SOCIAL COMMERCE AND CONSUMER DECISION MAKING: A STUDY ON FACEBOOK USERS

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Abstract

Social Commerce and Consumer Decision Making: A Study on Facebook Users

The emergence of social commerce made a paradigm shift in the business-consumer relationship realm. In fact, more power has shifted from the seller to the buyer and predominately fueled to strengthen e-commerce acceptance. Thus, understanding consumer behavior in the context of social commerce adoption has become inevitable for organizations that aim to convince consumers by particularly exploiting the advantage of social relationships and support. Moreover, such social ties will be able to facilitate trust as the most promising benefit while alleviating the perceived risk, which were the major concerns with online commerce over the years. This research study comprehend the impact of social commerce on the consumer decision making process stages; need recognition, information search, alternative evaluation, purchase decision and post purchase behavior. In this context, pertaining literature in the field of social commerce; (1) lacks adequate explanatory model or (2) lacks substantial theoretical foundation or (3) consist practically complex models with inadequate empirical evidence. The research employs the Social Commerce Constructs (SCC): recommendations and referrals, forums and communities, and ratings and reviews to examine the respective influence towards the consumer decision making process stages. This research was conducted as a quantitative study involving cross-sectional survey data gathered from Sri Lankan Facebook users. 214 valid responses were captured by means of an electronic structured questionnaire. The data analysis was embarked with exploratory data analysis. Subsequently, descriptive sample characteristics were provided with the objective of proposing some generalizations. The data was analyzed and hypotheses were tested with Structural Equation Modeling (SEM). The findings exhibited that there were significant positive effect of social commerce constructs on all consumer decision making stages. Therefore, this study suggests that, regardless of the nature or type of the business organization, implementation of social commerce strategy is essential.

Keywords: Consumer Decision Making Process, Online Social Networks, Social Commerce, Social Commerce Constructs, Social Support

Acknowledgement

Table of Contents

List of Figures

List of Tables

List of Abbreviations

AGFI	Adjusted Goodness of Fit Statistic
AVE	Average Variance Extracted
CFI	Comparative Fit Index
CR	Composite Reliability
EDA	Exploratory Data Analysis
FGC	Firm Generated Content
GFI	Goodness of Fit Statistic
NFI	Normed Fit Index
NNFI	Non Normed Fit Index
OSN	Online Social Network
PNFI	Parsimony Normed Fit Index
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
SCC	Social Commerce Construct
SEM	Structural Equation Modelling
SRMR	Standardized Root Mean Square Residual
TLI	Tucker Lewis Index
UGC	User Generated Content

List of Appendices

1 INTRODUCTION

1.1. Background of the Study

Advancements in the Internet technologies in recent years have successfully brought online communities via Online Social Network (OSN) platforms. In fact, Web 2.0 is the ground breaking technological advancement that made the paradigm shift of Internet technology to embark the virtual social environments, thus seamlessly connect each other. Consequently, people started embracing the social media including OSNs at an unprecedented way. Further, growth of such tendency is mainly fueled by the smart mobile penetration and spread of the Internet. Unlike in the past, today consumers are exposed to various sources of information in which major popularity residing with the OSNs due to its unique functionalities of enabling users to co-create content as well as the ability to interact with others. Besides, such OSN platforms are becoming an important tool for business organizations to attract consumers and market their products, services and events. In fact, OSN platforms have now been highly recognized as commercialized platforms equipped with virtual social interactions. Thus, academia and practitioners coined the term as "Social Commerce" to name this technological advanced phenomenon.

It is evident that the Web 2.0, predominantly including OSN sites has a major impact on our online behavior. In fact, from a commercial point of view, it has extended its impact on offline and online purchasing decisions of consumers (e.g., Forman et al., 2008; Hajli, 2015; Han & Windsor, 2011; Kwahk & Ge, 2012; Stephen & Galak, 2012; Wang & Yu, 2015). Hence, as a result "Social Commerce" and allied "Social Media Marketing" have emerged and trended. Subsequently, OSNs led to strengthening e-commerce adoption by building the trust and minimizing the perceived risk, which were strongly driven by the online community social support. Social Commerce uses Web 2.0 social technologies and infrastructure to facilitate interactions and user contributions in an online context to support consumers' acquisition of products and services (Liang & Turban, 2011). Importantly, OSN environments facilitate consumers not only to buy the products and services, but also to co-create content that adds value

to both the consumer and seller (Do-Hyung et al., 2007). Hence, consumers are becoming active content creators in the Internet in contrast to the preceding traditional passive behavior (Hajli, 2012). OSNs are no longer a niche media as people have widely adopted and are using them to a greater extent. Hence, the applicability of social commerce may not be fragmented to any demographic and geographical profile. In fact, social commerce can be accepted as a global phenomenon. Consequently, organizations and marketers should not be skeptical on harnessing the benefits of social commerce.

Marketers are highly keen on analyzing the consumer behavior than the past due to evolving nature of intense competition. Importantly, understanding consumer decision making process stages with respect to any product, service or event is conceived as the fundamentals of analyzing consumer behavior, thereby crafting strategic marketing decisions. It is evident the fact that consumer perception and preference have been started to shift from traditional commerce to the online commerce with the increasing likelihood of embracing the Internet for their lives. Therefore, marketers could not resist observing online consumer behavior for them to succeed. Precisely, analyzing consumer behavior in OSNs is imperative for marketers' decision making. Provided these rationale and accepting notions by the scholars in the marketing field, researcher highlights that the consumer decision making process stages is believed to be the heart of the consumer behavior.

1.2.   Research Problem / Gap

Social Commerce is no longer a new phenomenon and it is considered to be the salient driving force of the business in near future. Besides, consumer decisions will significantly rely on and are inevitably prone to social commerce, which is strongly backed by online social support. Nevertheless, there is a dearth in research conducted to investigate the impact of social commerce facilitated on OSNs on consumer decision making process stages; need recognition, information search, alternative evaluation, purchase decision and post purchase behavior. This research study intends to comprehend the impact of social commerce on the consumer decision making process stages as pertaining literature in the field of social commerce: (1) lacks an adequate

explanatory model (e.g., Wang & Yu, 2015) or (2) lacks substantial theoretical foundation (e.g., Hajli, 2013; Liang & Turban, 2011; Osei & Abenyin, 2016; Rad & Benyoucef, 2011) or (3) presented practically complex models with inadequate empirical evidence (e.g., Yadav et al., 2013; Zhang & Benyoucef, 2016). This research employs the Social Commerce Constructs (SCCs): recommendations and referrals, forums and communities, and ratings and reviews to examine the respective influence towards the consumer decision making process stages. Zhang and Benyoucef (2016) affirmed that there exists a theoretical and an empirical gap in investigating the above mentioned phenomenon as available literature mostly attempted to assess the impact of social commerce on individual stages or few stages at a time instead of comprehending the holistic consumer decision making process stages. Furthermore, intended empirical outcomes of this study will enable organizations to devise appropriate social commerce strategies for their respective brands that will reap the benefits at each stage in the decision making process. Consequently, in near future, social commerce could be optimized as an extended e-commerce model.

1.3. Research Questions

The aim of this study is to explore the implications of social commerce facilitated in Facebook on the consumer decision making process stages with special reference to Sri Lanka. Among the other OSNs, Facebook has ranked the top in terms of the popularity and gained the significantly larger portion of the overall Internet traffic globally (eBizMBA Guide, 2016; Statista, 2016). By June 2016, worldwide Facebook penetration was 22.9% of the total estimated world population and further it was evident that the highest Facebook penetration was contributed by the Asian region with an estimated contribution amounting 33% of the total Facebook subscribers (Internet World Stats, 2016). Similarly, Facebook is ranked among the most popular OSNs in Sri Lanka. It is evident that there were approximately 4.2 million Facebook subscribers in Sri Lanka representing 20.1% of the total population (Internet World Stats, 2016). Provided the rationale, research interest is predominately vested on the Sri Lankan Facebook users as above evidences suggest appropriateness. To respond the above mentioned under-explained phenomenon, researcher intends to address the following research questions:

1. What is the impact of the social commerce on the consumer need recognition?
2. Does the social commerce influence on the consumer information search behavior?
3. Is there an impact of the social commerce on the consumer alternative evaluation behavior?
4. What is the influence of the social commerce on the consumer purchasing behavior?
5. Does the social commerce has an influence on the consumer post-purchasing behavior?

1.4. Research Objectives

Therefore, in this research study it is expected to investigate the implications of social commerce driven by Facebook as the most popular OSN on consumer decisions and behavior within the context of consumer decision making stages among Sri Lankan consumers. In order to ascertain the mentioned broad research problem and the respective research questions, the study aims to achieve the following research objectives,

1. To assess the impact of social commerce on consumer need recognition.
2. To ascertain the influence of social commerce on consumer information search behavior.
3. To determine the impact of social commerce to consumer alternative evaluation behavior.
4. To identify the influence of social commerce to consumer purchase decision.
5. To explore the influence of social commerce to consumer post-purchase behavior.

1.5. Significance of the Study

As discussed at the outset, due to the novelty of phenomenon, there are inadequate theoretical models and empirical evidences in the field of consumer behavior in social commerce, which this research study intends to address. It was admitted that among the other related fields, this could be the increasingly attracting research field in the

near future (e.g., Liang & Turban, 2011; Zhang & Benyoucef, 2016). This research study adopts Yadav et al.'s (2013) definition of social commerce and concentrates the discussion on OSN sites to highlight the "social" dimension of social commerce, complying with the argument by Zhang and Benyoucef (2016). Apparently, available literature lacks a systematic framework followed by empirical investigation that evaluates the few stages, giving a way to an incomplete view to the role of social commerce in decision making process stages. Yadav et al. (2013) coined the fact that implications of social commerce on consumer decision making process stages is worth investigating for firms to leverage.

Understanding the role of social commerce in consumer behavior improves marketing initiatives as well as gives a better insight about consumers. Moreover, such understanding has a direct implication on the overall performance of the business. Besides, it is paramount for organizations to manage online social platforms effectively as they have significant impact on consumer decisions. It is also important to determine how social commerce driven by social support influences the different stages of the consumer decision making process. Constructive impact of the SCCs on the consumer decision making process stages will enable the brands to be thriving in the market; similarly adverse impact of SCCs on any stage of the consumer decision making process should be treated as destructive. Moreover, such adverse influence is expected to amplify overtime in online social communities embedded with trust in eWOM, and it certainly has a harmful impact on other stages as well. Consequently, potential consumers will be loosen from the seller's hands and existing consumers will shift over to the competitors in no time. Therefore, the findings of the study would give comprehensive understanding about the implications of social commerce on consumer decision making behavior, given the fact that Facebook as the most popular OSN around the World, Asia and Sri Lanka. Moreover, researcher firmly highlights this study can be further applied as well as extended for other geographic regions and other OSNs.

1.6. Methodological Rational of the Study

This research study is intended to comprehend the impact of the social commerce for each consumer decision making stage without concerning the inter-relatedness of the decision making stages. The researcher argues such inter-relatedness could not be determined due to the novelty of the research phenomenon and the lack of literature with empirical support in the context of social commerce. Besides, some consumers may use social commerce for limited stages of the decision making process. Further, there is literature with empirical evidences for assessing independent and dependent variable relationships individually assuming stages of the decision making process (e.g., Hajli, 2015; Liang et al., 2011; Song & Yoo, 2016; Wang & Yu, 2015). Therefore, if literature assesses dependent variables individually, there is a clear rationale to bring all the decision steps together in a single research. As a result, this research study intends to comprehend the impact of social commerce towards an integrative model incorporating all the decision steps anticipating new knowledge. However, researcher argues such inter-relatedness of the decision making process stages is beyond this research scope.

As per the research questions detailed above, this study requires a deductive approach as this study heavily investigate the casual effects. To attain above mentioned research questions, the study intends to adhere to a sample of Sri Lankan Facebook users as a representation of the population. Provided the time frame of the study, the research complies with cross-sectional type of a quantitative research. The data collection process of the study utilizes an online questionnaire distributed via the Facebook platform for considerable duration expecting to reach maximum respondents and to achieve high response rate.

Very importantly, this study intends to address an observed question prevailing in the field of consumer behavior in social commerce which is not limited to its applicability to the local context, but could be extend to global context as well. Moreover, the present study was conducted based on the selected significant social commerce characteristics (i.e. SCCs) in Facebook and respective influence towards the consumer decision making process stages. SCCs are not necessarily the only factors that

influence the consumer decision making behavior. There might be other factors that influence consumer decision making behavior which are not under the scope of this study.

1.7. Chapter Organization

Emphasizing the research problem and respective research objectives of the study, the chapter one explains the background of the study. Hence, it mainly includes the discussion on introductory information of the study, research questions and the contribution of the study. Chapter two reviews the context literature of the research problem and establishes a theoretical foundation to proceed the study. Followed by, the chapter three devotes to explain the development of conceptual model and related hypotheses of the study. Chapter four elaborates the research methodology employed on the current study. Chapter five articulates the analysis of collected data of the study. Finally, chapter six discusses about the findings of the study and suggest relevant recommendations along with the future research directions.

2 THEORETICAL FOUNDATION AND LITERATURE REVIEW

2.1. Chapter Introduction

In order to provide a theoretical context and background that support the study, search for related literature is essential to proceed the study. The stages for reporting a literature review should be parallel with the process for conducting the primary research. The aim of this chapter is to explain the theoretical and empirical background literature of the context research problem and pave the path to develop the conceptual framework of the study.

2.2. Social Media and Online Social Networks

The Internet has transformed many spheres of society. Social media that includes various Web 2.0 applications have become the most popular online destinations in recent years. Kaplan and Haenlein (2010) defined the social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content". Further, they classified social media into six different types based on the social presence/media richness and self-presentation/self-disclosure namely; collaborative projects, blogs, content communities, social networking sites, virtual game worlds and virtual social worlds.

Generally, OSNs (which are commonly grouped under the umbrella term "Social Media" or "Web 2.0") are web-based services that allow a person to create a profile in a given system and enable to build connections with other users in the same system, allowing to view and navigate among themselves (Boyd & Ellison, 2007; Kaplan & Haenlein, 2010). Importantly, such OSNs allow communities of people to gather online, share information, knowledge, and opinions (Kaplan & Haenlein, 2010). In fact, OSNs are a major category of web based communication applications which have been widely used by the typical Internet users on daily basis. Most notably, the advent of OSNs including Facebook have attracted millions of users worldwide (Boyd &

Ellison, 2007). The rapid growth and accessibility of OSNs have fundamentally changed the way people manage information about their personnel and professional lives. Accordingly, OSNs have become a global phenomenon and attracted extensive population from all around the world despite the different demographical characteristics. Today OSNs are increasingly attracting the attention of academia and researchers as usages of OSNs have become a part of human activities. Apparently, there are plenty of OSNs with various technological affordances and supporting a wide range of interests and practices. Increasing use of OSNs is mainly reasoned by the ease of use, allowing rapid updating, analyzing and sharing information, establishing and maintaining spontaneous social contacts and relationships, supporting informal learning practices with interaction and communication, etc.

2.3. Facebook as an Online Social Network

The inception of OSN Facebook has been one of the ground breaking socio-technological trend of the recent past. Facebook define itself as "a social utility that helps people share information and communicate more efficiently with their friends, family and coworkers" (www.facebook.com). OSNs, including Facebook, are widely accepted and adopted by the worldwide Internet users. Approximately, 2 billion Internet users are using OSNs and these numbers are expected to grow continuously as a result of increasing usage of smart mobile devices and widely spreading Internet accessibility (Statista, 2016). Among the other OSNs, Facebook has become the most popular OSN and contributes significantly to larger proportion of overall Internet traffic (eBizMBA Guide, 2016). As of December 2016, there were approximately 1180 million daily active users of the Facebook around the globe (Social Bakers, 2016). In fact, Facebook had a tremendous growth in terms of the monthly active users significantly surpassing other OSNs during the last few years (Richter, 2016). As of June 2016, Facebook subscribers were approximately 22.9% of total world population. Besides, among the other regions, Asian was the largest contributor to Facebook subscriptions. Similarly, Facebook is ranked among the most popular OSNs in Sri Lanka. There were nearly 6.1 million Internet users representing 29.1% of the total population in Sri Lanka as of June 2016 (Internet World Stats, 2016). Further, there were approximately 4.2 million Facebook subscribers in Sri Lanka representing 20.1%

of the total population (Internet World Stats, 2016). As of June 2016, Sri Lanka Facebook penetration statistics were very close to the global average Facebook penetration of 22.9% (Internet World Stats, 2016). Moreover, globally, average time spent on Facebook per visit is approximately 18 minutes and Facebook allows to operate their system by 70 different languages (Statistic Brain, 2016).

It is evident that the OSNs, specially including Facebook revolutionized the marketing landscape allowing the customer to be more informative and interactive compared to traditional way of marketing. Now, for any business, despite of being large or small, tend to perceive that the Facebook is an inevitable aspect of their marketing strategy. Facebook is chosen as the most important social network for marketers over the other OSNs and majority of the marketers are planning on increasing their use of Facebook for marketing activities (Stelzner, 2016).

2.4.   Social Commerce

Social media technologies gave a rise to the social commerce as a new phenomenon in the business world. Although the concept of social commerce has been increasingly received interest among the academia and practitioners, research on social commerce is still in early stages of development (Wang & Zhang, 2012). Similarly, they pointed that understanding of social commerce is scattered and limited. Therefore, social commerce has no specific definition as it has different meanings and different scholars came out with various definitions to explain the phenomenon.

Stephen and Toubia (2010) defined social commerce as "a form of Internet-based social media that allows people to actively participate in marketing and selling of products and services in online marketplaces and communities". Broadly, social commerce involves "the use of Internet-based media that allow people to participate in the marketing, selling, comparing, curating, buying and sharing of products and services in both online and offline market places, and in communities" (Zhou et al., 2013). According to Liang and Turban (2011), social commerce uses Web 2.0 social technologies and infrastructure to facilitate interactions and user contributions in an online context to support consumers' acquisition of products and services. Lin, Li, and Wang (2017) defined social commerce as "any commercial activities facilitated

by or conducted through the broad social media and Web 2.0 tools in consumers' online shopping process or business interaction with their customers".

It is evident that these OSNs (especially including Facebook revolutionizing the business, commerce and marketing landscape) allow the consumer to be more informative and interactive (Song & Yoo, 2016; Wang & Yu, 2015) in contrast to traditional business, commerce and marketing. In fact, such OSN channels including Facebook placed the consumers in a more active role as market players and enabled them to reach (and be reached by) everyone, anywhere and anytime (Hennig-Thurau, et al., 2010). Now, any business tends to strongly admit that social media is an inevitable aspect of their marketing management strategy despite their scale of business. Hence, it is recommended to build the business presence in social media platforms (Heinrichs et al., 2011; Osei & Abenyin, 2016). Busalim and Hussin (2016) highlighted that with a new paradigm of conducting commerce using social media, social commerce is to be a promising new area of research.

2.5.   Social Commerce and Social Support

For an organization, it is important to have a business model adapted to social commerce, as the next generation of online business attracts new consumers predominantly supported by communities (Ridings & Gefen, 2004). Similarly, the user's experience in the online context is fairly different to the offline environment as social influence has got broadened with the use of the social media in contrast to the past where social influence was limited to a small social circle. Theoretically, social support is how an individual's experience about being cared for, being responded to and being helped by people as a member of a social group (Ali, 2011; Cobb, 1976). Literature affirms that the presence of the social support both in offline and online contexts has a significant impact on the consumer behavior. Li (2011) asserted that user behavior is affected not only by their own motivations but also by motivations of other users in the consumer's OSN. Therefore, theories related to social interaction and social support will be relevant in understanding consumer behavior in social commerce research (Liang & Turban, 2011).

Social Commerce is accepted as a subset of e-commerce that combines commercial and social activities (i.e. social interactions and user generated content) via a Web 2.0 environment (Liang & Turban, 2011). Social technologies allow users to have social relationships with family, friends, peers, members of the other communities and e-vendors. In fact, OSNs allow users to access and observe decisions as well as opinions related to products and services of not only close friends, family, and colleagues, but also other people around the world (Pan et al., 2007; Wang & Yu, 2015). Hajli (2015) posited that members of such OSNs can communicate and share their consumption related experience by means of SCCs (rating and reviewing, recommending and referral, and forums and communities). They are supporting each other both in an informational and emotional context (Hajli, 2013; Liang et al., 2011). SCCs have a significant impact on the emotional and informational support (Shanmugam et al., 2016). Social relationship is the key feature that differentiates social commerce from traditional commerce and other forms of online commercial activities. Consequently, social support is the key determinant of consumers' social commerce intention as well as success of social commerce (Liang et al., 2011; Rad & Benyoucef, 2011; Wang & Yu, 2015; Zhang et al., 2014).

SCCs are Web 2.0 social features that empower consumers to generate content and share their experience (Hajli, 2015). Members of online communities engage in different group activities and support each other through the social interactions and communications, which in turn are influential in shaping the consumer behavior (Bagozzi & Dholakia, 2002; Ridings & Gefen, 2004). SCCs namely; rating and reviews, recommendations and referrals, and forums and communities are the key enablers of social support in OSNs (Hajli, 2013). Further, Hajli et al. (2014) stressed that such SCCs are resulted by conceptualizing the eWOM (electronic word of mouth), which is also known as User Generated Content (UGC) in social commerce. SCCs in OSNs allow users to witness the perceptions and reactions of the community members towards products and services by the means of UGC. Nature of SCCs may be either in the form of favorable or unfavorable for a product or service based on consumers experience and the level of satisfaction. Consequently, SCCs provide content that might attract and retain consumers or disrupt and switch consumers of products or

services. Ratings allow consumers to vote on products and services. Indeed, ratings tend to attract more interaction as less effort is needed from consumer. Reviews allow consumers to give feedback about products and services. However, reviews are longer and consumers can describe their experience. Recommendations and Referrals are personalized product or service endorsements that originate from the recipient's social graph. However, ratings and reviews are visible to everyone who wishes to see them. Forums and Communities allow consumers to join in group discussions and share information in a dedicated community group or a forum within the OSN. Importantly, availability and the features of these SCCs are platform (i.e. online social network platform) specific.

