The Influence of Social Media on E-Commerce Sites

by

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To the one and only, Ibrahim, my husband, for his continued support, love, and encourgment..

To my children, Faisal, Joory and Badr for their patience..

To my parnts, Abdullah & Noura for their prayers..

To my sole mates, Amal, Nadia, Afaf, Wafa, Sharifa, Hiba & Manal who witnised all my ups and downs of my research..

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ABSTRACT

This thesis addresses the influence that social media sites have on the behavior of online customers (e.g., Facebook, Twitter, etc.). The thesis combines information from three different approaches that study how social media sites are used by online stores to help increase their sales: 1) Google Analytics; 2) Crazy Egg; and 3) an online Survey. Firstly, Google Analytics was used to collect data from three online sources. The data was used to determine the path that customers took to arrive at the online stores. Using data only from those customers who completed a transaction. The researcher found that revenue generated from search engines was approximately four times higher than from typed URLs, online ads, as well as Twitter and Facebook. The researcher also found that revenue generated from Twitter traffic was increasing. Secondly, Crazy Egg was used to collect information on event actions (e.g., button presses) that generated more webpage specific details. In particular, we were interested in knowing how often customers clicked on an online store's social media buttons (e.g., on Facebook and Twitter). The Crazy Egg data indicated that customers only used the online store's social media buttons (i.e., Facebook and Twitter) about 1% of the time. Finally, an online survey was conducted in order to capture the opinions and attitudes of customers who used social media, including their tendencies to follow stores online, and the frequency of their visits to the store's social media sites. We found that all participants used at least one social media site. Approximately 69% of the participants followed stores online using social media (Facebook and Twitter being the most common) and they used these sites to look for offers, find product information, and read reviews from other customers and the online stores' owners. The survey also showed that 47% of participants reported that they had used social media buttons while visiting an online store, which was much higher than the results generated by Crazy Egg.

LIST OF ABBREVIATIONS USED

OSNs	Online Social Networks
SNS	Social Network Sites
eWOM	Electronic Word of Mouth
CE	Crazy Egg
GA	Google Analytics
SM	Social Media
SMBs	Social Media Bottons

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CHAPTER 1 INTRODUCTION

1.1 MOTIVATION

Online storeowners and social media marketers are always looking for ways to increase visitor traffic to online stores by using social media platforms. About 83% of marketers consider social media important for business (Stelzner, 2012). In fact, most online storeowners are becoming increasingly interested in advertising their brands through online social networks where the potential customers are the producers of the content through social media platforms (Heidmann, Klier & Probst, 2012). In addition, development of new technology, including an easy access to social media platforms through the use of smartphones or tablets, has significantly changed the interactions on the Internet, and the content available through the social media platform (Wirtz, Piehler & Ullrich, 2013). As a result, an increasing number of customers depend on social media as a reliable source of information before they make their purchase decisions (Aimiuwu, 2012).

It has been proven that the content available through social media platforms has had a significant influence on customer behavior (Constantinides & Fountain, 2008). This influence has led to an increase in transparency among social media platform communities. Therefore, it is essential for online storeowners to build online communities, as well as invest time, effort and money. Recently, companies are investing large amounts of money in advertising on social media because they are hoping to attract the attention of potential consumers (Yuanxin & Pittana 2011). This point makes one wonder to what extent this investment will attract customers' attention and whether investing in an online community significantly affects the customers' purchase decisions. One also wonders to what extent online storeowners should invest in building up an online community and advertising through it.

1.2 RESEARCH QUESTIONS AND OBJECTIVES

The main objective of this thesis is to study the online customers' behavior through three stages. Stage one focus on determining where customers come from (e.g., traffic). Stage

two centers on finding out how customers behave when they visit an online store. Stage three focuses on determining the factors and ideas that influence customers' behavior? Research questions are:

1. What is the role of Social Media Sites on online customers' purchase decisions?
2. What is the importance of Social Media Buttons?

