vol. 24 No. 1, pp 57-82.	January & 2018	1
3	Credibility of online reviews and its impact on brand image	<u>Uttam Chakraborty</u> and Savita Bhat	Management research review. Vol. 41 No. 1, pp 148-164.	January & 2018	1
4	Effect of Credible Reviews on Brand Image: A Mixed Method Approach	<u>Uttam Chakraborty</u> and Savita Bhat	IIM kozhikode society and management review. Vol. 7 No. 1, pp 1-10.	January & 2018	1
5	Online Reviews and Its Impact on Brand Equity	<u>Uttam Chakraborty</u> and Savita Bhat	International journal of internet marketing and advertising. Vol. 12 No. 2, pp 159-180.	March & 2018	1
6	Are online opinion leaders and seekers distinct? A study on consumer electronics industry in India	<u>Uttam Chakraborty</u> and Savita Bhat	Global Business Review (Accepted but not yet published)		1

\*Category 1: Journal paper, full paper reviewed 2: Journal paper, Abstract reviewed, 3: Conference/Symposium paper, full paper reviewed, 4: Conference/Symposium paper, abstract reviewed, 5: others (including papers in Workshops, NITK Research Bulletins, Short notes, etc.)

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### **Educational Qualifications**

**Ph.D.** - School of Management, National Institute of Technology Karnataka (NITK) as full time research scholar under institute scholarship. Supervisor Name Dr. Savita Bhat.

**UGC NET-** Qualified year 2013 Management Category

### **Post Graduation**

Master of Business Administration (MBA) - 79%

### **Graduation**

Bachelor of Business Management (BBM) - 75%

### **Other qualification**

Diploma on operation research and media management from Eauclaire Institute USA.

Microsoft Gold Certification on ERP

SOA certification from IBM

## **Publications**

### **Journals (5)**

(1) Chakraborty, U. and Bhat, S. (2018). "The effect of credible online reviews on brand equity dimensions and its consequence on consumer behavior", *Journal of promotion management*. Vol. 24 No. 1, pp 57-82. (Publisher - Taylor and Francis, Scopus and ABDC indexed).

(2) Chakraborty, U. and Bhat, S. (2018). "Online Reviews and Its Impact on Brand Equity", *International journal of internet marketing and advertising*. Vol. 12 No. 2, pp 159-180. (Publisher - Inderscience, Scopus and ABDC indexed).

(3) Chakraborty, U. and Bhat, S. (2018). "Credibility of online reviews and its impact on brand image", *Management research review*. Vol. 41 No. 1, pp 148-164. (Publisher - Emerald, Scopus and ABDC indexed).

(4) Chakraborty, U. and Bhat, S. (2018). "Effect of Credible Reviews on Brand Image: A Mixed Method Approach", *IIM Kozhikode society and management review*. Vol. 7 No. 1, pp 1-10. (Publisher - Sage. ICI indexed).

(5) Chakraborty, U. and Bhat, S. (2018). "Are online opinion leaders and seekers distinct? A study on consumer electronics industry in India", *Global Business Review*. (Publisher - Sage, Scopus and ABDC indexed).

### **Book Chapter (1)**

Chakraborty, U. and Bhat, S. (2016). Opinion Leadership Measurement Scale for Offline and Online. In Somnath Chakbarti (Eds.), *Globalizing Brand India: Opportunities and Challenges* (1st ed., pp. 196 -208). New Delhi: Bloomsbury Publishing.

### **International Conference Attended**

- 1- Globalizing brand India opportunities and challenges 2015. IIM Kashipur. *Paper titled- Inclusion of Electronic Word of Mouth as an Additional Psychometric Property of Revised King and Summers Opinion Leadership Scale*
- 2- Management Doctoral Colloquium and VGSOM Research Scholars' Day 2016. IIT Kharagpur. *Paper titled- Online Recommendation Credibility and Adoption: Effects of EWOM on Customer Based Brand Equity Dimensions*
3. International Conference on Marketing, Technology and Society 2016. IIM Kozhikode. *Paper titled- Effect of credible reviews on brand image: A mixed method approach.*
4. IMR Doctoral conference 2016-17. IIM Bangalore. *Paper titled- Do credible online reviews effect brand equity? A mixed method approach.*
5. 12<sup>th</sup> SIMSR Global Marketing Conference. K. J. Somaiya Institute of Management Studies. *Paper titled- The Impact of Credible Online Reviews on Purchase Intention: The Mediating Roles of Brand Equity Dimensions.*

### **Research Paper Reviewed**

Journal of Business Research (Elsevier) Certificate awarded  
Journal of Asian Business Studies (Emerald)  
Journal of Promotion Management (Taylor and Francis)  
Internet Research (Emerald)  
Management Research Review (Emerald)  
Asia Pacific Journal of Marketing and Logistics (Emerald)  
Information Technology & People (Emerald)