Importantly, the social support facilitated in social commerce led to enhance the trust and minimize the perceived risk, eventually increasing the buying intention of the consumer (Hajli, 2015; Han & Windsor, 2011). In fact, trust is the most challenging concern of e-commerce for consumers, which can be addressed by social commerce. Consumers search for product, service and company information in OSNs since they find such sources contain UGC that are more reliable and relevant than information provided by the marketers (Bernoff & Li, 2008; Fotis et al., 2012) and traditional media (Goh et al., 2013). Further, SCCs provides seller's inducement to be trustworthy (Hajli, 2013). Moreover, people tend to consider and follow others' heuristic information (i.e. choices, opinions and etc.) to simplify the cognitive effort in decision making and overcoming the information overload (Bonabeau, 2004; Simpson et al., 2008), which could be facilitated by OSNs to a greater extent. Consumers do not have an experience regarding physically observing (i.e. touching, smelling, etc.) a product in online shopping. However, comments, reviews and ratings provided by other consumers are able to mitigate such limitations and thus influence the consumer behavior (Akar & Topçu, 2011; Do-Hyung et al., 2007). Apparently, consumers are more interested in other people's recommendations than the vendor generated information (Ridings & Gefen, 2004). Consequently, Senecal and Nantel (2004) asserted that consumers are strongly influenced by the online recommendations for their online product choices. Hence, consumers could rely on such online recommendations especially when they cannot experience the products or services in

online context. In addition, consumers' purchasing intention increases along with the quality of the reviews and the number of the online reviews (Do-Hyung et al., 2007). In fact, third party reviews have a significant impact on consumer purchasing decisions (Yubo & Jinhong, 2005). Further, an increase in the total number of ratings on a product or service will have a positive influence towards the consumer purchasing decisions (Cheung et al., 2014). They also stressed that prior purchase information provided by other consumers on an OSN can provide a reference basis to subsequent purchasing decisions of same consumer as well as later potential consumers' decisions.

2.6. Social Commerce and Consumer Decision Making

The concept of consumer behavior attempts to understand the consumer decision making process, which has multiple stages, including the predominant act of buying products and services. Depending on the different factors and findings, numerous researchers and academics have developed and revised consumer decision making process models over the past years. There were slightly different consensus about the stages involved in consumer decision making process model among the scholars (e.g., Engel, Kollat, & Blackwell, 1968; Foxall, 2005; Nicosia, 1966; Rice, 1993; Tyagi & Kumar, 2004). However, the five stages model that explains five prominent activities in consumer's decision making process: need recognition, information search, alternative evaluation, purchase decision, and post purchase behavior is considered as the commonly accepted model of consumer decision making process (e.g., Kotler & Armstrong, 2016; Kotler & Keller, 2016; Schiffman & Wisenblit, 2015). Conceptually, it is accepted that marketers need to focus on all the stages in consumer decision making process rather than relying on the purchase decision stage only. Although each stage represents a decisive step in the decision making process, all the consumers do not follow them in a sequential order (Kotler & Armstrong, 2016; Osei & Abenyin, 2016; Rad & Benyoucef, 2011). In fact, consumers pass through all five stages with every purchase but in more routine purchases, consumers often skip or reverse some of these stages (Kotler & Armstrong, 2016).

Analyzing the consumer behavior has been an interesting research phenomenon both in the context of traditional and online marketplaces. Social Media can positively as

well as negatively influence the rationality and effectiveness of consumer decision making (Power & Phillips-Wren, 2011; Rad & Benyoucef, 2011; Wang & Yu, 2015). Moreover, consumers tend to weigh negative eWOM more heavily than positive eWOM in their decision making (Park & Lee, 2009). Majority of social commerce studies examined consumer behavior by paying attention to information (especially eWOM) seeking behavior (e.g., Bilgihan et al., 2014; Bronner & Hoog, 2014; Chu & Choi, 2011), purchase attitude and purchase intention (e.g., Hajli, 2015; Ng, 2013; Wang & Chang, 2013; Wang et al., 2012). However, Yadav et al. (2013) argued that social commerce domain should not be distinguished narrowly with only considering the purchasing function of consumer behavior, rather it should encompass exchange-related activities that occur before, during and after a focal transaction. Hence, Yadav et al. (2013) defined social commerce as "exchange related activities that occur in or are influenced by, an individual's social network in computer-mediated social environments, where the activities correspond to the need recognition, pre-purchase, purchase and post-purchase stages of a focal exchange". Similarly, Lin, Li, and Wang, 2017 briefed that social commerce involves a variety of commercial activities that could assist consumers' in pre-purchase evaluation, shopping decisions, and post purchase behaviors. Further, Osei and Abenyin (2016), and Zhang and Benyoucef (2016) affirmed the validity of using consumer decision making process stages model to investigate the impact of social commerce on consumer decision making. Many scholars argued that providing a compelling consumer experience in which social interactions are fully inculcated in every stage of the consumer decision making process is a pre requisite for successful social commerce (e.g., Huang & Benyoucef, 2013; Yadav et al., 2013; Zhou et al., 2013).

2.7.   Chapter Summary

This comprehensive literature review details the definitions, facts, arguments and agreements of previous scholars in relation to the core constructs proposed in this study. Highlighting the increasing usage of OSNs, the chapter begins with discusses about the evolving nature of the OSNs. Subsequently, researcher emphasized the importance of social commerce backed by social support by referring to the existing

literature. Finally, researcher discussed the need to analyzing the consumer behavior with respect to the social commerce.

3 CONCEPTUAL MODEL AND HYPOTHESIS DEVELOPMENT

3.1. Chapter Introduction

This chapter presents the conceptual model formation with supportive theoretical foundation and development of hypothesis. The chapter introduces description of variables of the study and the anticipated relationships between them. Based on the theoretical inferences the chapter then introduces hypothesis for the study. Finally, chapter presents the more comprehensive conceptual model.

3.2. Conceptual Model

This study adopts the definition given by Yadav et al. (2013) for social commerce as it covers all the stages in the consumer decision making process including the purchasing behavior. In fact, it has broaden the scope of social commerce enabling to comprehensively assess the marketing potential of organizations with respect to the influence of social support. Hence, this research paper develops a model (see Figure 3.1: Conceptual Model) to address the impact of social commerce on consumer decision making process stages from a social support perspective. Complying with Hajli (2013), independent variable of the study is SCCs, which are composed with three dimensions: recommendation and referrals, forums and communities, and review and rating. Conforming to the assertion of Yadav et al. (2013), dependent variables of the study are stages of the consumer decision making process: need recognition, information search, alternative evaluation, purchase decision and post purchase behavior. Research hypotheses (as shown in Figure 3.1: Conceptual Model) identified in Section 3.3 are constructed to investigate the respective impact of SCCs on each consumer decision making stage.
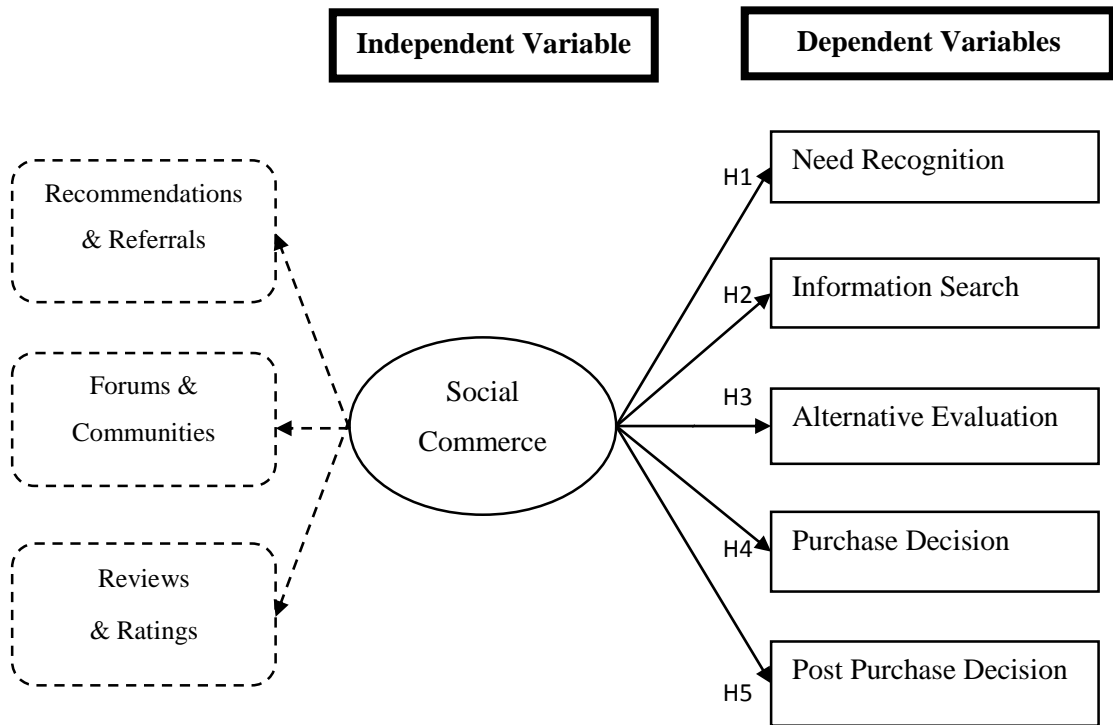
Figure 3.1: Conceptual Model

Source: constructed by researcher

3.3. Hypothesis Development

Based on the above theoretical model formulated, the study details number of hypothesis that represent different relationships among the variables identified.

3.3.1. Social Commerce and Need/Problem Recognition

Consumer need recognition (problem recognition) arose as a difference between consumer's actual and desired state of affairs. The need is triggered mainly either by the internal stimuli or external stimuli (Kotler & Armstrong, 2016). According to social learning theory literature, the social environment plays a significant role in influencing and determining the perceived needs (e.g., Bandura, 1977). Hence, individuals learn about a product or service by observing others, subsequently prompt to adopt the same product or service. Consumer's needs and wants can be motivated by the OSNs (Rad & Benyoucef, 2011). Apparently, OSNs provide the opportunity for consumers to regularly inform and observe about their member activities including

information about certain products and services. In fact, OSNs act as the source of inspiration and referrals for the consumer to become aware of the problem or need (Yadav et al., 2013). Cox and Park (2014) affirmed that consumer (i.e. his/her need recognition) can be attracted by SCCs (e.g., Likes and Recommendations) in OSNs. Thus, following hypothesis can be constructed.

Hypothesis 01 (H1): SCCs have a positive effect on the need recognition stage of the consumer decision making.

3.3.2. Social Commerce and Information Search

An individual who is interested in a product or service is likely to search for more information. Consumers can obtain information from several sources including personal sources, commercial sources, public sources, experiential sources etc. Among these, personal sources have a major influence over consumer behavior as such sources are perceived to be more reliable (Kotler & Armstrong, 2016). Precisely, word of mouth is among the compelling information providers as a personal source that assists in consumer decisions. Evolving role of the Internet has increased the number of consumers who are turning to various resources in the Internet including OSNs when searching for information. Among the other roles, OSNs play a special role as an extended personal information source (i.e. allowing to be in a connection with family members, friends, acquaintances, neighbors, etc. in OSNs) predominately driven by the eWOM as an end result of social interaction. Literally, OSNs act as a source of information allowing consumers to search (Yadav et al., 2013). The way consumers communicate and exchange information has widened and enriched with respect to the emergence of OSNs. Moreover, OSNs potentially lowered cost of search. Consumers are provided with extensive options and liberty for actively expressing opinions and information about the products and services in OSNs (Hennig-Thurau, et al., 2010). Xiang and Gretzel (2010) posited that OSNs enable consumers to disseminate information including their personal consumption related experiences with other members in connection, thus such OSNs can be treated as powerful information sources for consumers. Besides, online social networks are rich information sources as members tend to trust the information and opinions from their connections (Chu &

Kim, 2011; Power & Phillips-Wren, 2011; Rad & Benyoucef, 2011). In fact, such UGC are more reliable and relevant than information provided by the marketers (Bernoff & Li, 2008; Fotis et al., 2012) and traditional media (Goh et al., 2013). Thus, following hypothesis can be built.

Hypothesis 02 (H2): SCCs have a positive effect on the information search stage of consumer decision making.

3.3.3. Social Commerce and Alternative Evaluation

Generally, consumers analyze all the possible information to evaluate various alternative products or services and compare them with respective needs and wants (Kotler & Armstrong, 2016). OSNs act as an information source allowing consumers to evaluate the alternatives (Yadav et al., 2013). In fact, information available on the OSNs will enable the consumers to evaluate and select the preferred brand. Among the different information sources available within OSNs, UGC by personal sources have a major influence over consumer decisions as such sources are perceived as reliable as well as enable to evaluate products or services for the consumer (Kotler & Armstrong, 2016). The impact of OSNs in the pre-purchase phase including the alternative evaluation stage is highly significant as consumers can access the reviews, ratings, and recommendations of the other members of the same community (Hennig-Thurau et al., 2012; Wang & Yu, 2015; Rad & Benyoucef, 2011). Further, the significance is also considerable when such SCCs are from unknown and anonymous consumers as those will reduce the consumers' perceived risk (Hennig-Thurau et al., 2012). Ultimately, consumer generated content over marketer generated content is perceived to be trustworthy information (Bae & Lee, 2011). Thus, following hypothesis can be realized.

Hypothesis 03 (H3): SCCs have a positive effect on the alternative evaluation stage of consumer decision making.

3.3.4. Social Commerce and Purchase Decision

Consumers' purchase decision is to buy the most preferred product or service subsequent to forming the buying intention. The preference and even purchase

intention does not always result in an actual purchase decision (Kotler & Armstrong, 2016). However, intention to purchase is a psychological factor that can strongly lead to actual purchasing behavior (Wang & Yu, 2015). Consumers make important decisions in this stage such as the retailer they wish to purchase from, the timing of the purchase, and other terms and conditions pertaining to the purchase which specific product or service to buy. OSNs act as a source of information allowing consumers to decide what, where and when to buy (Yadav et al., 2013). The social interactions and support from OSNs are significantly influential to intentional and actual purchasing decisions (Hajli, 2013; Han & Windsor, 2011; Rad & Benyoucef, 2011; Wang & Yu, 2015). Similarly, Stephen and Galak (2012) concluded that sales were majorly influenced by the socially earned media activities over the traditionally earned media. Moreover, these socially earned media activities have a long-term impact on the sales. Wang and Yu (2015) argued that purchasing information provided by the other members of OSNs can be a strong referral for later consumers purchasing decisions. SCCs in OSNs can provide useful information that can reduce perceived effort and increase the probability of making a better buying decision (Yadav et al., 2013). Thus, following hypothesis can be constructed.

Hypothesis 04 (H4): SCCs have a positive effect on the purchase decision stage of consumer decision making.

3.3.5. Social Commerce and Post-Purchase Behavior

Consumers take further actions after the purchase in post-purchase behavior, mainly based on their level of satisfaction (Kotler & Armstrong, 2016). Consumers' level of satisfaction will be determined by the gap between consumer expectation and perceived product or service performance. The consumer will be more satisfied when the gap is minimal. Consumer satisfaction is the key to build profitable relationships (Kotler & Armstrong, 2016). Satisfied consumers do repeat purchases, talk favorably about the products and services with others, pay less attention to the competitors' brands and promotions, and consequently establish brand loyalty. Moreover, satisfied consumers tend to purchase other products and services offered by the same company. An unsatisfied consumer responds differently where bad word of mouth travels farther

and fast than the good word of mouth tarnishing the consumer attitudes towards the products and services. Social interactions that are happening in OSNs are more often and stronger than traditional interactions. Therefore, post-purchase activities can be likely to happen in OSNs. In fact, OSNs act as a platform for sharing consumption experience and satisfaction. After a purchase, consumers often compare their actual consumption experience with their expectations. Subsequently, consumers may communicate their level of satisfaction to other consumers via OSNs using the SCCs (Hennig-Thurau et al., 2004). Yadav et al. (2013) posited, consumers can recommend through experience and assist others in the OSNs. Liang et al. (2011) affirmed that social support has a positive impact on continuance intention to use the social commerce and better social support could enhance the consumer loyalty. Motivations of consumers could include validating an opinion, helping or educating others, sharing, bonding, and/or expressing pride associated with specific purchase that can be facilitated by OSNs (Yadav et al., 2013). Social interactions in OSNs significantly increase the likelihood of post purchase behaviors (feedback and reviews) in the OSN (Wang & Yu, 2015). Thus, following hypothesis can be constructed.

Hypothesis 05 (H5): SCCs have a positive effect on the post-purchase behavior stage of consumer decision making.

3.4. Chapter Summary

This chapter focused on the conceptualization of the study and thereby forming research hypotheses addressing the research questions and objectives respectively. Conceptual model of this research study includes single independent variable by concentrating on three features (rating and reviews, recommendations and referrals, and forums and communities) and five dependent variables consisting consumer decision making process stages (need recognition, information search, alternative evaluation, purchase, and post purchase). Therefore, five main research hypotheses were built to proceed the study.

4 RESEARCH METHODOLOGY

4.1. Chapter Introduction

The aim of this study is to explore the influence of social commerce on consumer decision making process stages in Sri Lankan Facebook users. Hence, the chapter four firstly explains the research design of the study. Secondly, it explains the operationalization of variables and instrument design. Then, the chapter describes the pilot studies, validity and reliability evidences. Finally, it explains the sample design and data collection process adopted in the study, and also explains about the analytical tools and techniques employed in the study.

4.2. Research Design

Despite the discipline, appropriate research design is essential for accurate determination of data, data collection techniques, data analysis techniques and sampling procedures. It is commonly accepted that the researcher's choice of a research design should be based on the context of the study and the research objectives (Ary et al., 2006). Hence, the research design should follow the research questions in a way that offers the best chance to obtain useful answers. Ary et al. (2006) have suggested that the studies aiming to learn the relationships, influences, causes and consequences in a single group of respondents at non-experimental conditions should follow the quantitative approach with correlational research design. Further they emphasized that, it has wide range of designs to detect simple relationship between variables to complex casual directional designs.

The aim of this study is to explore the influence of social commerce in Facebook on Sri Lankan consumer decision making process stages. Therefore, the current study was mainly designed as a causal research. The operationalization of variables, instrumentation, sample selection, data collection and data analysis of the present study were designed by the researcher adhering to the correlational research design.

4.3.   Operationalization and Measurement of Variables

Almost every managerial research is built on constructs. Constructs are deliberately and consciously created or invented for specific scientific purposes (Kerlinger, 1986). The process of operationalization is researchers making these constructs meaningful. In fact, operationalization includes the operations that need to be performed to measure the concepts and hence, the operational definitions are akin to the specific rules of measurement in the study (Viswanathan, 2005). Therefore, the researcher needs to define the specific meaning of the concepts, their operational definitions and ways to measure the variables in the study. The current study deals with the Social Commerce Constructs (SCC) and consumer decision making process stages. Variables in the integrative conceptual model (Figure 3.1: Conceptual Model) were selected based on the theoretical inferences derived from literature review (Chapter 02) and subsequently, conceptual model development (Chapter 03) of the study. Relationships between the constructs mentioned above are identified and thematic relationships are built accordingly. Further, items in main constructs (see Table 4.1: Variables Operationalization) were measured by using 5-point Likert scales. Below section describes operationalization of variables in the integrative conceptual model.

4.4.   Constructs and Variables of the Study

As Liang and Turban (2011) emphasized social commerce uses Web 2.0 social technologies and infrastructure to facilitate interactions and user contribution in an online context to support consumers' acquisition of products and services. With the objective of assessing magnitude of consumers social commerce experience of Sri Lankan Facebook users, the current study has adopted Hajli and Sims (2015) and Shanmugam et al. (2016) proposed four (04) item scales with slight modifications to accommodate with this research context (see Table 4.1: Variables Operationalization for B_01, 02, 03, 04).

The consumer decision making process consists of five stages as discussed earlier. Inevitably, these stages guide marketers to understand and communicate effectively to consumers. Power and Phillips-Wren (2011), Rad and Benyoucef (2011) and Wang and Yu (2015) emphasized that social media channels driven with online social support

have an influence on rationality and effectiveness of consumer decision making. Hence, with the objective of assessing the magnitude of social commerce in consumer decision making stages, the current study adopted Power and Phillips-Wren (2011), Rad and Benyoucef (2011), Sachdeva (2015), Yadav et al. (2013) proposed assertions and scales by slightly modifying and removing replications to accommodate with research context (see Table 4.1: Variables Operationalization: CA_01, 02, 03, 04 for need recognition, CB_01, 02, 03, 04 for information search, CC_01, 02, 03, 04 for alternative evaluation, CD_01, 02, 03, 04 for purchase decision and CE_01, 02, 03, 04 for post-purchase decision).

Table 4.1: Variables Operationalization

Construct	Item_#	Description	Source/s
Social Commerce Constructs (B)	B_01	I will ask friends/members on Facebook forums and communities to provide me with their suggestions before I purchase such a product, service or an event.	Hajli and Sims (2015), Shanmugam et al. (2016)
	B_02	I am willing to recommend such a product, service or an event that is worth buying to friends/members on the Facebook.	
	B_03	I am willing to share my own shopping experience of such a product, service or an event with friends/members on Facebook forums and communities or through Facebook ratings and reviews.	
	B_04	I would like to use friends/members online recommendations and referrals on Facebook to buy such a product, service or an event.	

Need Recognition (CA)	CA_01	User generated content of friends/members on Facebook about a product, service or an event let me realize my needs about such a product, service or an event.	Power and Phillips-Wren (2011), Rad and Benyoucef (2011), Sachdeva (2015), Yadav et al. (2013)
	CA_02	User generated content of friends/members on Facebook about a product, service or an event prompt me to purchase such a product, service or an event.	
	CA_03	User generated content of friends/members on Facebook about a product, service or an event enable me to re-evaluate my needs.	
	CA_04	User generated content of friends/members on Facebook about a product, service or an event remind me the need such a product, service or an event.	
Information Search (CB)	CB_01	When I search for information about a product, service or an event, I examine related user generated content of friends/members on Facebook.	
	CB_02	When I search for information about a product, service or an event, I perceive user generated content of friends/members on Facebook are important sources of information.	
	CB_03	When I search for information about a product, service or an event, I perceive user generated content of friends/members on Facebook as reliable.	