1.3 Document Structure

The rest of this thesis is organized as follows. Chapter 2 reviews background information about online communities, electronic word of mouth, customer behavior and purchase decisions and other relevant work pertaining to this thesis. It also reviews the literature methodology that has been used to investigate similar topics. Chapter 3 provides a detailed explanation of the methodology of the three studies and the reasons for using three types of data (i.e., questionnaire, Google Analytics and Crazy Egg data). Chapter 4 integrates the user studies using data that was gathered from three online stores using Google Analytics and Crazy Egg (web analysis tools). Chapter 5 discuses the online survey (questionnaire) study. Chapter 6 draws conclusions of the studies presented in this thesis.

CHAPTER 2 BACKGOUND AND RELATED WORK

2.1 E-COMMERCE AND SOCIAL MEDIA

Online communities are defined by Preece et al. (2000) as groups of individuals who interact in a virtual environment. These groups have a purpose or interest that is served by their use of technology, which facilitates their communication, and is guided by norms and policies (Preece et al., 2000). Similarly, virtual communities are defined by Spaulding (2010) as communities that contain "*everything from discussion boards to massive multiplayer online role-playing games and virtual realities such as Second Life*". Online communities and virtual communities are two terms that are often used to discuss the same community. Social media platforms, including Facebook and Twitter, are used by businesses to build online communities. Moreover, according to the above quoted studies, online businesses tend to market their products through such social media platforms (Auker, 2011).

2.2 ONLINE COMMUNITIES AND E-WORD-OF-MOUTH

In this section, I review the literature about online communities. Most of the literature that has been reviewed defines online communities as a form of an online social network (OSN) (e.g., [Benevento, Rodrigues, Cha & Almeida, 2009], and [Heidmann et al., 2012]). No one provided a clear definition of OSN. The give other terms such as Online Social Network, Social Networking Service or Social Network Site (Heidmann et al., 2012). Other researchers refer to online communities as social media sites and they label the users or customers a community (e.g., [Dahl, 2010, Chen, Fay & Wang. 2011]). According to Preece et al., both names are considered to be correct. Therefore, in this thesis, the online communities of users will be referred to in the same manner as the researchers refer to them.

Recently, a number of researchers have focused their studies on understanding the behavior of OSN users (Benevento et al., 2009). Results from such studies have allowed web designers to create better interface designs, which have helped to improve the assessment of users' interactions (Benevento et al., 2009). These results have also helped to build consumer loyalty and future marketing strategies (Spaulding, 2010).

Consequently, firms can now produce a cost-effective way to promote social messages, engage users and inform the stakeholders (Dahl, 2010).

Benevento and his colleagues (2009) studied a detailed stream of data. They gathered information from approximately 37,024 of HTTP sessions. They focused on users of four social networks including: Orkut, MySpace, Hi5, and LinkedIn. This study focused on the key features of the social networks' workloads, including how frequently people connect to social networks and how long they spend on these interactions. It also focused on the behavior of the users on these sites, and particularly the sequence of their activities. In addition, the researchers investigated Orkut's topology (social graph) in order to analyze the users' interactions using clickstream model that was developed by the researchers.

Benevento et al. (2009) demonstrated the power of using clickstream data in identifying patterns in social interactions. This study has shown that there is a "silent" user action, which includes activities such as browsing friends' profiles or viewing photos of a friend. This finding resulted in classifying social interactions into two groups: publicly visible activities and silent activities.

Moreover, numerous anonymous reviews were found on social media sites and especially within online communities. A survey conducted by the CRM Company of 14,000 consumers across Europe (i.e., Germany, France and the UK) showed that only 2% of the British population indicated that they trusted advertising claims, 15% trusted anonymous online reviews, while reviews from friends, family and colleagues were trusted by 49% (Dahl, 2010). At the same time, social media generated many opportunities for marketers to engage customers in online content, which increased the creditability of advertising through the social media channels (Dahl, 2010).

In 2011, a study done by Chen et al. agreed with Dahl's findings. Chen et al. findings showed that social media sites are used by consumers for discussing their personal experiences of online shopping and thus spreading word-of-mouth advertising within online communities. Chen and his colleagues (2011) studied the relationships between consumer posting behavior and marketing variables, including product pricing and quality, as well as how these relationships evolve as business owner and consumer reviews on websites attract more universal acceptance. Here, the researchers collected

automobile-model data from several online consumer review sources in 2001 and 2008. They also defined different stages of Internet usage including early stage of consumer Internet usage and widespread Internet usage. The researchers claimed that there is a difference in the relationships between marketing variables and consumer online-posting behavior at the early and mature stages of Internet usage. They found that marketing variables impact the volume and valence of online postings. In contrast, product price and product quality had very different impacts on posting behavior. Finally, with the increase in the use of the Internet and consumer reviews, these relationships between marketing variables and consumer online-posting behavior were improved.