	CB_04	I don't make a purchase decision about a product, service or an event without examining user generated content of friends/members on Facebook.	
Alternative Evaluation (CC)	CC_01	Before the purchasing decision about a product, service or an event, I will check the related user generated content of friends/members on Facebook about alternatives.	
	CC_02	When evaluating the alternatives for such a product, service or event, I consider related user generated content of friends/members on Facebook.	
	CC_03	User generated content of friends/members in Facebook about a product, service or an event enable me to evaluate the alternatives in my mind.	
	CC_04	I don't finish evaluating the alternatives without checking the user generated content of friends/members on Facebook about such a product, service or an event.	
Purchase Decision (CD)	CD_01	User generated content of friends/members on Facebook influence about such a product, service or an event I choose to buy.	
	CD_02	User generated content of friends/members on Facebook about such a product, service or an event influence my brand choice to buy.	
	CD_03	User generated content of friends/members on Facebook about such a product, service or an event	

		influence the place (either online or offline) of my purchase.	
	CD_04	User generated content of friends/members on Facebook about such a product, service or an event influence the time of my purchase.	
Post-Purchase Decision (CE)	CE_01	When I search for solutions to such a product, service or an event related problems arose after purchase, I check the related user generated content of friends/members on Facebook.	
	CE_02	I express my level of satisfaction about such a product, service or an event I experienced as user generated content on Facebook.	
	CE_03	If I'm satisfied with a product, service or an event that I experienced, I express my next purchase decision as user generated content on Facebook.	
	CE_04	After purchasing a product, service or an event, I check related user generated content of friends/members on Facebook to evaluate my decision.	

Source: constructed by researcher

4.5. Profiling Variables

Focally, in social media research profiling has been used (e.g., Hajli, 2015; Kim & Park, 2013; Song & Yoo, 2016; Zhang et al., 2014). Consequently, this study intends to profile variables in relation to the demographic characteristics of the respondents. Thereby, the researcher intends to develop further research insights by simply observing the descriptive of the sample subjects. Thus, the following section provides a useful ground in relation to profiling variables mentioned above. Section-A

(including question A1 to A11) of Appendix A: Research Questionnaire were formed to collect such demographic information from the respondents.

4.5.1. Gender

Gender is the biological differentiation of the Sri Lankan Facebook user respondents. Hence, this study uses a nominal type of a variable and asked to tick respondent's gender by selecting following options in A1 question.

Male	1
Female	2
Other	3

4.5.2. Age

The current study collects information about the respondents' age by utilizing a categorical type of a variable. Respondents were asked to state their age in years as at the time of survey. Hence, asked to tick their age by selecting following options in A2 question.

Under 20	1
20 – 29	2
30 – 39	3
40 – 49	4
50 or above	5

4.5.3. Marital Status

Marital status is the social state of respondent's life regarding the marriage at the time of the survey. Thus, respondents were asked to tick their marital status from the following options in A3 question.

Single	1
Married	2
Divorced	3
Separated	4
Widowed	5

4.5.4. Residential Province

Province that respondent's permanent residential address belongs to, is considered as the residential province. Hence, respondents were asked to tick their residential province by selecting the following options in A4 question.

Northern	1	Sabaragamuwa	6
North Western	2	Eastern	7
Western	3	Uva	8
North Central	4	Southern	9
Central	5		

4.5.5. Highest Educational Level

Highest education level is the highest formal education qualification completed by the respondent at the time of the survey. Respondents were asked to select one of the qualifications from the educational qualifications suggested by the researcher in A5 question. They are,

O/L (GCE/London) or Below	1	Bachelor's Degree	4
A/L (GCE/London)	2	Post-Graduate Qualification	5
		Professional Qualification	6
Diploma	3		

4.5.6. Employment

The employment status is the respondent's involvement in significant economic or income earning activities at the time of the survey. Respondents were asked to select the category given in the A6 question that closely describes their employment status.

Student	1	Self-Employed	4
Govt. or Semi-Govt. Employee	2	Not Willing to Work	5
		Unemployed	6
Private Sector Employee	3	Other	7

4.5.7. Income

Income is the average monthly income earned by the respondent from all sources at the time of survey rounded to the nearest thousands of Sri Lankan rupees. Respondents were asked to select from the following options given in the A7 question.

Less than Rs. 25,000	1	Rs. 75,000 to Rs. 100,000	4
Rs. 25,000 to Rs. 50,000	2	More than Rs. 100,000	5
Rs. 50,000 to Rs. 75,000	3	Not Applicable	6

4.5.8. Duration as a Facebook Member

Respondents were asked to select the duration in terms of number of years as a member of the Facebook. Following answer options were given in the A8 question).

Less than 1 Year	1
Between 1 and 2 Years	2
Between 2 and 3 Years	3
Over 3 Years	4

4.5.9. Time Spent on Facebook

Respondents were asked to select the approximate time spent on Facebook by selecting the appropriate option given in A9 question.

Less than an hour a day	1
Between 1 & 2 hours a day	2
Between 2 & 4 hours a day	3
More than 4 hours a day	4
Not on daily basis	5

4.5.10. Selection of Products, Services and Events in Facebook

Respondents were asked to select the products, services and events that they are interested/witnessed/experienced/engaged in Facebook. Respondents can select one or more options available in A10 question.

Fashion, Clothing, Footwear and Accessories	1
Telecommunication and Internet Services	2
Health, Medicine and Beauty	3
Consumer Electronic	4
Food and Beverages	5
Sporting Goods	6
Travel, Leisure and Accommodation	7
Automobile	8
Finance, Banking and Insurance	9
Software and Applications	10
Home and Living	11
Entertainment	12

4.5.11. Rating of Products, Services and Events in Facebook

Respondents were asked to rate the above selected products, services or events depending on the interest/preference/priority level given in Facebook over the other categories. They can express their response through a star rating scale (up to five stars) given in A11 question.

4.6. Pilot Study

The pilot study is used as a feasibility study which is conducted as a trial run in preparation of major study. In fact, it is used as a pre-test of a particular research instrument. Therefore, almost all the research projects tend to adhere to the principles of pilot studies. Importantly, pilot studies provide early warnings in relation to where the research project could fail, or whether the proposed methods or instruments are appropriate to use in a desired study. When the researcher is conducting a research in

an unexplored or under-explored topic or a context, the researcher is recommended to conduct qualitative pilot study as a basis for designing and conceptualizing the subsequent quantitative phase of the study (Tashakkori & Teddlie, 1998). Apart from the literature review of a research study, the pilot study provides useful means to assess the validity and reliability of a research instrument. Pilot studies can be based on quantitative and/or qualitative methods and large studies might employ both methods along with number of pilot studies before the major study. Therefore, the pilot studies are important aspect of the empirical studies (Kazer, 2000).

Adhering to all the important inferences in relation to procedures and important considerations of a pilot study, this research's preliminary analysis (pilot study) was carried out with the objective of assessing the suitability of the structured questionnaires available in relation to the constructs of the study. The current study's constructs; Social Commerce Constructs (SCCs) and consumer decision making process stages (need recognition, information search, alternative evaluation, purchase decision and post-purchase behavior) utilizing tested scales in the existing literature and adhering to the scholarly inferences.

Prior to the pilot study, two rounds of qualitative pre-testing were conducted refine the instrument especially in terms of clarity. First round, questionnaires were distributed among few members of selected sample. Based on feedback from the first round, only few questions were rephrased for clarity. After the amendments, questionnaires were distributed among few academic members for further feedback. After incorporating all the suggestions, final questionnaire was prepared for pilot survey. Afterwards, pilot study was conducted by distributing 25 questionnaires among sample population. Validity and reliability evidences of the pilot study are discussed in the following section.

4.7.   Validity and Reliability Evidences

Importantly, proper evidences in relation to the measurement error and the use of test instruments are essential and should be disclosed. Viswanathan (2005) highlighted that measurement error comprises of systematic and random. Also, emphasized that

random error is assessed and corrected by reliability and validity analysis. Thus, the study proceeds with the inferences of Viswananthan (2005) by testing reliability and validity of the pilot study. Besides, reliability and validity of the research instrument were measured by using results of pilot study complying with Parsian and Dunning (2009).

4.7.1. Validity Evidences

According to the Standards for Educational and Psychological Testing (2014), validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests (American Educational Research Association, 2014). Therefore, validity is the most fundamental consideration in developing and evaluating test. There are number of methods that could use to provide evidences of the validity of the instrument.

In general, content validity is assessed to measure whether the content of a questionnaire was appropriate and relevant to the study purpose. Accordingly, present study has applied standard scales for each dimension in the model assuring content validity. The researcher carefully selected and slightly modified the available scales to measure the intended constructs of the test. Hence, new validity evidences were not necessary to provide for the present study.

DeVon, et al. (2007) suggested that face validity assess a questionnaire in terms of feasibility, readability, consistency, of style and formatting, and the clarity of the language used. Parsian and Dunning (2009) suggested to use evaluation forms as an assistance to help the respondents in assessing questionnaires in terms of the clarity of wordings, the layout and style and the likelihood the target audience would be able to answer the questions. However, this current study is intended to measure casual relationships between constructs identified and not to develop scales of measurements. Therefore, validating item scales in terms of content validity is not required as Parsian and Dunning (2009) suggested.

Krishnaswamy, et al. (2006) suggested that, construct validity is assessed through convergent validity and discriminant validity. Goodwin and Leech (2003) proposed

that, factor analysis has been a heavily used method, but it is not the only measurement in this regard. Considering all the inferences in relation to validity of a research instrument cited above, the current study selected to undergo factor analysis and interim correlation matrix to test the convergent and discriminant validity of scales of the study. Mentioning the satisfactory rate of convergent validity (DeVon et al., 2007), items in a scale that supposed to measure a construct, should show relatively high positive correlation within the items in the scale. Provided that, the principle component factor analysis is produced in Appendix B: Principle Component Factor Analysis.

4.7.2. Reliability Evidences

According to the Viswanathan (2005) facts in relation to internal consistency reliability, item generation proceeds to analyze internal consistency reliability and items are deleted and corrected accordingly. Further, he suggested that internal consistency reliability as the 'first empirical test' performed with the objective of assessing whether items in the scale are consistent with each other or not. In fact, it assesses whether items fit together or belongs together. To perform such an analysis, Viswanathan (2005) suggested to collect responses from a sample of respondents and thereby to measure inter-correlations and correlations among each items and use the total score to refine measures utilizing the overall indicator of internal consistency reliability, co-efficient alpha. Besides, a seminal paper of Churchil Jr. (1979) suggested that, inconsistent data collection may have an effect on random error. The current study designed the data collection stages cautiously to reduce emotional and administrative influences anticipated. Prior awareness was given to all the respondents emphasizing the need of accuracy of the study. However, the researcher expects that there is a possibility of occurring random error in the administrative processes of questionnaires. Provided that, the study went through the inferences of Cronbach (1951) to assess the fitness of the scale items and thereby to increase the reliability of the scales utilized.

The general acceptance is higher Cronbach's alpha values indicate the higher internal consistency of the items in the scale. Mentioning it precisely George and Mallery

(2006) suggested a range stating that, alpha value > 0.9 as excellent, > 0.8 as good, > 0.7 as acceptable, > 0.6 as questionable, > 0.5 as poor and < 0.5 as unacceptable. According to Yurdugul (2008), Cronbach's alpha values of very small sample sizes can be used as robust estimators of population coefficient alpha. Therefore, use of small number of respondents has been recommended in pilot studies. Hence, researcher of this study conducted pilot test with 25 respondents gathered in the month of November 2016.

Table 4.2: Cronbach's Alpha values of the pilot study

Scale	No. of Items	Cronbach's Alpha
Social Commerce Constructs	4	0.771
Need Recognition	4	0.730
Information Search	4	0.703
Alternative Evaluation	4	0.825
Purchase Decision	4	0.806
Post-Purchase Decision	4	0.824

Source: Research Data

Complying with the George and Mallery (2006) inferences of levels of Cronbach alpha values, it is notable that the alternative evaluation, post-purchase decision and purchase decision constructs corresponding to alpha values 0.825, 0.824 and 0.806 respectively suggested good level of internal consistency. Furthermore, social commerce constructs, need recognition and information search constructs corresponding to alpha values of 0.771, 0.730 and 0.703 respectively suggested acceptable level of internal consistency. This implied that none of the scales require modifications as all scales correspond to above acceptable levels. More illustratively, SPSS outputs of pilot study data of Cronbach alpha values are produced in the Appendix C: Cronbach Alpha Values of Pilot Study. Ultimately, it is notable that the internal consistency measurements do not show any significant deviations of values beyond acceptable with the recommendations made by George and Mallery (2006). Thus, researcher concluded that pilot data and scales of main constructs of the study held consistent. Also, it was suggested that the scales were adhered to the minimum

and acceptable levels of internal consistency while suggesting a minimum level of random error.

4.8. Sampling Design

In most every research study, it is comparatively tough to conduct the study entirely to the population. Thus, researcher has to collect a desired number of sampling subjects as a true representation of the entire population of the study (Sekaran & Bougie, 2010). The sample selection should impose the criteria of unbiasedness and thereby to increase representativeness of the population of the study. Sampling design includes clearly defining the target population and subsequently selecting a sample from population based on appropriate sampling procedure. Thus, the proceeding sections details the procedures used in sample selection, desired sampling frame of the study and etc.

4.8.1. Target Population

Population is a group of individuals, objects or items among which samples are taken for measurement (Singh, 2007, p. 87). It includes all the members of any well-defined class of people, events or objects (Ary et al., 2006, p. 148). This study identifies the unit of the analysis as individual Facebook users who residents in Sri Lanka. User who has a registered profile and access it through the website or the mobile app to take an action to share content or activity and communicate with his or her connections and other users in the Facebook can be operationally defined as the Facebook users. Further, the population of the study is defined with respect the operational criteria that Facebook user is a Sri Lankan citizen.

4.9. Sampling Method and Sample Size Determination

The main objective of this study is to investigate the impact of social commerce in Facebook on consumer decision making process stages. To achieve this, according to the structured research framework, analysis will be conducted based on the collected data from sample Sri Lankan Facebook users and generalizing it to population. So, the research framework will be tested by using quantitative research method. Therefore, the probability sampling method was used since it deemed to be appropriate. In fact,

the researcher employed simple random sampling method as the most suitable sampling method for the current study as researcher could reach to the research population through Facebook advertising platform. Below data collection process described in Section 4.10 would provide more information about reaching to sample population.

Target population of the study is Facebook users in Sri Lanka. Thus, there are approximately 4.2 Million Facebook subscribers by the June 2016 (Internet World Stats, 2016). Different statistical tests require different sample sizes and sample size of a study needs to satisfy the minimum requirements of the statistical tools intended to use in the study. In acceptance, Structural Equation Modelling (SEM) are large sample statistical tools that require minimum of 150-200 sample sizes (Hair et al., 2009). Sample size plays an important role in generalization of findings, where bigger the sample size lower the likely error in generalization.

4.10. Data Collection Process

As the study detailed in the sample size determination section above, the study intends to fill the minimum number of sample subjects to satisfy the inferences of the power analysis. Data collection intends to conduct through an online survey consisting structured questionnaire which develop based on the applied scales addressing the variables of the model. The online questionnaire method is used as the most suitable medium through which to reach the desired sample of Sri Lankan Facebook users to test the hypotheses. Hence, the findings will be mostly appropriate for Facebook users than the general population or other social media users in Sri Lanka.

The most appropriate method to access the researcher's desired sample is the use of Facebook advertisement platform. In fact, questionnaire posted as a paid advertisement in order to reach the desired sample (Sri Lankan Facebook users). First round of data collection scheduled and advertised for two weeks. Since the responses were inadequate during above period, questionnaires were again advertised for another two weeks of time. End of the period researcher was successful in collecting adequate responses for sample representation and analysis purpose. Confidentiality of responses

was assured and potential respondents were invited to forward any queries via e-mail to the address provided.

4.11.   Power Analysis

The researcher performed post-hoc power analysis after the data collection had been completed, and used the obtained sample size and effect size to determine what the power was in the study, assuming the effect size in the sample is equal to the effect size in the population. The power analysis results for 214 respondents were within the standard adequacy level of 0.8 (see Table 4.3: Power Analysis). Hence, collected responses were adequate enough to continue with research analysis of the study.

Table 4.3: Power Analysis

Construct	R^2	Probability Level	Observed Statistical Power
Need Recognition	0.20	0.05	0.99
Information Search	0.11	0.05	0.99
Alternative Evaluation	0.20	0.05	0.99
Purchase Decision	0.19	0.05	0.99
Post Purchase Decision	0.26	0.05	1.0

Source: Research Data

4.12.   Statistical Analysis Method

Based on the purpose of the analysis, statistical methods have been divided into two broad categories as descriptive and inferential. Descriptive statistics are numerical and graphical methods that allows to explore, summarize and describe the quantitative data. Inferential statistics allows to make conclusion of the population based on the sample results. For the statistical analysis, SPSS Statistics version 23 and AMOS version 23 software used in the present study.

4.13.   Chapter Summary

In this chapter, the researcher set out to determine the methodological aspects of the study. In order to operationalize the variables identified, the researcher presented main

constructs and their proposed operationalization procedures citing the literature inferences. Subsequently, in aid to describe the sample statistics, profiling variables were identified and their nature were described. Prior to the main analysis, descriptions in relation to pilot study was presented and results were demonstrated in relation to validity and reliability of the pilot data. Sampling methodology was methodology was also described and population characteristics were articulated with the sampling frame criteria identified.

5   DATA ANALYSIS

5.1.   Chapter Introduction

The aim of this study was to explore the influence of the social commerce on the consumer decision making process stages with special reference to the Sri Lankan Facebook users. In order to ascertain the said aim, 05 specific research objectives were developed in Chapter 01. The pertaining statistical tools were detailed in the preceding chapter of research methodology (Chapter 04). Prior to the main analysis, pilot study was conducted. Instrument reliability and validity were tested accordingly and results were produced. Provided that, this chapter very specifically intends to answer the main research questions of the study. To elucidate the said relationship among the main constructs of the study and to test the pertaining hypothesis, the chapter begins with presenting exploratory data analysis in order to describe the sample, and testing the required assumptions of the statistical tools determined. Subsequently, the chapter proceeds to discuss the main analysis results by means of testing hypothesis and thereby to answer research questions and objectives.

5.2.   Exploratory Data Analysis (EDA)

Almost every research, statistical tools are tested after testing preliminary assumptions of the desired analysis tool. As discussed in Chapter 04, statistical procedures adopted in the present study are required to test the data for preliminary assumptions and make remedial actions, when there is violation of the assumptions. Parametric statistics have to be adhered to the assumptions of outliers, multicollinearity, normality, linearity and homoscedasticity (Hair et al., 2009; Kline, 2011). In this research exploratory analysis was conducted in SPSS 23 and AMOS 23 used to test the data for outliers, normality and linearity.

5.3. Missing Values

As the researcher mentioned in the preceding chapter of methodology, data gathering was conducted by means of online questionnaires. Owing to the data collection procedure adopted in this study, the researcher ensured that there were no missing values for any of the variables in the data set. Hence, 214 valid responses were successfully collected without any missing values during the period (see Appendix D: Missing Values).

5.4. Univariate Outliers and Normality

According to Hair et al. (2009), an outlier can be defined as an observation with a unique combination of characteristics identifiable as clearly different from the normal pattern of other observations in the data set. They have further suggested that outliers can be detected in three situations namely; univariate, bivariate and multivariate detection. As claimed by Wickramasinghe (2012) as cited in Dissanayake (2015) univariate outliers can be detected by a comparison of mean values and trimmed means of respective dimensions of the study. If significant deviations are observed it imply that the detection of univariate outliers. According to Appendix E: Univariate Outliers, postulated that means of respective dimensions were not significantly deviating its respective 5% trimmed mean, thus researchers detect that there were no any significant univariate outliers exist in the study and treatments were not required in this regard.

Skewness and Kurtosis are two ways of testing the univariate normality of distribution (Kline, 2011). Table 5.1: Skewness and Kurtosis Statistics depicts respective values of the model variables indicating dispersion of the data. Allen and Bennett (2008) stated that skewness statistics shows and measures symmetry of a distribution of scores. When the skewness statistic is set to be zero it is considered that data distribution is perfectly symmetrical or it can be negatively skewed or positively skewed. Kurtosis statistic explains the flat or peaked nature of the score and its value zero means the data has a perfect normal distribution. Both skewness values and kurtosis statistic values of below variables and dimensions (see Table 5.1: Skewness and Kurtosis Statistics) do not show significant variations.

Table 5.1: Skewness and Kurtosis Statistics

Variable	Skewness	Kurtosis
Social Commerce Constructs	-0.439	-0.458
Need Recognition	-0.911	0.298
Information Search	-0.679	0.069
Alternative Evaluation	-0.726	0.179
Purchase Decision	-0.760	0.230
Post-Purchase Decision	-0.588	-0.044

Source: Research Data

5.5. Multivariate Outliers and Normality

Hair et al. (2009) affirmed that, when more than two variables are in consideration, the researcher needs a means to objectively measure the multidimensional position of each observation relative to some common point. Hence, the issue is addressed by commonly accepted multivariate Mahalanobis D^2 measure. Accordingly, observations having a D^2/df value exceeding 2.5 in small samples and 3 or 4 in large samples can be designated as possible outliers. As produced in the Appendix G: Multivariate Outliers, it is evident that the data set corresponds no violation of the multivariate outliers.

In relation to Structural Equation Modelling (SEM), DeCarlo (1997) as cited in Byrne (2010) claimed that under the notion of univariate normality detection of normality is a requirement and whereas in the case of multivariate normality it is not a requirement. Further, Kline (2011) mentioned that multivariate non-normality are detectable through inspection of univariate distributions. Hence, researcher confirms the multivariate normality of the data.

5.6. Testing for Homoscedasticity

Tabachnick and Fidell (2007) stated that when the variables achieved the multivariate normality, the relationship between variables are considered to be homoscedastic. Thus, researcher produce scatterplots suggesting varied relationships of the data set

depicted reasonable evidences to held homoscedastic (see Appendix F: Univariate Normality)

The preceding chapter of methodology and exploratory data analysis of this chapter performed various preliminary data analysis techniques. At the initial stages, pilot study data, reliability and questionnaire validity were tested by means of different techniques. All those techniques concluded that questionnaire assesses the actual and the intended concept of the study and when the questionnaire is using repeatedly similar outcomes can be observed. Those techniques of reliability and validity measures of the pilot study revealed that the internal consistency exist and it ensured the reliability of the pilot study data. During the exploratory data analysis of this chapter revealed that there are no missing values exist, no outliers exists, normality and homoscedasticity of the data. All those preliminary assumption testing of the model revealed that the researcher is adhering to the assumptions of parametric data analysis. Thus hereinafter, the researcher intends to perform in-depth analysis as a mean of achieving specific objectives of the study.

5.7. Descriptive Statistics of the Sample

Producing the pertaining demographic profiles has been a very common practice in every quantitative research attempt. Thus, this section illustrates a complete profile of respondents in the study. It is important to recognize that illustration of the sample descriptive statistics is not a requirement followed by the objectives of the study. Further, it is notable that producing sample data is predominantly important as it portrays the nature of the sample assessed. Therefore, the following section details facts pertaining to the sample descriptive of the current study.

5.7.1. Gender

As produced in the below Figure 5.1: Gender Composition it is notable that the majority of the sample respondents are male. Out of the total sample subjects, 63% was attributed to male Facebook users and the rest of the 38% was attributed to female Facebook users. This statistics, to a greater extent comply with the overall Facebook user gender statistics in Sri Lanka. 70% of Males and 30% of Females are approximate

Facebook user gender distribution in Sri Lanka (Colombo Digital Marketers, 2016). Among the global Facebook users, it is evident that males hold more interest and adoption rate compared to the females (Statista, 2016).
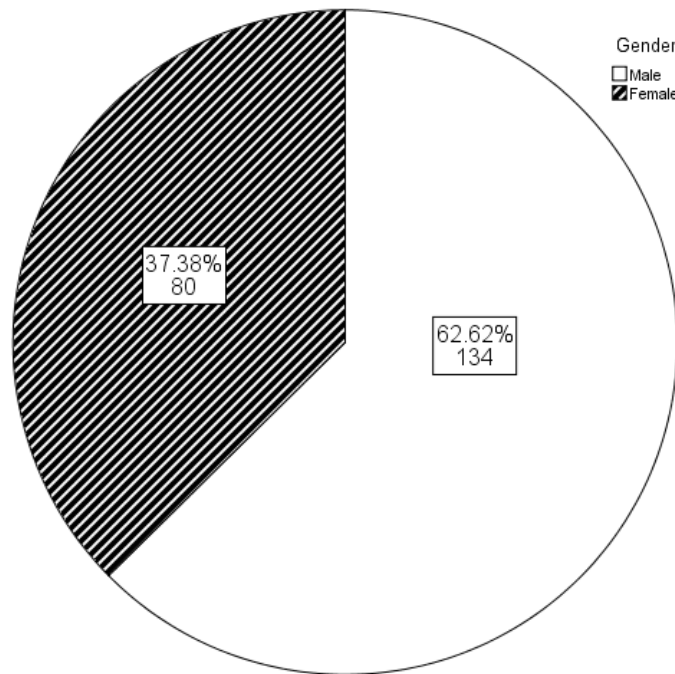
Figure 5.1: Gender Composition

Source: Research Data

5.7.2. Age

Following Figure 5.2: Age Composition elaborate the respondents' age of the study. It depicts that the Facebook users who responded to the study representing different age categories. There are no respondents representing under 20 category, hence omitted from the graph. 64% of respondents represent age category of 20 – 29 years. 30% of respondents represent age category of 30 – 39 years. 4% of respondents represent age category of 40 – 49 years and finally, 2% of respondents represent age category of 50 or above. These results are significantly par with the existing evidence of Sri Lanka Facebook age distribution. Sri Lankan majority Facebook users contributing approximately to more than 80% are users aged between 18 to 34 years (Colombo

Digital Marketers, 2016). Globally, majority of Facebook users are youth (Statista, 2016). In relation to the attribute of age of Facebook users, the general understanding is that younger the age, higher the Facebook adoption and usage.
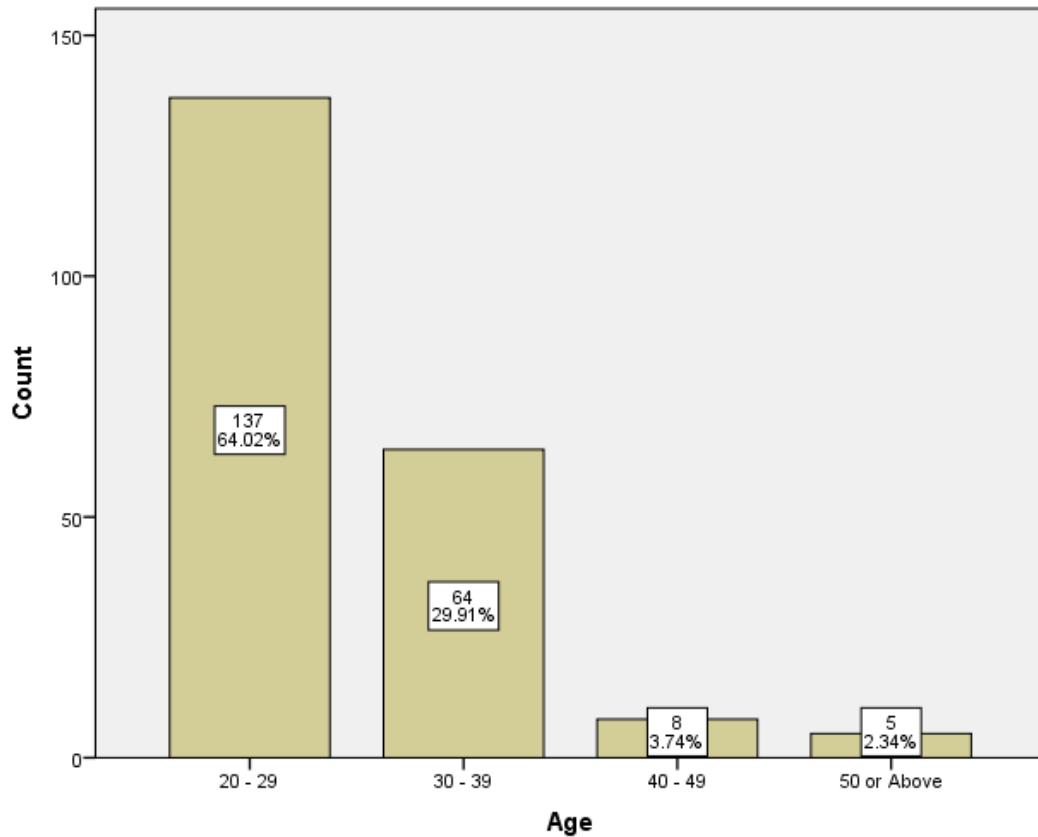
Figure 5.2: Age Composition

Source: Research Data

5.7.3. Marital Status

Below Figure 5.3: Marital Status depicts the marital status of the respondents of the present study. It indicates that 55% of the respondents were single and out of the 214 responses, 45% of respondents were married at the time of the survey. According to the Facebook relationship status statistics, it is evident that single users are higher than the married users (Statistic Brain, 2016).
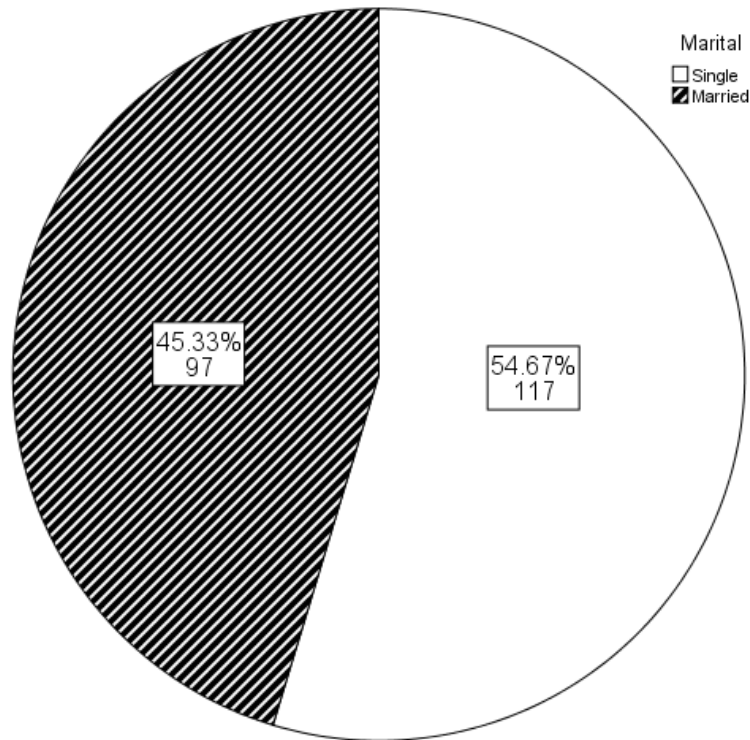
Figure 5.3: Marital Status

Source: Research Data

5.7.4. Residential Province

Below Figure 5.4: Residential Province depicts residential province of respondents of the present study. According to the research data majority of the respondents (81%) were from western province in Sri Lanka. The second most respondents were from central province amounting to 6% out of total respondents. The remaining respondents were distributed in other provinces as indicated in the figure. Colombo Digital Marketers (2016) stated that majority of Facebook users are concentrated on the western province of the country.
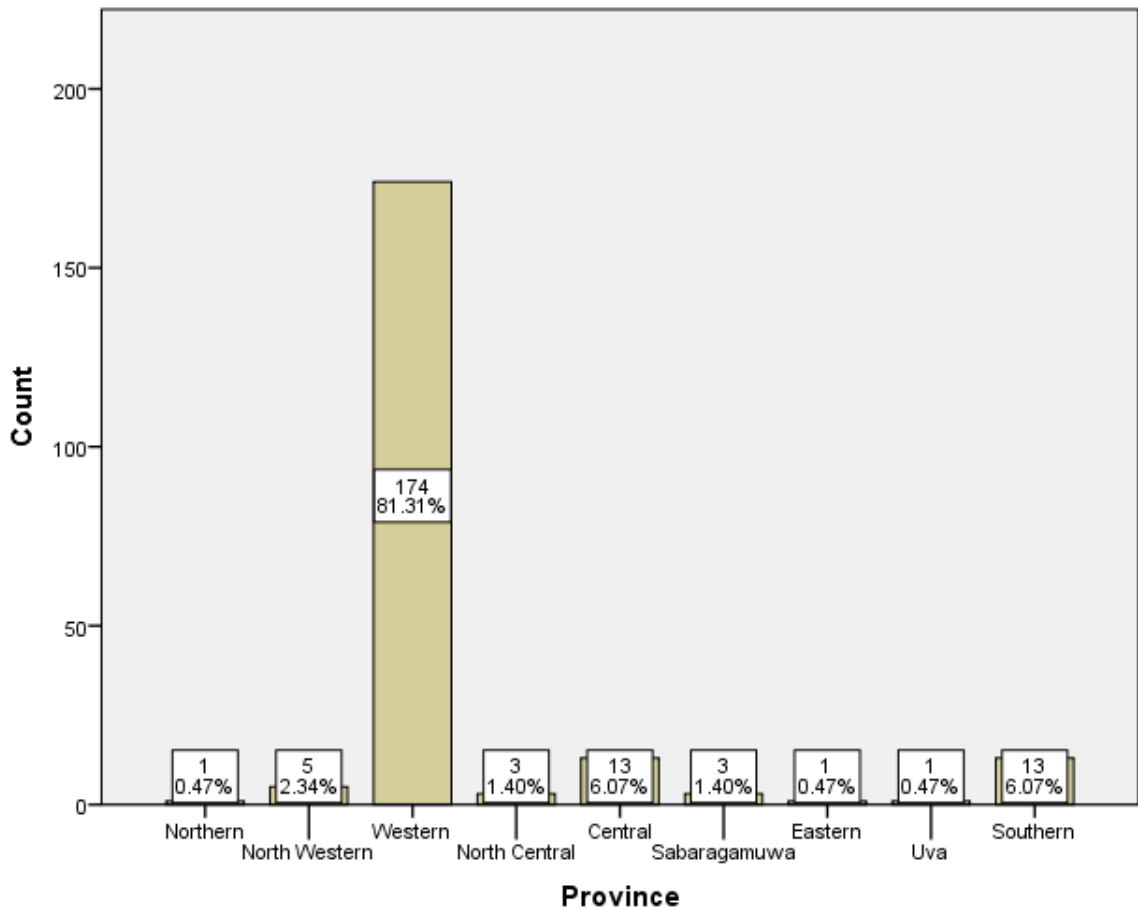
Figure 5.4: Residential Province

Source: Research Data

5.7.5. Educational Level

Below Figure 5.5: Educational Level depicts highest level of education achieved or completed by the Facebook user respondents of the present study. It is notable that majority of respondents possess bachelor's degree amounting to 48% of the total responses. Followed by, 36% holds post-graduate qualification, 7% with professional qualifications, 6% having diploma, 3% with A/L's and no respondents with O/L's or below. Hence, based on the results it was notable that Sri Lankan Facebook users are generally educated.
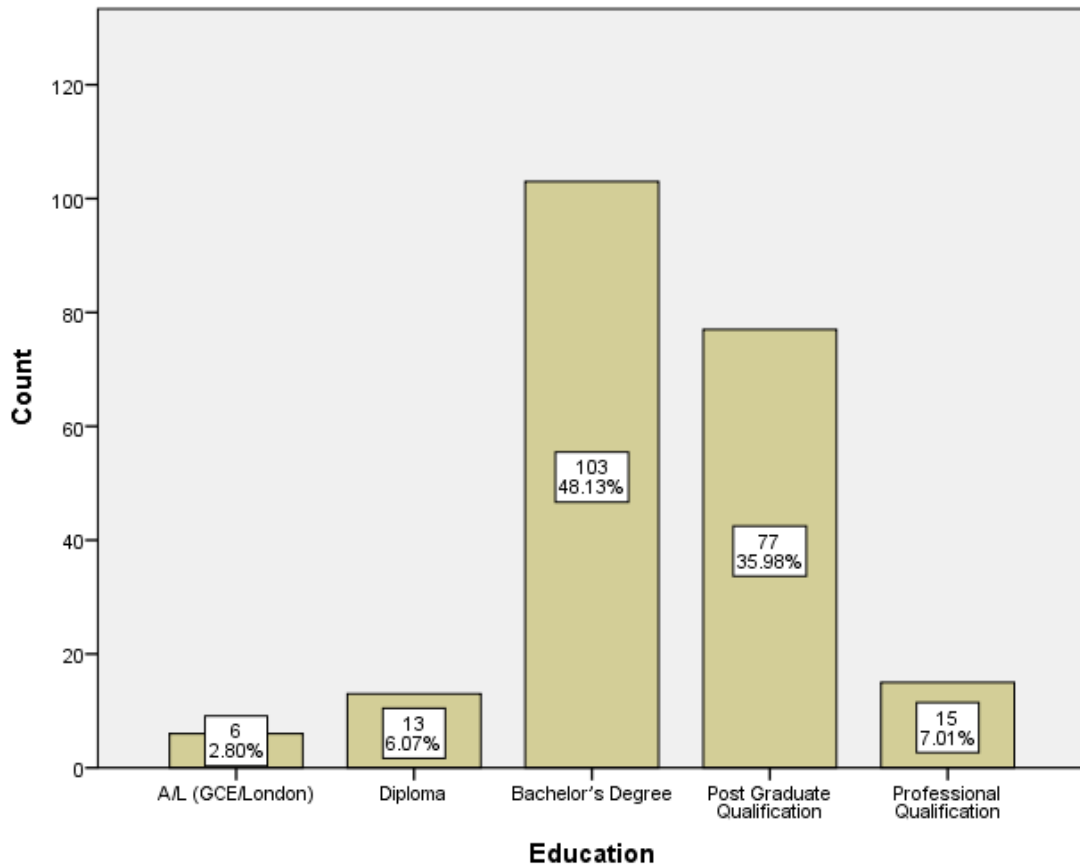
Figure 5.5: Educational Level

Source: Research Data

5.7.6. Profession/Employment

According to the Figure 5.6: Profession/Employment, majority of the respondents were private sector employees holding 66% from all the respondents, followed by 25% from government / semi-government sector. Remaining respondents distributed as self-employed (9%), students (5%), unemployed (2%), others (2%) and no respondents for the category of not willing to work.
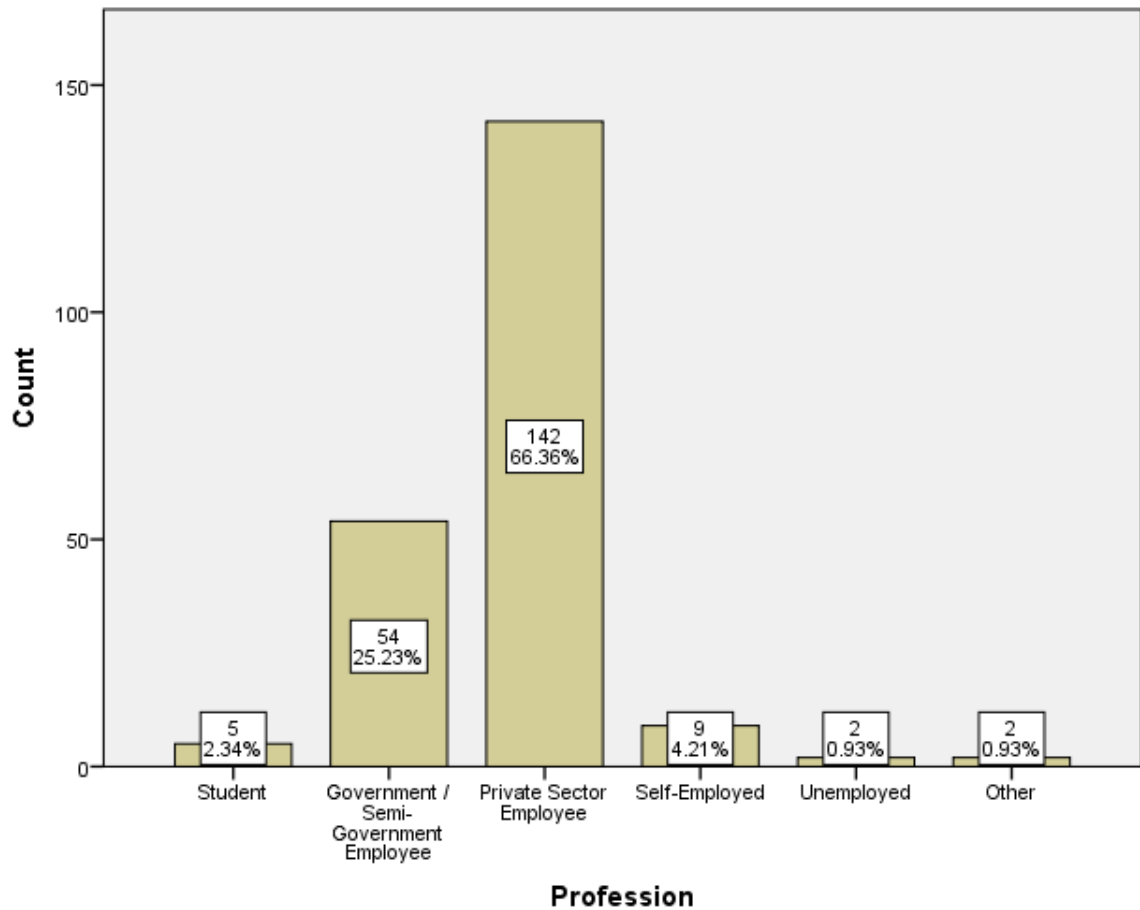
Figure 5.6: Profession/Employment

Source: Research Data

5.7.7. Income

According to the monthly income levels of the respondent Facebook users that illustrate in below Figure 5.7: Monthly Income, majority amounting to 33% were belong to the highest income category i.e. more than Rs.100,000. 24%, 21%, 14% were the other highest income contribution categories namely Rs.25,000 – 50,000, Rs.75,000 – 100,000 and Rs.50,000 – 75,000 respectively.
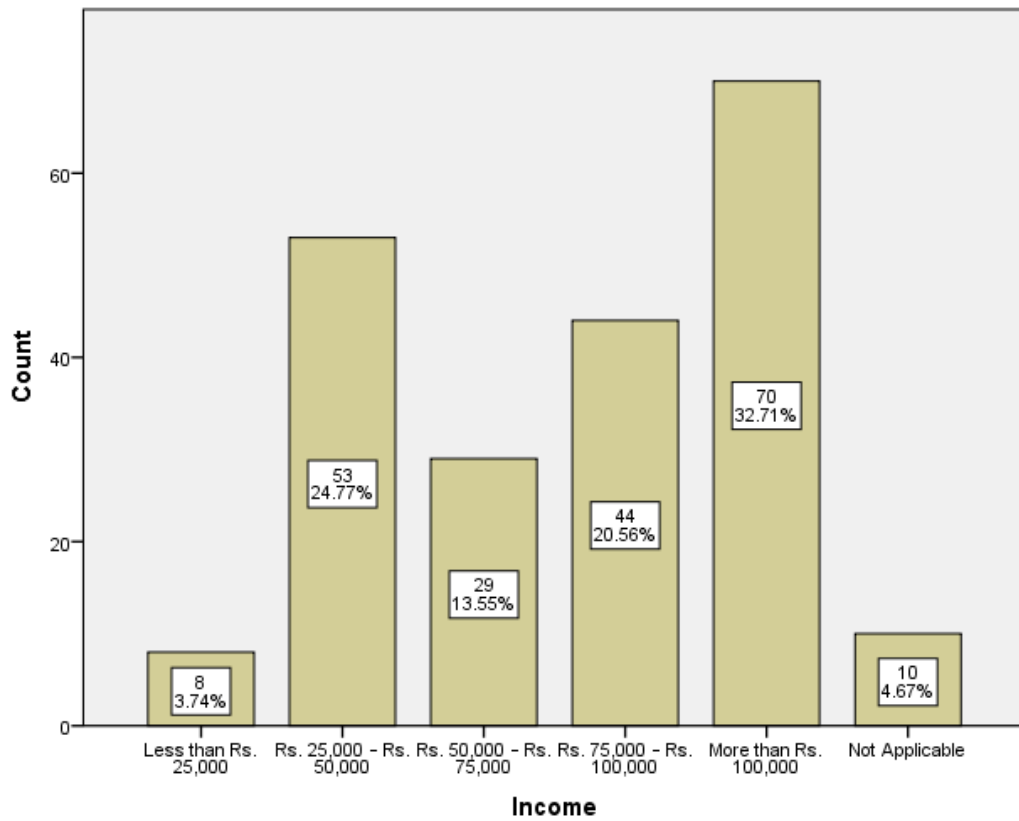
Figure 5.7: Monthly Income

Source: Research Data

5.7.8. Duration of Facebook Membership

Below Figure 5.8: Facebook Membership depicts that the majority of respondents (amounting to 96% of total responses) of the survey were using and being a member of Facebook over 3 years at the time of the collecting responses. Minority of the respondents were became members of the Facebook less than 3 years ago. Therefore, researcher could arrive at a conclusion saying that the respondents were fairly well familiar with the Facebook as an online social network and it's intend applications and usages.
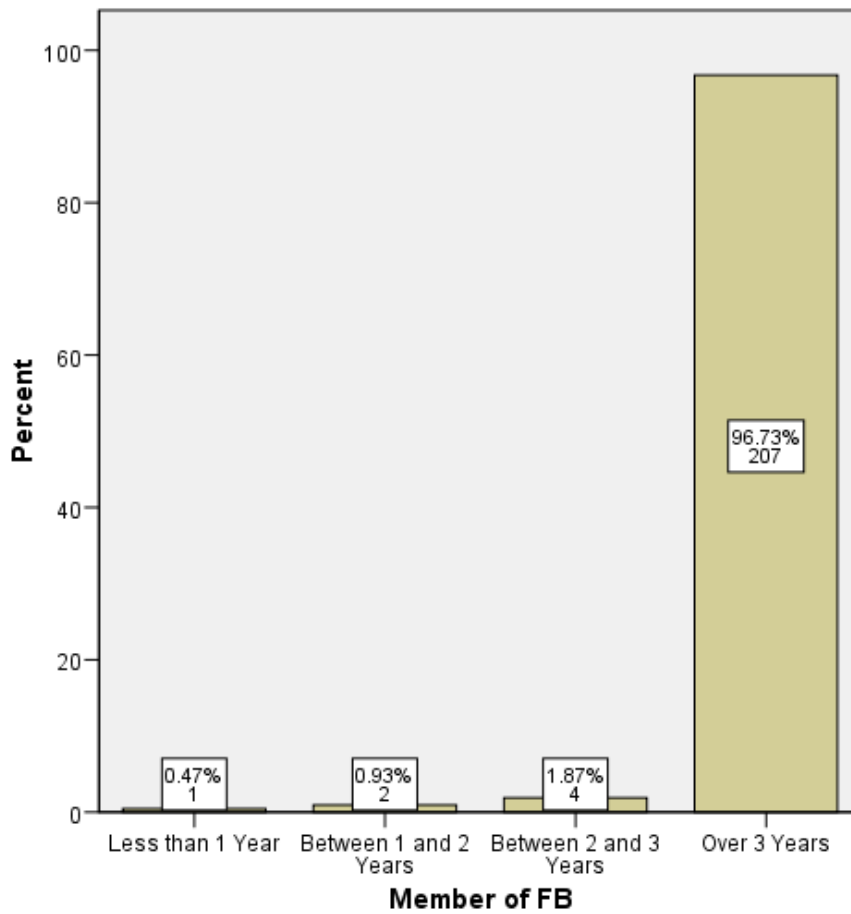
Figure 5.8: Facebook Membership

Source: Research Data

5.7.9. Time Spent on Facebook

Figure 5.9: Time Spent on Facebook depicts respondents approximate time spent on the Facebook. 33% of the survey respondents were spending less than an hour a day on the Facebook. These statistics were complying with the local and global statistics available. An average Sri Lankan user approximately spends on Facebook is 34 minutes on a day (Hussain, 2013). Globally, individual Facebook user spend an average of 35 minutes a day (Asano, 2017).
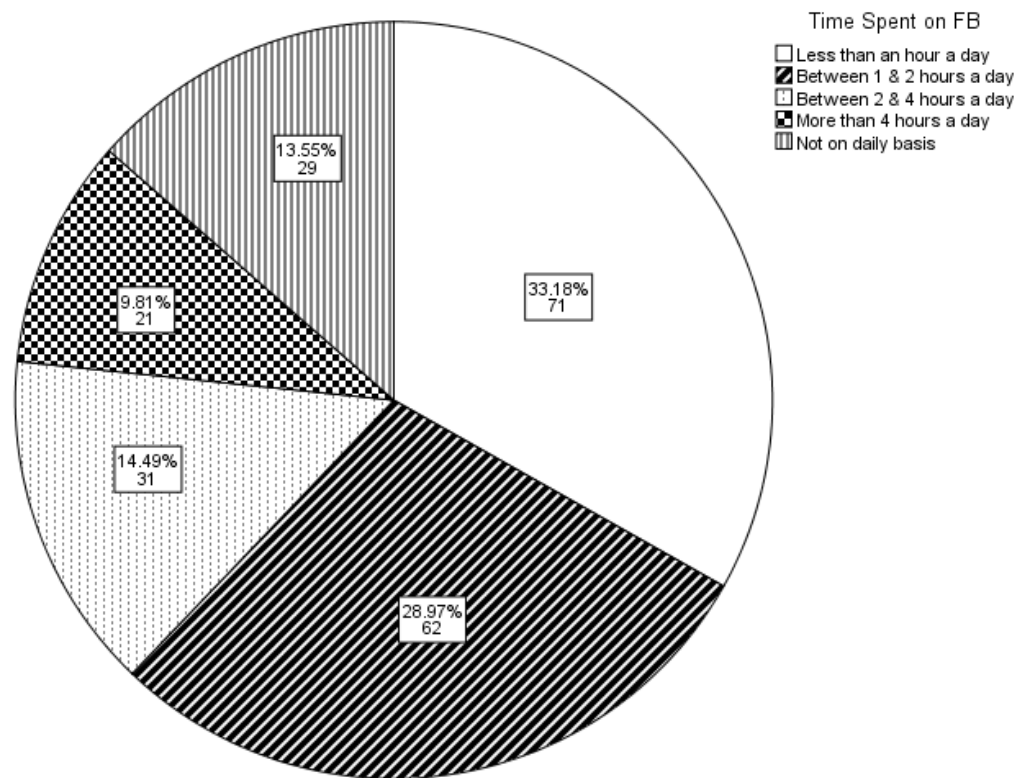
Figure 5.9: Time Spent on Facebook

Source: Research Data

5.7.10. Products, Services and Events in Facebook

Figure 5.10: Products, Services & Events in Facebook presents survey respondents' selection of the products, services and events that they were interested/witnessed/experienced/engaged in Facebook. Entertainment category holds the majority of the responses. Subsequently, Travel, Leisure and Accommodation category, Fashion, Clothing, Footwear and Accessories category and Foods and Beverages category respectively hold positions of major categories that respondents were interested/witnessed/experienced/engaged in Facebook.
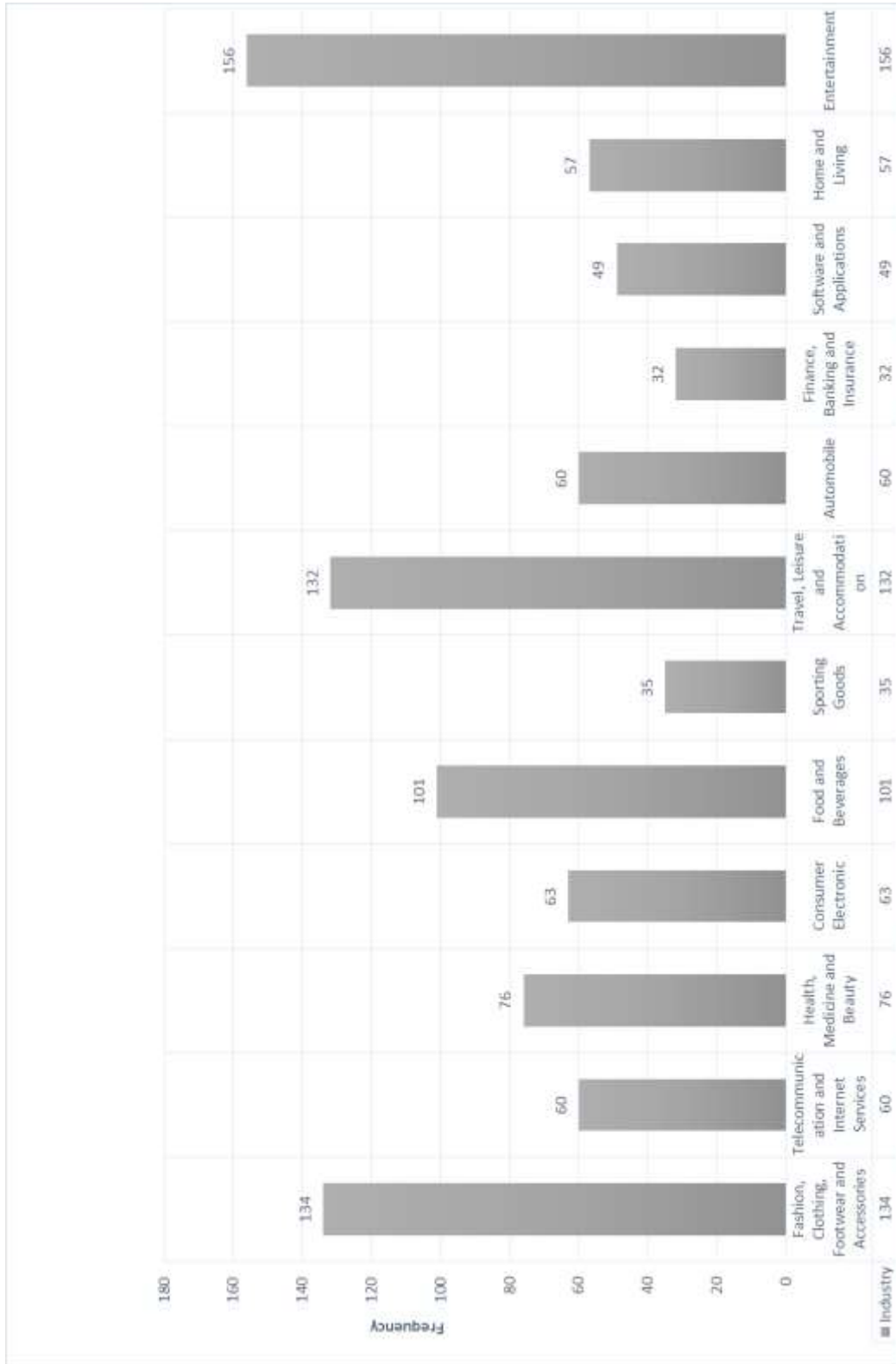
Figure 5.10: Products, Services & Events in Facebook

Source: Research Data

5.7.11. Ratings for Industry

Table 5.2: Rating Statistics and Figure 5.11: Rating Chart depict statics of survey respondents' interest/preference/priority level for products, services and events given in Facebook over the other categories. Entertainment category holds the majority of respondent distribution, ranked as first (1st) with average 4.0 star rating. Further, travel, leisure and accommodation category was ranked as second (2nd) in place with 3.8 star ratings, food and beverage category was ranked as third (3rd) in place with 3.5 star ratings, fashion, clothing, footwear and accessories category was ranked as fourth (4th) in place with 3.4 star ratings. The other categories were received more than 2 star ratings as shown in the figures.

Table 5.2: Rating Statistics

Industry Name	1 Star	2 Star	3 Star	4 Star	5 Star	Rate Count	Avg. Rate	Rate Rank
Fashion, Clothing, Footwear and Accessories	22	21	38	58	43	182	3.4	4
Tele communication and Internet Services	24	26	37	31	17	135	2.9	8
Health, Medicine and Beauty	25	24	32	38	21	140	3.0	5
Consumer Electronic	26	25	31	29	23	134	3.0	6

Food and Beverages	21	12	34	50	40	157	3.5	3
Sporting Goods	40	22	31	17	10	120	2.5	11
Travel, Leisure and Accommodation	13	10	31	57	59	170	3.8	2
Automobile	25	25	36	29	21	136	3.0	7
Finance, Banking and Insurance	35	31	35	9	7	117	2.3	12
Software and Applications	30	19	29	25	15	118	2.8	10
Home and Living	25	18	44	23	13	123	2.8	9
Entertainment	11	3	30	58	73	175	4.0	1

Source: Research Data

INDUSTRY RATING

Industry Rating	Fashion, Clothing, Footwear and Accessories	Telecommunication and Internet Services	Health, Medicine and Beauty	Consumer Electronic	Food and Beverages	Sporting Goods	Travel, Leisure and Accommodation	Automobile	Finance, Banking and Insurance	Software and Applications	Home and Living	Entertainment
Industry Rating	3.4	2.9	3.0	3.0	3.5	2.5	3.8	3.0	2.3	2.8	2.8	4.0

Figure 5.11: Rating Chart

Source: Research Data

5.8.   Relationship of Social Commerce and Consumer Decision Making Stages

The researcher produced the bivariate correlational analysis of the variables of the study in order to examine the linear association of the variables. The important results of the analysis were shown in the Table 5.3: Pearson Correlation Analysis which was extracted from the SPSS output available in Appendix H: Correlation Analysis. As depicted in table, corresponding variables showed the linear association or the strength of the variables given the statistical significance. Guildford (1977) as cited in Wickramasinghe (2012) and Dissanayake (2015) proposed a rule of thumb to interpret correlation coefficients. As per his claim, absolute correlational values (+/-) of the correlational coefficient ranges from 0 to 0.2 indicated as negligible, 0.2 to 0.4 indicated as low relationship, 0.4 to 0.7 indicated as moderate relationship, 0.7 to 0.9 indicated as high relationship and 0.9 to 1 indicated as very high relationship.

According to the correlational values, all the relationships were depicted as statistical significant. In fact, all these associations showed a positive significant relationships under 1% significance level. According to the Guildford's (1977) inferences in ranges of correlational coefficients, it was noted that the associations were lying between the ranges of 0.4 to 0.7, thus recognized as moderate relationships. These correlational coefficient (r) values of the study indicate statistically significant linear associations suggesting the strength of the model.

Table 5.3: Pearson Correlation Analysis

	Need_ Rec	Info_ Search	Alter_ Eva	Pur_ Dec	Post_Pur_ Dec
Social_Com	0.591	0.630	0.596	0.539	0.600
Need_Rec		0.609	0.617	0.622	0.551
Info_Search			0.691	0.656	0.640
Alter_Eva				0.719	0.677
Pur_Dec					0.601

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

Source: Research Data

5.9.   Impact of Social Commerce on Consumer Decision Making

Under the conceptual model and hypotheses development chapter, the researcher produced a concise argument in developing the entire conceptual model of the study. There are two types of models in Structural Equation Modeling (SEM), called measurement model and structural model.

5.9.1. Measurement Model (Confirmatory Factor Analysis)

Confirmatory Factor Analysis (CFA) generally conducted by using measurement model. The goal of this step is to assess how well observed variables combined to identify underlying latent constructs. Therefore, CFA procedures need to run for each construct in the model (Asyaf & Afthanorhan, 2014). Prior to modeling the structural model, every measurement model must be validated and accepted. In this study, given observed variables there were six latent constructs namely; Social Commerce Construct (SCC), Need Recognition (NR), Information Search (IS), Alternative Evaluation (AE), Purchase Decision (PD) and Post-Purchase Decision (PPD). Factor loadings from each observed item should be greater than 0.5 is acceptable to confirm the measurement model of the study depending on the decision by the researcher (Asyaf & Afthanorhan, 2014). Figure 5.12: Measurement Model and Appendix I: Measurement Model Estimates depicts that the measurement model of the study was satisfying the above mentioned acceptance criteria.
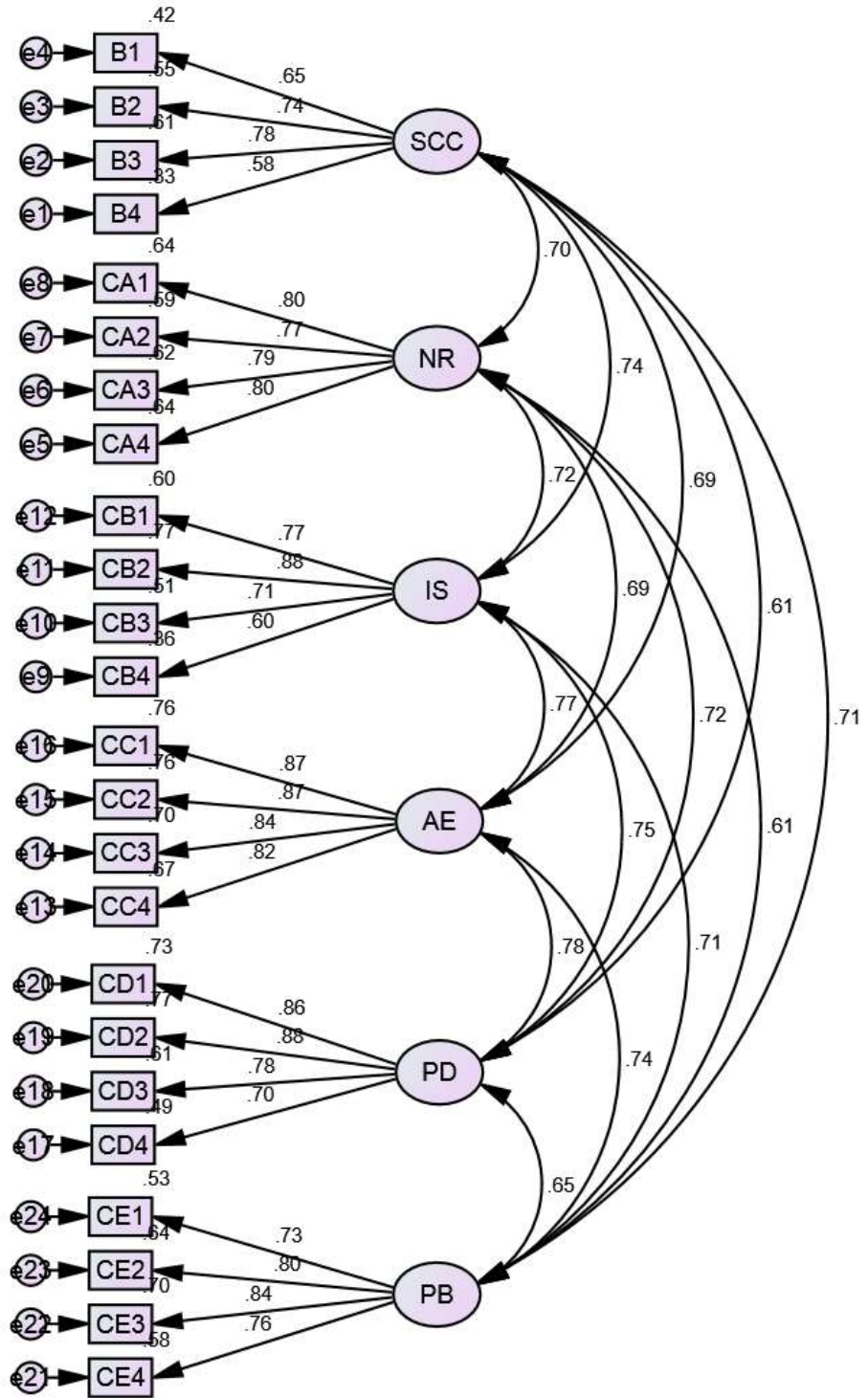
Figure 5.12: Measurement Model

Source: Research Data

5.9.2. Validity and Reliability of the Measurement Model

The researcher assessed the fitness for each measurement model through convergent validity, discriminant validity and internal reliability. Convergent validity was assessed by using the recommendation of Hair et al. (2009). Accordingly, Factor Loading, Composite Reliability (CR) and Average Variance Extracted (AVE) were assessed. The loading values were exceeding the threshold of 0.5 (Hair et al., 2009) and were significant (p<0.01) for all items under respective constructs. Additionally, CR for all the constructs were higher than the recommended value of 0.7 (Hair et al., 2009) confirming the adequate reliability. Further, AVE for all the constructs were 0.5 or higher (Hair et al., 2009) suggesting adequate convergence. The results were obtained by using the Stats Tools Package (STP). Cronbach's alpha was assessed to evaluate internal consistency. Nunnally (1979) suggested 0.7 as the acceptable threshold. The results indicate that Cronbach's alpha ranged from 0.774 to 0.911, exceeding the threshold and thus demonstrating sufficient internal consistency. The Table 5.4: Convergent Validity and Reliability shows the result for convergent validity and reliability.

Table 5.4: Convergent Validity and Reliability

Constructs	Items	Factor loadings	CR	AVE	Cronbach's Alpha
SCC	B4	0. 579	0.783	0. 477	0.774
	B3	0. 778			
	B2	0. 743			
	B1	0. 646			
NR	CA4	0. 801	0.832	0. 623	0.868
	CA3	0. 788			
	CA2	0. 769			
	CA1	0. 800			
IS	CB4	0. 599	0.832	0. 558	0.820
	CB3	0. 714			
	CB2	0. 875			
	CB1	0. 773			
AE	CC4	0.817	0.912	0.722	0.911
	CC3	0. 838			
	CC2	0. 872			
	CC1	0. 870			
PD	CE4	0. 765	0.864	0. 614	0.878
	CE3	0. 836			

	CE2	0. 800			
	CE1	0. 729			
PPD	CD4	0. 701	0. 880	0. 649	0.860
	CD3	0. 780			
	CD2	0. 875			
	CD1	0.855			

Source: Research Data

Discriminant validity measures the extent which a given construct of the model is different from the other constructs. According to the Hair et al. (2009) discriminant validity ensures that a construct measure is empirically represents the phenomenon that is being considered in a research. Also, discriminant validity is established when the square root a particular construct's AVE is greater than the construct's correlations with other the constructs (Chin, 1998). Table 5.5: Discriminant Validity shows that the correlation between any pair of constructs is much lower than the square root of AVEs for the pair of constructs, which indicates satisfactory discriminant validity.

Table 5.5: Discriminant Validity

	Social_ Com	Need_ Rec	Info_ Search	Alter_ Eva	Pur_ Dec	Post_ Pur_Dec
Social_Com	**0.691**	0.591	0.630	0.596	0.539	0.600
Need_Rec		**0.789**	0.609	0.617	0.622	0.551
Info_Search			**0.747**	0.691	0.656	0.640
Alter_Eva				**0.849**	0.719	0.677
Pur_Dec					**0.783**	0.601
Post_Pur_Dec						**0.806**

Source: Research Data

5.9.3. Model Fit

Assessing fitness of data is a very important consideration in a structural equation modeling. Hence, it is important to measure and report model fit indices as such estimations represent how well the data set fits to the underlying theoretical model of the study. Commonly accepted model fit indices are mainly classified into three segments namely; absolute fit indices, incremental fit indices and parsimony fit indices. McDonald and Ho (2002) suggested that absolute fit indices determine how

well an initial model fits the sample data. Byrne (2010) and Hooper et al. (2008) affirmed that this model fitting process typically requires absolute fit indices such as chi-squared test, RMSEA, GFI, AGFI, RMR, and SRMR. These measures provide the most fundamental indication of how well the proposed theory fit the sample data. Incremental fit indices (also known as comparative fit indices or relative fit indices) are a group of indices that compare the chi-square value to a baseline model rather than using chi-square in its raw form (Hooper et al., 2008). Under incremental fit indices, Normed-Fit Index (NFI), Non Normed Fit Index (NNFI) and Comparative Fit Index (CFI) are generally discussed (Hooper et al., 2008). Parsimony fit indices are concerned primarily with the cost-benefit trade-off of fit and degrees of freedom. Parsimonious Normed Fit Index (PNFI) and Parsimony Goodness of Fit Index (PGFI) were proposed as main parsimony fit indices. Above model fit indices were depicts in Table 5.6: Absolute and Incremental Fit Indices of the Model and actual results obtained via AMOS output were produced in Appendix J: AMOS Model Fit Summary.

Chi-square value is a popular, but very traditional measure of evaluating the overall model fit (Hooper et al., 2008). Thus, initial model chi-square test has significant limitations including sample biasness. Among the alternative indices to assess the model fit, Wheaton et al.'s (1977) relative/normed chi-square ($\chi2/df$) was recognized as a statistical method that minimizes the sample size sensitivity (Hooper et al., 2008). As Table 5.6: Absolute and Incremental Fit Indices of the Model depicts that $\chi2/df$ value of the study meet the acceptance criteria according to Byrne (2001) as cited in Quazi et al. (2016).

According to Byrne (1998) as cited in Hooper et al. (2008), Root Mean Square Error of Approximation (RMSEA) defines how well the model, in conjunction with unknown but optimally chosen parameter estimates would fit the population's covariance matrix. MacCallum et al. (1996) proposed RMSEA value ranges between 0.08 and 0.10 indicates a mediocre fit and below 0.08 shows a good fit. Further, RMSEA value of the study was 0.08 which conforms to the rule RMSEA ≤ 0.08 as per recommendation by Browne and Cudeck (1993) as cited in Quazi et al. (2016). RMSEA value of the study depicted in Table 5.6: Absolute and Incremental Fit Indices of the Model was satisfying the recommended value range.

The Goodness of Fit Statistic (GFI) was developed as an alternative estimate of chi-square test and calculates the portion of variance which accounted for by the estimated population covariance (Tabachnick & Fidell, 2007). According to Miles and Shevlin (1998) as cited in Hooper et al. (2008), it was suggested that GFI ranges from 0 to 1, but has limitations including upward biasness with larger samples. Having the less popularity for GFI, the Adjusted Goodness of Fit Statistic (AGFI) was proposed which adjusts the GFI based upon degrees of freedom. Yet, AGFI tends to be increased with the sample size. Statistically suggested, like in GFI values, AGFI values ranges between 0 and 1. Given the often detrimental sensitivity effects of sample size on these two fit indices, they are not relied upon as a standalone index (Hooper et al., 2008). In fact, several cutoff points have been proposed for GFI and AGFI, a general theme is that such values should be closer to 1 (Westland, 2015). Table 5.6: Absolute and Incremental Fit Indices of the Model depicts that GFI and AGFI values of the study were closer to the 1, satisfying the accepted criteria.

The Root Mean Square Residual (RMR) as well as the Standardized Root Mean Square Residual (SRMR) are the square root of the difference between the residuals of the sample covariance matrix and the hypothesized covariance model (Hooper et al., 2008). According to Kline (2005) as cited in Hooper et al. (2008), it is important to note that RMR value becomes difficult to interpret when questionnaire items contain varying scales. Having had the considerable limitations, the SRMR acts as a resolver with more meaningful to interpret (Hooper et al., 2008). According to Hu and Bentler (1999), SRMR value high as 0.08 is considered acceptable and SRMR value of 0 indicates perfect fit. But, it should be noted that when there is a high number of parameters in the model and involve large sample sizes, the SRMR value become lower (Hooper et al., 2008). Table 5.6: Absolute and Incremental Fit Indices of the Model depicts the SRMR value of the study as 0.06 complying with the acceptable threshold level.

NFI assess the fit relative to a baseline model which assumes no covariance between the observed variables (Hooper et al., 2008). Also, NFI has a tendency to overestimate fit for small samples. In fact, according to Kline (2005) as cited in Hooper et al. (2008), sensitivity to the sample size is considered as a major drawback in NFI. Hence, sticking

into NFI is not solely recommended. This problem was addressed by the Non-Normed Fit Index (NNFI), also known as the Tucker-Lewis index (TLI), an index that prefers simpler models. However, similar to NFI, situations were small samples are used, the value of the NNFI can indicate poor fit despite other statistics pointing towards good fit (Bentler, 1990; Kline, 2005; Tabachnick and Fidell, 2007 as cited in Hooper et al., 2008). Hair et al. (1998) suggest that NFI > 0.8 as satisfactory fit. Recommendations as low as 0.80 as a cutoff for NNFI has been preferred (Hooper et al., 2008). Table 5.6: Absolute and Incremental Fit Indices of the Model depicts the NFI and NNFI values of the study respectively conforming to the acceptable criteria.

As a revised form of NFI, Comparative Fit Index (CFI) was proposed and it performs well even in small samples (Tabachnick & Fidell, 2007). Same as NFI, CFI values ranging between 0.0 and 1.0 with values closer to 1.0 indicates good fit. CFI is one of the most popular fit indices as it least effected by the sample size. The CFI value of the study was 0.90 which exceeds the cut off value of 0.80 (Browne & Cudeck, 1993; Hair et al., 2009). Table 5.6: Absolute and Incremental Fit Indices of the Model depicts the CFI value of the study complying with the cut-off criteria.

The PNIF is based upon the NFI by adjusting for loss of degrees of freedom. The authors strongly recommend the use of such parsimony indices along with other measures of goodness of fit (Hooper et al., 2008). Byrne (1998) as cited in Quazi et al. (2016) suggested that PNFI $\geq$ 0.50 indicating parsimonious fit. Table 5.6: Absolute and Incremental Fit Indices of the Model depicts the PNFI value of the study obeying with the acceptance criteria.

Table 5.6: Absolute and Incremental Fit Indices of the Model

Indices	Threshold Levels	Model Values	Decision
Absolute Fit Indices			
Relative $\chi 2$ ($\chi 2$/df)	≤ 3.00	590.408/247 = 2.39	Satisfied
RMSEA	≤ 0.08	0.08	Satisfied
GFI	close to 1	0.80	Satisfied
AGFI	close to 1	0.76	Satisfied
SRMR	<0.08	0.06	Satisfied

Incremental Fit Indices			
NFI	>0.80	0.84	Satisfied
NNFI (TLI)	>0.80	0.89	Satisfied
CFI	≥0.80	0.90	Satisfied
Parsimony Fit Indices			
PNFI	≥0.50	0.75	Satisfied

Source: Research Data

After obtaining a fitted model, researcher produced standardized estimates of the model in Appendix K: Standardized Estimates of the Model and Appendix L: Model Estimate Values. Given below Figure 5.13: Standardized Estimates of the Model represents an abstract version of above information.
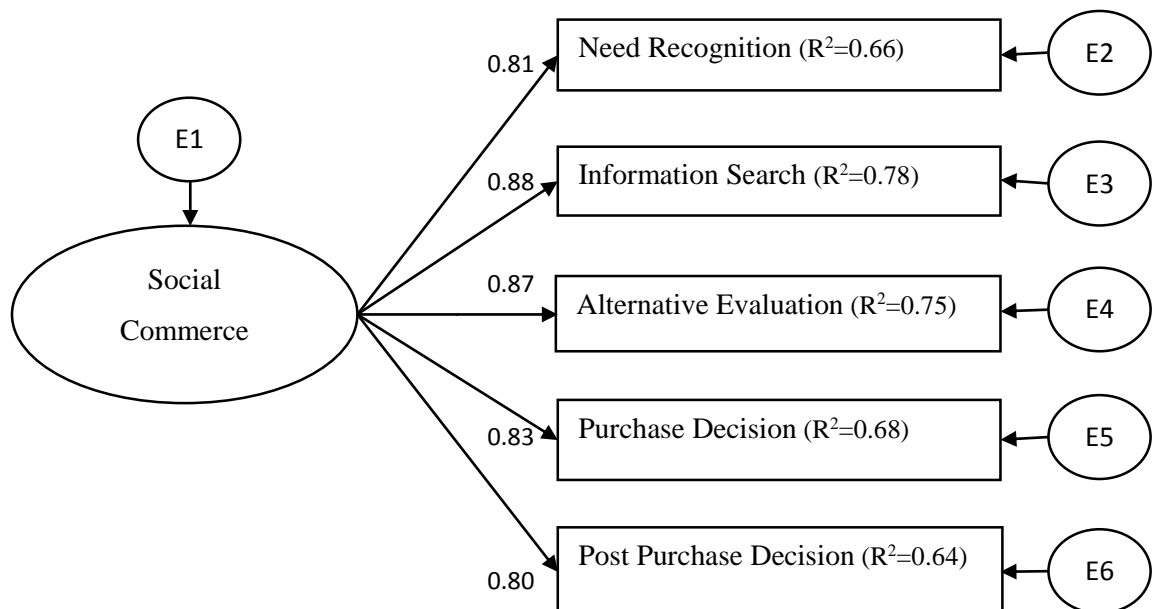
Figure 5.13: Standardized Estimates of the Model

Source: Research Data

5.10. Hypothesis Testing

The main objectives of this study were to determine whether SCCs was the significant predictor for the consumer decision making stages namely; need recognition, information search, alternative evaluation, purchase decision and post purchase

decision. Hence, five main hypotheses were constructed initially and tested at this stage. Hypothesis testing was carried out at 1% significance level anticipating high accuracy.

5.10.1. Social Commerce and Need Recognition

H1: Social Commerce Constructs (SCCs) have a positive effect on the Need Recognition (NR) stage of the consumer decision making.

Based on the results showed in Table 5.7: Results of First Hypothesis (H1), it was confirmed that SCCs acts as a significant predictor of consumer need recognition under 1% significance level. Therefore, it can be concluded that SCCs is having a positive impact on the need recognition stage of the consumer decision making.

Table 5.7: Results of First Hypothesis (H1)

Hypothesis	Effect	Path Co-efficient (β Value)	R^2	*P* Value	Decision
H1	SCCs -> NR	0.81	0.66	0.000	Accepted

Source: Research Data

5.10.2. Social Commerce and Information Search

H2: Social Commerce Constructs (SCCs) have a positive effect on the Information Search (IS) stage of consumer decision making.

Based on the results showed in Table 5.8: Results of Second Hypothesis (H2), it was confirmed that SCCs acts as a significant predictor of consumer information search under 1% significance level. Therefore, it can be concluded that SCCs is having a positive impact on the information search stage of the consumer decision making.

Table 5.8: Results of Second Hypothesis (H2)

Hypothesis	Effect	Path Co-efficient (β Value)	R^2	*P* Value	Decision
H2	SCCs -> IS	0.88	0.78	0.000	Accepted

Source: Research Data

5.10.3. Social Commerce and Alternative Evaluation

H3: Social Commerce Constructs (SCCs) have a positive effect on the Alternative Evaluation (AE) stage of consumer decision making.

Based on the results showed in Table 5.9: Results of Third Hypothesis (H3), it was confirmed that SCCs acts as a significant predictor of consumer alternative evaluation under 1% significance level. Therefore, it can be concluded that SCCs is having a positive impact on the alternative evaluation stage of the consumer decision making.

Table 5.9: Results of Third Hypothesis (H3)

Hypothesis	Effect	Path Co-efficient (β Value)	R^2	*P* Value	Decision
H3	SCCs -> AE	0.87	0.75	0.000	Accepted

Source: Research Data

5.10.4. Social Commerce and Purchase Decision

H4: Social Commerce Constructs (SCCs) have a positive effect on the Purchase Decision (PD) stage of consumer decision making.

Based on the results showed in Table 5.10: Results of Fourth Hypothesis (H4), it was confirmed that SCCs acts as a significant predictor of consumer purchase decision under 1% significance level. Therefore, it can be concluded that SCCs is having a positive impact on the purchase decision stage of the consumer decision making.

Table 5.10: Results of Fourth Hypothesis (H4)

Hypothesis	Effect	Path Co-efficient (β Value)	R^2	*P* Value	Decision
H4	SCCs -> PD	0.83	0.68	0.000	Accepted

Source: Research Data

5.10.5. Social Commerce and Post Purchase Decision

H5: Social Commerce Constructs (SCCs) have a positive effect on the Post Purchase Decision (PPD) stage of consumer decision making.

Based on the results showed in Table 5.11: Results of Fifth Hypothesis (H5), it was confirmed that SCCs acts as a significant predictor of consumer post purchase decision under 1% significance level. Therefore, it can be concluded that SCCs is having a positive impact on the post purchase decision stage of the consumer decision making.

Table 5.11: Results of Fifth Hypothesis (H5)

Hypothesis	Effect	Path Co-efficient (β Value)	R^2	P Value	Decision
H5	SCCs -> PPD	0.80	0.64	0.000	Accepted

Source: Research Data

5.11. Chapter Summary

This chapter focused on achieving the main research objectives derived in the study. Data analysis was commenced with exploratory data analysis to test the data adhering to the notions of missing values, detecting and handling univariate and multivariate outliers and testing for linearity. Confirming all the preliminary assumptions of the structural equation modeling (SEM), the chapter attempted to describe the sample characteristics though describing the sample is not an objective of the study. Subsequently, confirmatory factor analysis was performed to evaluate the measurement model. Further, validity and reliability of the study was assessed followed by model testing confirmed after meeting the model fit indices acceptance criteria. Finally, the study was able to confirm the acceptance of all main hypotheses.

6   DISCUSSION AND CONCLUSION

6.1. Chapter Introduction

The previous chapter elaborated the pertaining data analysis in order to ascertain the stated objectives of the study. Objectives of the study successfully analyzed and the hypotheses were tested subsequently. This chapter discusses the concluding remarks of the research by drawing inferences based on the hypotheses tested in the previous chapter. Furthermore, this chapter intends to highlight important theoretical and practical implications in relation to social commerce and consumer behavior. In addition, this chapter elaborates limitations of the research study and suggestions to be addressed in future research as extensions of this research are proposed.

6.2. Discussion, Implications and Recommendations

The domain in which this research is conducted is novel as discussed in the outset. The need of theoretical and empirical evidences of consumer behavior in social commerce was noted, as per scholarly suggestions, thus the research was carried out on that basis. It was admitted that this could be the increasingly attracting research discipline with the evolution of social media and online social networks usage among the other related fields (Khang et al., 2012; Liang & Turban, 2011; Lin et al., 2017; Zhang & Benyoucef, 2016). This study adopted Yadav et al.'s (2013) definition of social commerce and concentrated the discussion on Online Social Network (OSN) sites to highlight the "social" dimension of social commerce, complying with the argument by Zhang and Benyoucef (2016). Apparently, available literature lack a systematic framework followed by empirical investigation which evaluates few stages, giving a way to an incomplete view to the role of social commerce in consumer decision making stages. Yadav et al. (2013) coined the fact that implications of social commerce on consumer decision making stages is worth investigating for firms to leverage. Furthermore, unique characteristics of social commerce allow organizations to strengthen the relationships with customers allowing business organizations to achieve desirable economic boosts such as increased sales and successful marketing (Amblee & Bui, 2011; Hajli & Sims, 2015; Michaelidou et al., 2011).

This study examined the impact of social commerce on consumer decision making stages with special reference to the Sri Lankan Facebook users accompanied by the valid rational articulated at the outset of the research. Findings provided valuable theoretical as well as practical insights for academic researchers and practitioners. Initially, the empirical evidence of this research study allow to accept the definition of social commerce by Yadav et al. (2013): "exchange-related activities that occur in, or are influenced by an individual's social network in computer-mediated social environment where activities corresponding to the need recognition, pre-purchase, purchase and post-purchase stages of focal exchange", as all the formed research hypotheses (H1 to H5) of the study were accepted with adequate significance level. Consequently, integrating a popular theory in consumer behavior (i.e. consumer decision making process stages) with social commerce facilitated in OSNs to develop a model is an important theoretical implication derived by this study. Hence, this model can be used as a novel concept in social commerce studies.

Importantly, this study suggests practical implications for different business organizations, vendors as well as marketers. Understanding the role of social commerce (facilitated by OSNs) in consumer behavior improves marketing initiatives while giving a better insight about consumers. Moreover, such understanding has a direct implication on the overall performance and the sustainability of the business. Concluded by the empirical evidences of this study, it has paramount importance for organizations to embrace and manage online social platforms (e.g., Facebook) effectively as they have significant positive impact on the consumer decision making stages. Broadly, from organizational point of view, constructive impact of the Social Commerce Constructs (SCCs) on the consumer decision making stages will enable the products, services or brands to thrive in the market and adverse impacts of SCCs on any stage of the consumer decision making process should be treated as destructive conversely. Moreover, such adverse impacts are expected to amplify overtime in online social communities embedded with trust in electronic word of mouth (eWOM), and it certainly has a harmful impact on other stages as well. Consequently, potential consumers will be lost and existing consumers will shift over to competitors in no time.

Now it is evident that with the increasing adoption of OSNs, practitioners around the world were actively accepting social commerce. Though few companies already had social commerce strategy, most of the companies are planning to implement such strategies in future (Lin et al., 2017). Hence, findings of this research study deliberately emphasize the importance of having social commerce strategy despite the type or the nature of the business. Inevitably, marketers should consider the influence of SCCs (i.e. reviews and ratings, forums and communities and recommendations and referrals) in OSNs when they craft marketing strategies for respective products, services or events. Yielded by the empirical evidences of the study, SCCs are significantly influential on all the five consumer decision making stages, thus marketers should imperatively emphasize on marketing and relationship building efforts coupled with utilizing social interactivity on OSNs (e.g. Facebook).

The researcher has a similar notion as Song and Yoo (2016) had emphasized the fact that increasing adoption and the influence of OSNs (especially including the Facebook) has become highly prevalent and noteworthy, thus it should no longer be treated as a mere marketing communication channel. Instead, it could be utilized more as an integrated promotion mix. The empirical results of the study further confirmed the assertion of Edelman (2010) as cited in Zhang and Benyoucef (2016) that OSNs enable consumers to engage with brands, thus marketers should shift marketing strategies from attracting consumers' awareness (pre-purchase stage) to bonding with consumers after their purchase (post purchase stage).

The researcher empirically confirmed that social support in OSNs become a natural supplement that is beneficial to influence consumer decision making. Nevertheless, marketers should be able to comprehend the difference between the "paid media" and "earned media" in reaching to its consumers. According to a Nielsen study, "earned" advertising demonstrated significant effects on consumer decisions including forming purchasing intentions than the standard paid advertisements (Wauters, 2010). Particularly, with respect to earned media (e.g., SCC in OSNs), companies can ultimately increase sales at a lesser marketing cost. However, striking a consistency between paid and earned media is highly recommended. In fact, there should be an integration and consistency between firm's usage of OSNs and traditional media.

While these two arenas seem to be completely different from consumers' perspective, both have same intention: the organization's image. Further, there are various OSN applications appearing more often addressing different social engagements, communication and entertainment functionalities. Choosing the right medium for any given purpose depends on the target group to be reached, communicated and engaged. However, decision to rely on different OSNs for the purpose of largest possible reach should ensure all activities of the OSNs are aligned and consistent with each other. Importantly, using different contact channels including OSNs can be a worthwhile and profitable strategy as long as it resolves ambiguity and reduce uncertainty without creating confusion by having contradictory messages across different channels.

The researcher strongly agrees with the postulation made by Kaplan and Haenlein (2010) as it is vital to understand of the basic idea behind OSNs. It's all about participation, sharing and collaboration, rather than straightforward advertising and selling. Hence, organizational marketing initiatives that position on the OSNs must encourage the consumers to engage with them imperatively. Besides, the researcher suggests that the Firm Generated Content (FGC) in OSNs is essential to boost the User Generated Content (UGC) and thereby build a continuous conversation and engagement with the consumers. Unlike UGC, the FGC is primarily positive as the firm has control over the content and presumably prefers a positive message. Consumers prefer to witness UGC over the FGC in OSNs due to its relatively high perceived reliability. But, FGC is essential to highlight the organizational presence and build a continuous rapport with consumers. Therefore, it is advisable to be active on the firm selected OSNs (e.g. Facebook) ensuring that content is always fresh and to engage in discussions with the customers. The pressing issue is how to motivate customers to generate UGC (by means of SCC including ratings and reviews, recommendations and referrals and communities and forums) as such content is usually provided on voluntary basis.

OSNs provide an opportunity for businesses to engage and interact not only with existing customers but also with potential consumers encouraging increased sense of intimacy with consumers. Marketers should take the advantage of consumer participation through active communication to strengthen their relationships. In

particular, derived from empirical evidences of the study, the researcher suggests that firms should encourage and sponsor online communities on influential OSNs (e.g., groups on Facebook) and offer consumers the ability to develop relationships with others who have similar interests as they can exchange product or service information and experiences, which should effectively create awareness about products or services among many people. In fact, consumers should be encouraged to use UGC to spread the positive products, services or event opinions and experiences. Importantly, managing an official OSN (e.g., Facebook) fan page is another approach that predominantly allows the consumers to find all the required information provided by the organization. It also allow to witness UGC features such as ratings (e.g., star ratings) and reviews that showcase the consumer perceptions on the organization and its products or services. This research has shown the key role of UGC and e-WoM in OSNs on influencing consumer decisions. Consumer decisions are often strongly influenced by people who the consumer knows and trust relative to organizational influence. Moreover, many online consumers tend to expect the opinions of similar consumers in making a consumption decision in order to reduce the risk of having a wrong choice. Hence, it is imperative that organizations should encourage and manage product, service or event related social conversations accompanied with FGC in OSNs. Consequently, vendors will benefit by attracting potential customers to its business while retaining the existing customers.

Companies are now allocating a larger share of their advertising budget on OSNs for an interactive global platform and better reach (Lin et al., 2017). They argued that social media advertising can leverage the power of social influence to improve the acceptance of advertisements and deliver appropriate advertisements to customers based on their user profiles. Apparently, Kwok and Yu (2013) founded that photos and statuses receive the most likes and comments in OSNs compared to the other media types. However, if ineffective, social media advertising may lead to more severe advertising avoidance problem than the traditional advertisements (Kelly et al., 2010). Importantly, the researcher suggests that firms must manage official OSN fan pages (e.g., Facebook page) as they are obviously useful marketing tools which should predominately include vendor and product information. Having an official OSN fan

page (e.g., Facebook) allows management to interact directly with customers in order to improve and manage customer relationships. As discussed, findings of this study highlights the importance of embracing OSNs for influencing and managing consumer relationships. Furthermore, it is evident that OSNs are attracting high popularity among the youth with the increase of social presence and media richness (Kaplan & Haenlein, 2010). Bearing in mind the large number of youth and teenagers are using OSNs, marketers should reap the benefits of OSNs in reaching the youth. Instead of employing the traditional promotional activities marketers need to use OSNs to connect with young customers.

Historically, companies were able to control the information spread on World Wide Web (WWW). However, today firms have been increasingly relegated to the sidelines as mere observers, having no right to alter publicly posted comments (especially on OSNs) provided by their customers. The persuasive power has therefore been gradually shifted from institutions to active participatory audiences known as "prosumers". Crisis management is another vital aspect that marketers need to pay their attention. The consumers who turn out to be dissatisfied with or disappointed with what the company offers may decide to engage in virtual complaints in the form of SCCs, which result in damaging information on OSNs. In fact, once firms encourage users to be active on OSNs, they may have to live with the consequences of posting negative comments about the firm or what it offers. Moreover, marketers should react to both the positive as well as negative conversations taking place in OSNs. Further, emphasize must be given to managing negative conversations in OSNs as there is a high likelihood of spreading such messages among other users. Implementing and the timely use of a new platform integrated analytic system or use of the existing platform specific analytic system to monitor the OSNs activities and to derive valuable insights including sentiment analytics is recommended by the researcher. Another key aspect is the reputation management. OSNs allow corporate representatives to conduct impression management in an effective way to attract new customers and easily interact with their critical customers. Besides, researcher recommends defining groups of employees whose primary objective is the management of corporate social media including OSNs should head start to successfully implement social commerce

strategies. Moreover, it is recommended that all other staff members are encouraged to engage in organizational, product or service related UGC in OSNs as occasional participants.

The researcher firmly believe that social commerce is useful in group buying initiatives where customers could do virtual marketing in OSNs to their friends. They can give attractive discounts in order to reach a certain amount of sales volume. Furthermore, it is evident that social commerce facilitates innovation both inside and outside of an organization. Externally, consumers are able to share their experience and knowledge on OSNs about products or services which gives organizations the opportunity to learn from consumers (Lin et al., 2017). Hence, social commerce creates great opportunity for customers to participate in new product development (Busalim & Hussin, 2016; Hajli et al., 2014).

6.3. Limitations and Future Research Directions

This study sheds some light on the area of social commerce and its effect on the consumer decision making stages with special reference to the Sri Lankan Facebook users. Despite the interesting implications discussed above, this study has several limitations which provide salient future research avenues.

The study investigated Sri Lankan Facebook users, thus future studies could be extended to other major OSNs. Impact on consumer decision making will depend on the use of specific OSN application (Power & Phillips-Wren, 2011). Besides, other major OSNs need to be considered in the future research to compare the results given their growing significance. In addition, the Facebook users in this study sample were Sri Lankans; this enabled the researcher to examine a geographically homogenous sample. These respondents are likely to differ from consumers with other geographical, social and cultural backgrounds. In future research, interesting follow-up studies should involve retrieving data from global context in order to examine such differences.

The conceptual model of the study was developed by the researcher to initially ascertain potential of OSNs (Facebook) to influence the consumer decision making

stages despite confining the outcome to a specific product, service or event. Since the researcher has tested and validated the model with collected data, this model can be applied for analyzing consumer behavior for specific product, service or event in future. Previous research studies in same discipline reflected such assertions (e.g., Wang et al., 2012). Importantly, there are significant differences between Facebook and other major OSNs in terms of their respective functional and application specific characteristics. Even though all SCC features (ratings and reviews, forums and communities and recommendations and referrals) mentioned in the study are available on the Facebook platform, such features might not be available or less available with other OSNs; thus SCCs are platform specific. Park et al. (2014) highlighted the fact that different OSN services and functions might lead to differences in consumer decision making behavior. Hence, concerns can be raised on the applicability of researcher's constructs to other OSNs. Therefore, future studies should accommodate such concerns.

The measurement items were obtained from previous relevant research studies after constructive modifications, therefore there might have been some misspecification of the variables. Moreover, each variable of the study was measured with only four items. Since the construct demonstrated adequate reliability and validity. This limitation did not have a serious effect on the research findings but the reliability of the future research could be enhanced using more items to measure the constructs. The study used a five-point Likert-scale, hence future research should extend the scale to expect better results. Prospectively, it is necessary to conduct a more comprehensive study concentrating on other factors that may play an enabling, moderating or mediating role that affect the consumer behavior in social commerce. In fact, the findings show the important role of SCCs driven by social support in OSNs and highlight that it sheds light on the consumer decision making and add valuable contribution to the understanding of consumer behavior in social commerce. In future, such SCCs could be extended to provide comprehensive coverage of the social support in OSNs. Further, the researcher had focused on the positivity of the SCCs leading to measure the positive impact of the social commerce on consumer decision making stages. But in many cases, SCCs might yield negativity and lead to substantial negative impacts

to the relationship. Moreover, after referring to the extant literature, researcher realized that scope of the social commerce was limited to social support activities (user generated content) to a greater extent. But, researcher strongly believes that social commerce should further incorporate organizational support (i.e. firm generated content) to make the concept comprehensive. Therefore, researcher suggests to redefine the operational definition of social commerce concept by including the above aspects in future studies.

Future research could incorporating qualitative (e.g., content analysis, focus groups, etc.), mix research methodologies or OSN analytics approaches to explore consumer behavior in social commerce in respective OSNs in order to complement the lack of adequate survey methods that allowed the researcher to make strong inferences. Further, the sample was representative in the study, however the sample size was small compared to the study population of Sri Lankan Facebook users. Apart from that, since this study was a cross-sectional study, the responses gathered were limited to certain period which restricts the validity of the results to a given moment in time. Increasing experience with the OSN will undoubtedly affect user behavior on such platforms. Influence on that over time is not considered in the study.

This study intended to comprehend the impact of the social commerce for each consumer decision making stage without concerning the inter-relatedness of the decision making stages. The researchers argue such inter-relatedness could not be determined due to the novelty of the research phenomenon and the lack of literature with empirical support in the context of social commerce. Besides, some consumers may use social commerce for limited stages of the decision making process. Further, there is literature with empirical evidences for assessing independent and dependent variable relationships individually assuming stages of the decision making process (e.g., Hajli, 2015; Liang et al., 2011; Song & Yoo, 2016; Wang & Yu, 2015). Therefore, if literature assesses dependent variables individually, there is a clear rationale to bring all the decision steps together in a single research. As a result, this study intends to comprehend the impact of social commerce towards an integrative model incorporating all the decision steps anticipating new knowledge. However,

researchers argue such inter-relatedness of the decision making process stages is beyond the scope of this research.

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Appendix A: Research Questionnaire

I'm Harshaka Hettiarachchi, a post-graduate student who is currently reading for MBA in IT (Business Analytics) at University of Moratuwa, Sri Lanka. The questionnaire attached herewith intends to gather survey responses for my dissertation themed: ***Impact of Social Commerce on Consumer Decision Making with special reference to Sri Lankan Facebook Users***. I would appreciate your valuable time and commitment extended to complete the following survey. It might take approximately 10 minutes of your time. Your responses will be confidential and used only for academic purpose. This questionnaire consists of three (03) sections. All questions are compulsory to answer and you are supposed to select the most appropriate answer for given questions.

Importantly, before you attempt the questions, please read the respective instructions and technical terms for clarity purposes.

Thank You,

Harshaka Hettiarachchi

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Section A: Demographic Profile

Instructions: Tick in an appropriate answer box for questions ranging from A1 to A9 under Section-A. Choose the most appropriate answer/option for the questions given.

A1: Your gender:

Male	
Female	
Other	

A2: Your age (in years):

Under 20	
20-29	
30-39	
40-49	
50 or Above	

A3: Your marital status:

Single	
Married	
Divorced	
Separated	
Widowed	

A4: Your residential province:

Northern		Sabaragamuwa	
North Western		Eastern	
Western		Uva	
North Central		Southern	
Central			

A5: Your highest level of education achieved/completed:

O/L (GCE/London) or below	
A/L (GCE/London)	
Diploma	
Bachelor's Degree	
Post Graduate Qualification	
Professional Qualification	

A6: Select the most appropriate option that best describes your profession:

Student	
Government / Semi-Government Employee	
Private Sector Employee	
Self-Employed	
Not Willing to Work	
Unemployed	

Other (please mention) …………………………………

A7: Your approximate monthly income?

Less than Rs. 25,000	
Rs. 25,000 – Rs. 50,000	
Rs. 50,000 – Rs. 75,000	
Rs. 75,000 – Rs. 100,000	
More than Rs. 100,000	
Not Applicable	

A8: How long have you been a member of Facebook?

Less than 1 Year	
Between 1 and 2 Years	
Between 2 and 3 Years	
Over 3 Years	

A9: How much time (approximately) you spent on Facebook?

Less than an hour a day	
Between 1 & 2 hours a day	
Between 2 & 4 hours a day	
More than 4 hours a day	
Not on daily basis	

A10: Among the following, "select" the **products, services or events on Facebook** that you are **interested / witnessed / experienced / engaged**:

You can select more than one product, service or event (please tick in the respective answer box).

Fashion, Clothing, Footwear and Accessories		Travel, Leisure and Accommodation	
Telecommunication and Internet Services		Automobile	
Health, Medicine and Beauty		Finance, Banking and Insurance	
Consumer Electronic		Software and Applications	
Food and Beverages		Home and Living	
Sporting Goods		Entertainment	

A11: "Rate" the above selected products, services or events depending on **interest / preference / priority level** you have given in the Facebook relative to other categories mentioned. You may only have to rate the selected products, services or events that you have ticked in above (A10) question.

Fashion, Clothing, Footwear and Accessories	☆☆☆☆☆
Telecommunication and Internet Services	☆☆☆☆☆
Health, Medicine and Beauty	☆☆☆☆☆
Consumer Electronic	☆☆☆☆☆
Food and Beverages	☆☆☆☆☆
Sporting Goods	☆☆☆☆☆
Travel, Leisure and Accommodation	☆☆☆☆☆
Automobile	☆☆☆☆☆

Finance, Banking and Insurance	☆☆☆☆☆
Software and Applications	☆☆☆☆☆
Home and Living	☆☆☆☆☆
Entertainment	☆☆☆☆☆

Instructions for Section B:

All the questions should be answered with respect to your selected and ranked products, services and events on above A-10 question.

Please indicate the degree to which you would agree with the following statements by choosing a number scale starting from 1 and ending at 5. Please select the most appropriate answer of your choice.

Section B – Social Commerce Constructs

❖ *Social Commerce Constructs (SCC) known as User Generated Content (UGC) is any form of content (such as discussion forums, posts, chats, comments, ratings, reviews, images, video, audio files, and other forms of media/content) that were **created by general users** (not by the merchants or advertisers) on Facebook with respect to a product, service or event.*

❖ *Such forms of content created by users are generally classified as **"Reviews and Rating, Forums and Communities, Recommendations and Referrals"**.*

B1: Do you ask friends/members on Facebook forums and communities to provide you with their suggestions before you purchase such a product, service or an event?

Never	Rarely	Every once in a while	Sometimes	Almost always
1	2	3	4	5

B2: Are you willing to recommend such a product, service or an event that is worth buying to friends/members on the Facebook?

Never	Rarely	Every once in a while	Sometimes	Almost always
1	2	3	4	5

B3: Are you willing to share your own shopping experience of such a product, service or an event with friends/members on Facebook forums and communities or through Facebook ratings and reviews?

I never share	I rarely share	Every once in a while	Sometimes I share	I share almost always
1	2	3	4	5

B4: Would you like to use friends/members online recommendations and referrals on Facebook to buy such a product, service or an event?

Not at all Interested	Not interested	Neutral	Somewhat Interested	Very Interested
1	2	3	4	5

Instructions for Section C:

All the questions should be answered with respect to your selected and ranked products, services and events on above A-10 question.

Please indicate the degree to which you would agree with the following statements by choosing a number scale from 1 to 5. Please select the most appropriate answer of your choice.

Section C – Consumer Decision Making Process Stages

❖ *Social Commerce Constructs (SCC) known as User Generated Content (UGC) is any form of content (such as discussion forums, posts, chats, comments, ratings, reviews, images, video, audio files, and other forms of media/content) that were*

created by general users (not by the merchants or advertisers) on Facebook with respect to a product, service or event.

❖ *Such forms of content created by users are generally classified as **"Reviews and Rating, Forums and Communities, Recommendations and Referrals"**.*

Below questions under Section-C (including Part A, B, C, D and E) focus on investigating the influence of **User Generated Content** about products, services or events on Facebook to respective consumer decision making stages.

A. Consumer Need Recognition Stage

CA1: Does **user generated content** of friends/members on Facebook about a product, service or an event let you **realize your needs about such a product, service or an event?**

Never	Rarely	Neutral	Sometimes	Almost Always
1	2	3	4	5

CA2: Does **user generated content** of friends/members on Facebook about a product, service or an event **prompt you to purchase such a product, service or an event?**

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CA3: Does **user generated content** of friends/members on Facebook about such a product, service or an event **enable you to re-evaluate your needs?**

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CA4: Does **user generated content** of friends/members on Facebook about a product, service or an event **remind you of the need for such a product, service or an event?**

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

B. Consumer Information Search Stage

CB1: When you **search for information** about a product, service or an event, do you **examine** related **User generated content** of friends/members on Facebook?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CB2: When you **search for information** about a product, service or an event, do you perceive **user generated content** of friends/members on Facebook are **important sources of information**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CB3: When you **search for information** about a product, service or an event, do you perceive **user generated content** of friends/members on Facebook as **reliable?**

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CB4: You don't' make a purchase decision about a product, service or an event, without examining **user generated content** of friends/members on Facebook.

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

C. Consumer Alternative Evaluation Stage

CC1: Before the purchasing decision about such a product, service or an event, do you **check** the related **user generated content** of friends/members on Facebook about **alternatives**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CC2: When evaluating the **alternatives** for such a product, service or an event, do you **consider** related **user generated content** of friends/members on Facebook?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CC3: Does **user generated content** of friends/members on Facebook about such a product, service or an event **enable** you to evaluate the **alternatives** in your mind?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CC4: You don't finish the evaluating the **alternatives**, without checking the **user generated content** of friends/members on Facebook about such a product, service or an event?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

D. Consumer Purchase Decision Stage

CD1: Does **user generated content** of friends/members on Facebook influence such **a product, service or an event** you choose to **buy**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CD2: Does **user generated content** of friends/members on Facebook about such a product, service or an event influence your **brand choice** to **buy**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CD3: Does **user generated content** of friends/members on Facebook about such a product, service or an event influence the **place (either online or offline)** of your **purchase**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CD4: Does **user generated content** of friends/members on Facebook about such a product, service or an event influence the **time** of your **purchase**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

E. Post-Purchase Evaluation Stage

CE1: When you **search for solutions** to such a product, service or an event related problems arose after purchase, do you check the related **user generated content** of friends/members on Facebook?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CE2: Do you express your **level of satisfaction** about such a product, service or an event that you experienced as **user generated content** on Facebook?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CE3: If you are satisfied with a product, service or event that you experienced, do you express yours next related purchase decision as **user generated content** on Facebook?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

CE4: After purchasing a product, service or event, do you check related **user generated content** of friends/members on Facebook to **evaluate your decision**?

Never	Rarely	Neutral	Sometimes	Almost always
1	2	3	4	5

Highly appreciate your valuable response. Thank You.

Appendix B: Principle Component Factor Analysis

a. Factor Analysis for Social Commerce Construct

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.744
Bartlett's Test of Sphericity	Approx. Chi-Square	23.637
	df	6
	Sig.	.001

Communalities

	Initial	Extraction
Do you ask friends/members on Facebook forums and communities to provide you with their suggestions before you purchase such a product, service or an event?	1.000	.606
Are you willing to recommend such a product, service or an event that is worth buying to friends/members on the Facebook?	1.000	.487
Are you willing to share your own shopping experience of such a product, service or an event with friends/members on Facebook forums and communities or through Facebook ratings and reviews?	1.000	.736
Would you like to use friends/members online recommendations and referrals on Facebook to buy such a product, service or an event?	1.000	.551

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.379	59.477	59.477	2.379	59.477	59.477
2	.719	17.971	77.448			
3	.524	13.111	90.558			
4	.378	9.442	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
Are you willing to share your own shopping experience of such a product, service or an event with friends/members on Facebook forums and communities or through Facebook ratings and reviews?	.858
Do you ask friends/members on Facebook forums and communities to provide you with their suggestions before you purchase such a product, service or an event?	.778
Would you like to use friends/members online recommendations and referrals on Facebook to buy such a product, service or an event?	.742
Are you willing to recommend such a product, service or an event that is worth buying to friends/members on the Facebook?	.698

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

b. <u>Factor Analysis for Need Recognition</u>

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.661
Bartlett's Test of Sphericity	Approx. Chi-Square	26.948
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
Does user generated content of friends/members on Facebook about a product, service or event let you realize your needs about such a product, service or an event?	1.000	.375
Does user generated content of friends/members on Facebook about a product, service or an event prompt you to purchase such a product, service or an event?	1.000	.440
Does user generated content of friends/members on Facebook about such a product, service or an event enable you to re-evaluate your needs?	1.000	.713
Does user generated content of friends/members on Facebook about a product, service or an event remind you of the need for such product, service or event?	1.000	.762

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.291	57.268	57.268	2.291	57.268	57.268
2	.805	20.128	77.396			
3	.668	16.697	94.093			
4	.236	5.907	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
Does user generated content of friends/members on Facebook about a product, service or an event remind you of the need for such product, service or event?	.873
Does user generated content of friends/members on Facebook about such a product, service or an event enable you to re-evaluate your needs?	.844
Does user generated content of friends/members on Facebook about a product, service or an event prompt you to purchase such a product, service or an event?	.664
Does user generated content of friends/members on Facebook about a product, service or event let you realize your needs about such a product, service or an event?	.612

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

c. <u>Factor Analysis for Information Search</u>

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.693
Bartlett's Test of Sphericity	Approx. Chi-Square	21.212
	df	6
	Sig.	.002

Communalities

	Initial	Extraction
When you search for information about a product, service or an event, do you examine related user generated content of friends/members on Facebook? Never Rarely	1.000	.675
When you search for information about a product, service or an event, do you perceive user generated content of friends/members on Facebook are important sources of information?	1.000	.693
When you search for information about a product, service or an event, do you perceive user generated content of friends/members on Facebook as reliable?	1.000	.485
You don't' make a purchase decision about a product, service or an event, without examining user generated content of friends/members on Facebook.	1.000	.383

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.235	55.882	55.882	2.235	55.882	55.882
2	.781	19.537	75.419			
3	.650	16.244	91.664			
4	.333	8.336	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
When you search for information about a product, service or an event, do you perceive user generated content of friends/members on Facebook are important sources of information?	.832
When you search for information about a product, service or an event, do you examine related user generated content of friends/members on Facebook? Never Rarely	.822
When you search for information about a product, service or an event, do you perceive user generated content of friends/members on Facebook as reliable?	.696
You don't' make a purchase decision about a product, service or an event, without examining user generated content of friends/members on Facebook.	.619

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

d. Factor Analysis for Alternative Evaluation

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.746
Bartlett's Test of Sphericity	Approx. Chi-Square	39.670
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
Before the purchasing decision about such a product, service or an event, do you check the related user generated content of friends/members on Facebook about alternatives?	1.000	.733
When evaluating the alternatives for such a product, service or an event, do you consider related user generated content of friends/members on Facebook?	1.000	.733
Does user generated content of friends/members on Facebook about such a product, service or an event enable you to evaluate the alternatives in your mind?	1.000	.772
You don't finish the evaluating the alternatives, without checking the user generated content of friends/members on Facebook about such a product, service or an event?	1.000	.451

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.688	67.198	67.198	2.688	67.198	67.198
2	.737	18.418	85.616			
3	.314	7.847	93.463			
4	.261	6.537	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
Does user generated content of friends/members on Facebook about such a product, service or an event enable you to evaluate the alternatives in your mind?	.879
Before the purchasing decision about such a product, service or an event, do you check the related user generated content of friends/members on Facebook about alternatives?	.856
When evaluating the alternatives for such a product, service or an event, do you consider related user generated content of friends/members on Facebook?	.856
You don't finish the evaluating the alternatives, without checking the user generated content of friends/members on Facebook about such a product, service or an event?	.671

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

e. <u>Factor Analysis for Purchase Decision</u>

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.620
Bartlett's Test of Sphericity	Approx. Chi-Square	35.648
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
Does user generated content of friends/members on Facebook influence such a product, service or an event you choose to buy?	1.000	.601
Does user generated content of friends/members on Facebook about such a product, service or an event influence your brand choice to buy?	1.000	.690
Does user generated content of friends/members on Facebook about such a product, service or an event influence the place (either online or offline) of your purchase?	1.000	.685
Does user generated content of friends/members on Facebook about such a product, service or an event influence the time of your purchase?	1.000	.555

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.532	63.294	63.294	2.532	63.294	63.294
2	.834	20.843	84.137			
3	.407	10.179	94.316			
4	.227	5.684	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Does user generated content of friends/members on Facebook about such a product, service or an event influence your brand choice to buy?	.831
Does user generated content of friends/members on Facebook about such a product, service or an event influence the place (either online or offline) of your purchase?	.828
Does user generated content of friends/members on Facebook influence such a product, service or an event you choose to buy?	.775
Does user generated content of friends/members on Facebook about such a product, service or an event influence the time of your purchase?	.745

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

f. <u>Factor Analysis for Post-Purchase Decision</u>

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.701
Bartlett's Test of Sphericity	Approx. Chi-Square	38.947
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
When you search for solutions to such a product, service or an event related problems arose after purchase, do you check the related user generated content of friends/members on Facebook?	1.000	.494
Do you express your level of satisfaction about such a product, service or an event that you experienced as user generated content on Facebook?	1.000	.755
If you are satisfied with a product, service or an event that you experienced, do you express yours next related purchase decision as user generated content on Facebook?	1.000	.774
After purchasing a product, service or an event, do you check related user generated content of friends/members on Facebook to evaluate your decision?	1.000	.600

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.623	65.571	65.571	2.623	65.571	65.571
2	.683	17.077	82.647			
3	.510	12.760	95.407			
4	.184	4.593	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
If you are satisfied with a product, service or an event that you experienced, do you express yours next related purchase decision as user generated content on Facebook?	.880
Do you express your level of satisfaction about such a product, service or an event that you experienced as user generated content on Facebook?	.869
After purchasing a product, service or an event, do you check related user generated content of friends/members on Facebook to evaluate your decision?	.774
When you search for solutions to such a product, service or an event related problems arose after purchase, do you check the related user generated content of friends/members on Facebook?	.703

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix C: Cronbach Alpha Values of Pilot Study

a. **Cronbach Alpha Values for Social Commerce Constructs**

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excluded[a]	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.771	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.20	12.417	3.524	4

b. **Cronbach Alpha Values for Need Recognition**

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excluded[a]	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.730	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.60	7.750	2.784	4

c. Cronbach Alpha Values for Information Search

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excluded[a]	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.703	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.60	9.167	3.028	4

d. Cronbach Alpha Values for Alternative Evaluation

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excluded[a]	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.825	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.60	11.583	3.403	4

e. Cronbach Alpha Values for Purchase Decision

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excludedᵃ	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.806	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.92	14.243	3.774	4

f. <u>Cronbach Alpha Values for Post-Purchase Decision</u>

Case Processing Summary

		N	%
Cases	Valid	25	100.0
	Excludedᵃ	0	.0
	Total	25	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.824	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.60	12.833	3.582	4

Appendix D: Missing Values

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Social_com	214	100.0%	0	0.0%	214	100.0%
Need_rec	214	100.0%	0	0.0%	214	100.0%
Info_search	214	100.0%	0	0.0%	214	100.0%
Alter_eva	214	100.0%	0	0.0%	214	100.0%
Pur_decision	214	100.0%	0	0.0%	214	100.0%
Post_pur_decision	214	100.0%	0	0.0%	214	100.0%

Appendix E: Univariate Outliers

Descriptives

			Statistic	Std. Error
Social_com	Mean		12.88	.255
	95% Confidence Interval for Mean	Lower Bound	12.38	
		Upper Bound	13.38	
	5% Trimmed Mean		12.99	
	Median		13.00	
	Variance		13.901	
	Std. Deviation		3.728	
	Minimum		4	
	Maximum		20	
	Range		16	
	Interquartile Range		6	
	Skewness		-.439	.166
	Kurtosis		-.458	.331
Need_rec	Mean		13.62	.229
	95% Confidence Interval for Mean	Lower Bound	13.17	
		Upper Bound	14.07	
	5% Trimmed Mean		13.79	
	Median		15.00	
	Variance		11.232	
	Std. Deviation		3.351	
	Minimum		4	
	Maximum		20	
	Range		16	
	Interquartile Range		4	
	Skewness		-.911	.166
	Kurtosis		.298	.331
Info_search	Mean		13.89	.237
	95% Confidence Interval for Mean	Lower Bound	13.43	
		Upper Bound	14.36	
	5% Trimmed Mean		14.01	
	Median		15.00	
	Variance		11.993	
	Std. Deviation		3.463	

	Minimum		4	
	Maximum		20	
	Range		16	
	Interquartile Range		4	
	Skewness		-.679	.166
	Kurtosis		.069	.331
Alter_eva	Mean		13.94	.260
	95% Confidence Interval for Mean	Lower Bound	13.43	
		Upper Bound	14.46	
	5% Trimmed Mean		14.12	
	Median		15.00	
	Variance		14.466	
	Std. Deviation		3.803	
	Minimum		4	
	Maximum		20	
	Range		16	
	Interquartile Range		4	
	Skewness		-.726	.166
	Kurtosis		.179	.331
Pur_decision	Mean		13.44	.246
	95% Confidence Interval for Mean	Lower Bound	12.95	
		Upper Bound	13.92	
	5% Trimmed Mean		13.60	
	Median		14.00	
	Variance		12.933	
	Std. Deviation		3.596	
	Minimum		4	
	Maximum		20	
	Range		16	
	Interquartile Range		4	
	Skewness		-.760	.166
	Kurtosis		.230	.331
Post_pur_decision	Mean		13.35	.251
	95% Confidence Interval for Mean	Lower Bound	12.85	
		Upper Bound	13.85	
	5% Trimmed Mean		13.47	
	Median		14.00	
	Variance		13.524	

Std. Deviation		3.678	
Minimum		4	
Maximum		20	
Range		16	
Interquartile Range		5	
Skewness		-.588	.166
Kurtosis		-.044	.331

Appendix F: Univariate Normality

Normal Q-Q Plot of Social_com

Detrended Normal Q-Q Plot of Social_com

Normal Q-Q Plot of Need_rec

Detrended Normal Q-Q Plot of Need_rec

Normal Q-Q Plot of Info_search

Detrended Normal Q-Q Plot of Info_search

Normal Q-Q Plot of Alter_eva

Detrended Normal Q-Q Plot of Alter_eva

Normal Q-Q Plot of Pur_decision

Detrended Normal Q-Q Plot of Pur_decision

Normal Q-Q Plot of Post_pur_decision

Detrended Normal Q-Q Plot of Post_pur_decision

Appendix G: Multivariate Outliers

Observation number	Mahalanobis D²	p1	p2	D² /df (df=247)
121	66.207	0	0.002	0.268
84	63.693	0	0	0.258
28	60.77	0	0	0.246
5	60.398	0	0	0.245
10	57.005	0	0	0.231
153	56.576	0	0	0.229
120	55.222	0	0	0.224
172	52.848	0.001	0	0.214
37	52.428	0.001	0	0.212
88	51.285	0.001	0	0.208
58	50.951	0.001	0	0.206
119	50.885	0.001	0	0.206
160	48.088	0.002	0	0.195
67	46.691	0.004	0	0.189
197	46.427	0.004	0	0.188
81	46.26	0.004	0	0.187
64	45.921	0.005	0	0.186
70	44.339	0.007	0	0.180
111	44.147	0.007	0	0.179
158	43.736	0.008	0	0.177
132	43.298	0.009	0	0.175
101	42.348	0.012	0	0.171
7	42.24	0.012	0	0.171
156	41.821	0.014	0	0.169
17	41.694	0.014	0	0.169
42	41.08	0.016	0	0.166
77	41.066	0.016	0	0.166
14	40.068	0.021	0	0.162
163	39.963	0.022	0	0.162
212	39.853	0.022	0	0.161
202	39.372	0.025	0	0.159
130	38.622	0.03	0	0.156
15	37.822	0.036	0	0.153
93	37.49	0.039	0	0.152
23	37.352	0.04	0	0.151
25	37.306	0.041	0	0.151
48	37.076	0.043	0	0.150
199	36.763	0.046	0	0.149

30	36.587	0.048	0	0.148
22	36.213	0.052	0	0.147
205	35.66	0.059	0	0.144
18	35.433	0.062	0	0.143
47	35.394	0.063	0	0.143
178	34.685	0.073	0	0.140
185	34.419	0.077	0	0.139
179	34.218	0.081	0	0.139
85	34.153	0.082	0	0.138
206	33.759	0.089	0	0.137
173	33.593	0.092	0	0.136
144	33.432	0.095	0	0.135
6	33.422	0.095	0	0.135
104	33.328	0.097	0	0.135
109	33.316	0.098	0	0.135
136	32.981	0.104	0	0.134
78	32.269	0.12	0	0.131
140	32.071	0.125	0	0.130
181	31.918	0.129	0	0.129
148	31.853	0.131	0	0.129
27	31.673	0.135	0	0.128
210	31.1	0.151	0	0.126
52	30.84	0.158	0	0.125
87	30.688	0.163	0	0.124
13	30.613	0.165	0	0.124
69	30.566	0.167	0	0.124
61	30.528	0.168	0	0.124
147	30.525	0.168	0	0.124
189	30.42	0.171	0	0.123
44	30.409	0.172	0	0.123
21	30.188	0.179	0	0.122
112	29.809	0.191	0	0.121
145	29.775	0.192	0	0.121
55	29.468	0.203	0	0.119
117	29.357	0.207	0	0.119
166	29.152	0.214	0	0.118
66	28.519	0.239	0	0.115
99	28.459	0.241	0	0.115
11	28.275	0.249	0	0.114
36	27.743	0.271	0.002	0.112
162	27.566	0.279	0.003	0.112
4	27.217	0.294	0.008	0.110

213	27.117	0.299	0.008	0.110
135	26.838	0.312	0.016	0.109
45	26.829	0.312	0.012	0.109
80	26.826	0.313	0.008	0.109
90	26.456	0.33	0.024	0.107
161	26.447	0.331	0.017	0.107
41	26.068	0.35	0.048	0.106
122	26.063	0.35	0.037	0.106
16	25.997	0.353	0.034	0.105
186	25.788	0.364	0.051	0.104
134	25.475	0.38	0.1	0.103
188	25.441	0.382	0.086	0.103
139	25.421	0.383	0.071	0.103
43	24.807	0.416	0.27	0.100
171	24.71	0.422	0.277	0.100
98	24.23	0.449	0.525	0.098
97	24.166	0.452	0.514	0.098
214	24.057	0.458	0.531	0.097
60	24.003	0.461	0.513	0.097
26	24.002	0.461	0.459	0.097

Appendix H: Correlation Analysis

Correlations

		Social_ com	Need_ rec	Info_ search	Alter_ eva	Pur_ decision	Post_pur_ decision
Social_com	Pearson Correlation	1	.591**	.630**	.596**	.539**	.600**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	214	214	214	214	214	214
Need_rec	Pearson Correlation	.591**	1	.609**	.617**	.622**	.551**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	214	214	214	214	214	214
Info_search	Pearson Correlation	.630**	.609**	1	.691**	.656**	.640**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	214	214	214	214	214	214
Alter_eva	Pearson Correlation	.596**	.617**	.691**	1	.719**	.677**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	214	214	214	214	214	214
Pur_ decision	Pearson Correlation	.539**	.622**	.656**	.719**	1	.601**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	214	214	214	214	214	214
Post_pur_ decision	Pearson Correlation	.600**	.551**	.640**	.677**	.601**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	214	214	214	214	214	214

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

Appendix I: Measurement Model Estimates

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
B1	<---	SCC	.646
B2	<---	SCC	.743
B3	<---	SCC	.778
B4	<---	SCC	.579
CA1	<---	NR	.800
CA2	<---	NR	.769
CA3	<---	NR	.788
CA4	<---	NR	.801
CB1	<---	IS	.773
CB2	<---	IS	.875
CB3	<---	IS	.714
CB4	<---	IS	.599
CC1	<---	AE	.870
CC2	<---	AE	.872
CC3	<---	AE	.838
CC4	<---	AE	.817
CD1	<---	PD	.855
CD2	<---	PD	.875
CD3	<---	PD	.780
CD4	<---	PD	.701
CE1	<---	PB	.729
CE2	<---	PB	.800
CE3	<---	PB	.836
CE4	<---	PB	.765

Appendix J: AMOS Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	53	590.408	247	.000	2.390
Saturated model	300	.000	0		
Independence model	24	3649.428	276	.000	13.223

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.077	.802	.760	.660
Saturated model	.000	1.000		
Independence model	.517	.166	.093	.152

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.838	.819	.899	.886	.898
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.895	.750	.804
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	343.408	276.138	418.379
Saturated model	.000	.000	.000
Independence model	3373.428	3182.075	3572.100

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.772	1.612	1.296	1.964
Saturated model	.000	.000	.000	.000
Independence model	17.133	15.838	14.939	16.770

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.081	.072	.089	.000
Independence model	.240	.233	.247	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	696.408	710.504	874.805	927.805
Saturated model	600.000	679.787	1609.793	1909.793
Independence model	3697.428	3703.811	3778.211	3802.211

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3.270	2.954	3.621	3.336
Saturated model	2.817	2.817	2.817	3.191
Independence model	17.359	16.460	18.292	17.389

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	103	109
Independence model	19	20

Appendix K: Standardized Estimates of the Model
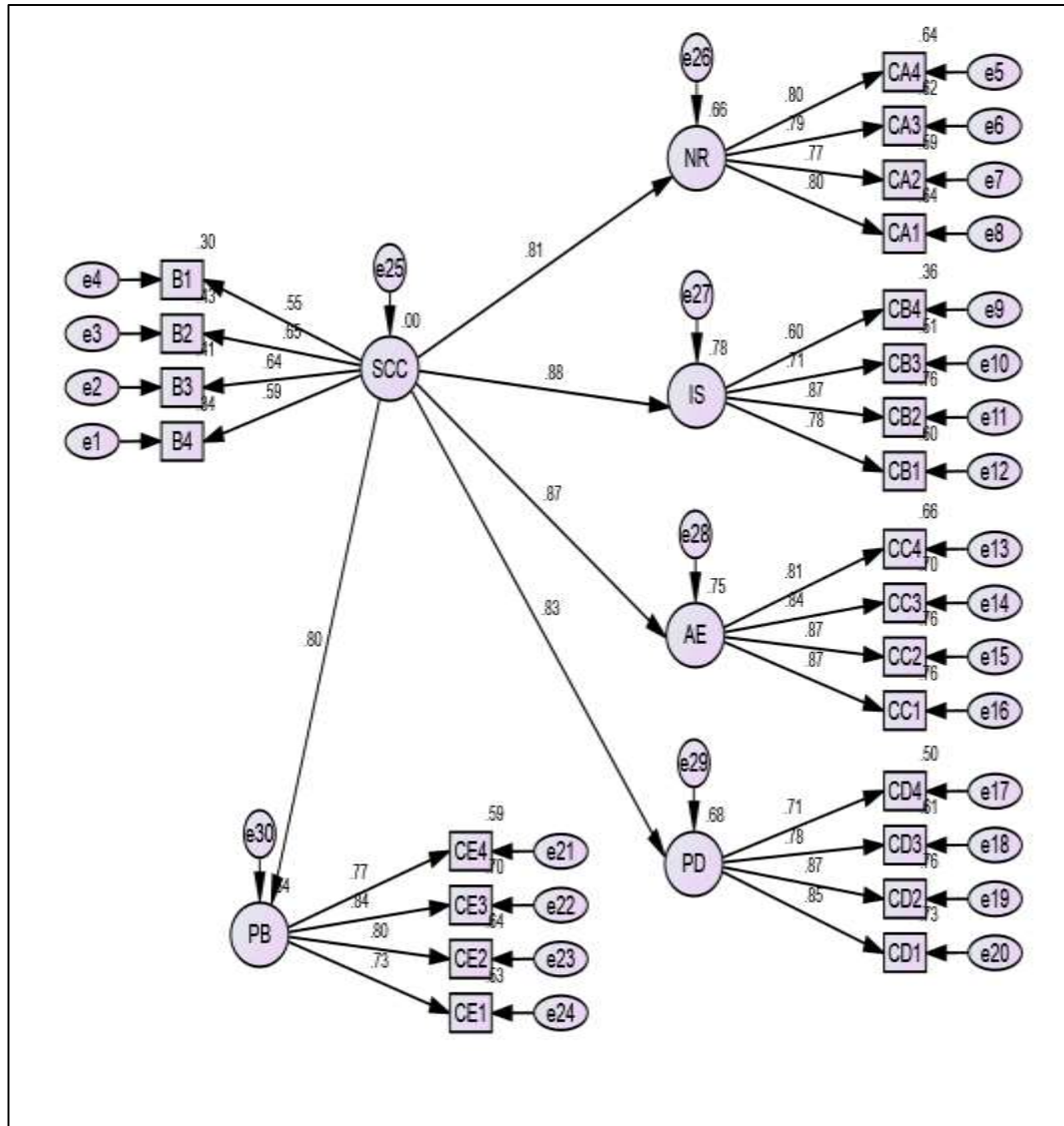
Appendix L: Model Estimate Values

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
NR	<---	SCC	.974	.124	7.877	***
IS	<---	SCC	.959	.140	6.871	***
AE	<---	SCC	1.228	.148	8.313	***
PD	<---	SCC	1.004	.135	7.460	***
PB	<---	SCC	1.072	.140	7.649	***
B4	<---	SCC	1.000			
B3	<---	SCC	1.248	.164	7.604	***
B2	<---	SCC	1.221	.158	7.718	***
B1	<---	SCC	1.095	.162	6.778	***
CA4	<---	NR	1.000			
CA3	<---	NR	1.026	.084	12.247	***
CA2	<---	NR	1.016	.085	11.893	***
CA1	<---	NR	1.023	.082	12.442	***
CB4	<---	IS	1.000			
CB3	<---	IS	1.045	.127	8.231	***
CB2	<---	IS	1.254	.134	9.336	***
CB1	<---	IS	1.235	.141	8.729	***
CC4	<---	AE	1.000			
CC3	<---	AE	.935	.065	14.307	***
CC2	<---	AE	1.019	.067	15.122	***

	Estimate	S.E.	C.R.	P
CC1 <--- AE	1.050	.069	15.111	***
CD4 <--- PD	1.000			
CD3 <--- PD	1.018	.095	10.698	***
CD2 <--- PD	1.172	.099	11.834	***
CD1 <--- PD	1.130	.097	11.606	***
CE4 <--- PB	1.000			
CE3 <--- PB	1.073	.087	12.401	***
CE2 <--- PB	1.045	.089	11.800	***
CE1 <--- PB	.885	.083	10.646	***

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
NR <--- SCC	.813
IS <--- SCC	.884
AE <--- SCC	.868
PD <--- SCC	.825
PB <--- SCC	.803
B4 <--- SCC	.587
B3 <--- SCC	.641
B2 <--- SCC	.654
B1 <--- SCC	.550
CA4 <--- NR	.799
CA3 <--- NR	.789
CA2 <--- NR	.770
CA1 <--- NR	.800

		Estimate
CB4 <--- IS		.599
CB3 <--- IS		.712
CB2 <--- IS		.874
CB1 <--- IS		.777
CC4 <--- AE		.814
CC3 <--- AE		.839
CC2 <--- AE		.872
CC1 <--- AE		.871
CD4 <--- PD		.706
CD3 <--- PD		.782
CD2 <--- PD		.873
CD1 <--- PD		.854
CE4 <--- PB		.766
CE3 <--- PB		.838
CE2 <--- PB		.799
CE1 <--- PB		.727

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P
e25	.410	.090	4.532	***
e26	.199	.038	5.285	***
e27	.105	.030	3.547	***
e28	.202	.039	5.163	***
e29	.193	.040	4.814	***
e30	.260	.050	5.182	***

	Estimate	S.E.	C.R.	P
e1	.780	.079	9.819	***
e2	.917	.095	9.656	***
e3	.817	.085	9.606	***
e4	1.135	.115	9.908	***
e5	.334	.042	8.023	***
e6	.375	.046	8.167	***
e7	.415	.049	8.424	***
e8	.346	.043	8.005	***
e9	.862	.089	9.645	***
e10	.514	.057	9.066	***
e11	.235	.038	6.274	***
e12	.483	.057	8.431	***
e13	.418	.048	8.696	***
e14	.301	.036	8.342	***
e15	.268	.035	7.668	***
e16	.286	.037	7.679	***
e17	.611	.066	9.283	***
e18	.401	.046	8.662	***
e19	.259	.038	6.872	***
e20	.288	.039	7.431	***
e21	.513	.061	8.444	***
e22	.358	.050	7.204	***
e23	.454	.057	7.988	***
e24	.509	.058	8.848	***

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
SCC	.000
PB	.644
PD	.681
AE	.754
IS	.782
NR	.661
CE1	.529
CE2	.638
CE3	.702
CE4	.588
CD1	.729
CD2	.763
CD3	.611
CD4	.498
CC1	.759
CC2	.760
CC3	.704
CC4	.662
CB1	.604
CB2	.763
CB3	.506
CB4	.359
CA1	.640
CA2	.594

	Estimate
CA3	.623
CA4	.638
B1	.302
B2	.428
B3	.411
B4	.344

Publications

Hettiarachchi, H., Wickramasinghe, C., & Ranathunga, S. (2017). Sixth International Conference on Advances in Economics, Social Science and Human Behaviour Study (ESSHBS). *Social Commerce and Consumer Decision Making: A Conceptual Model from Social Support Perspective* (pp. 1-10). The Institute of Research Engineers and Doctors (IRED), USA. doi:10.15224/978-1-63248-120-7-40