In their research paper, "*Online social networks: A survey of a global phenomenon*", Heidmann et al. (2012) addressed the following questions: What are the major functionalities and characteristics of online social networks?; What are the users' motives for using them and how do online social networks emerge and develop over time?; What is the impact and value of online social networks from a business perspective and what are the associated challenges and risks?

Most importantly, Heidmann et al., (2012) described in detail the potential business value of OSNs. This value could be summarized in four points. Engaging customers in the product development process can lead to valuable information about the customers' needs and reduce the costs of product development. The researchers also suggested that many companies use the OSNs for providing customer service. Additionally, OSNs could be used as a tool to support the decision making process when hiring new staff. Finally, companies use OSNs in order to increase networking among customers.

The developments of new technology, including the appearance of social media sites, have had a direct impact on the attractiveness of online stores (Wirtz, 2013). Wirtz and his colleagues defined the concept of website attractiveness in the context of social media and its relevance for potential usage. They have conducted an online survey, which recruited standardized users with the help of a structural equation model. They found that the attractiveness of social media websites was determined by the second-order dimensions interaction orientation, social networking and user-added value. In addition, the study suggested that the owners of online stores should encourage their customers to use social media offers. Finally, this study illustrated the key aspects of online users'

expectations towards the integration of social media into electronic commerce. It also described how to evaluate the corresponding social media websites.

Mudambi & Schuff (2010) studied responses to reviews on Amazon.com. These responses were in answer to the question: "Was this helpful?", pertained to the helpfulness of a product review. The answer to this question was either "yes" or "no". The researchers considered helpfulness to be the independent variable. They developed and tested a model of how customers reviewed helpfulness by using the Tobit regression. An analysis of 1,587 reviews of six products indicated that review extremity, review depth, and product type affected the perceived helpfulness of the review. The results of this study could be summarized through the following points: 1) product type controls the effect of review extremity on the helpfulness of the review; 2) for experience goods, reviews with extreme ratings are less helpful than reviews with moderate ratings; 3) for both product types, review depth has a positive effect on the helpfulness of the review, but the product type moderates the effect of review depth on the helpfulness of the review; and 4) review depth has a greater positive effect on the helpfulness of the review for search goods than for experience goods.

Aimiuwu (2012) showed how online stores have a considerable need for social media sites that can be used to market their products. More importantly, he showed how the owners of online stores manage their social media sites effectively when they consider the 24/7 possibility of customers visiting their sites, as well as the customers' conversations. Moreover, Aimiuwu illustrated how conversations between customers can affect their purchase decisions. Finally, he provided four strategies for using social media to achieve a competitive advantage, which included: (1) using social media to invite customers; (2) marketing products through social media; (3) holding conversations that are beneficial through social media; and (4) developing a good attitude for social media success.

Thall & Hjelm, (2012) similarly to Aimiuwu (2012) and Mudambi & Schuff (2010), studied social conversations. Specifically, they studied IKEA's Facebook community's conversations in order to clarify empirically how brand values are co-created in communication by users on a corporate Facebook page. They analyzed the conversations on IKEA's Facebook page in Sweden. The data was collected for two months using

qualitative and quantitative methods. They found that the members of this community often shared practical advice, as well as feelings and thoughts. In addition, they discovered that the social values are co-created in this community. Furthermore, the researchers suggested that IKEA understands its customers' needs and consequently the IKEA brand is valued by them. This brand value stems from conversations in this community between IKEA's employees and customers.

Moreover, Thall and Hjelm (2012) found that the appearance of social media has changed the way in which people communicate. Firms now have the opportunity to use social platforms as a marketing tool. Most importantly, they have found that the traditional word-of-mouth has changed to electronic-word-of-mouth (e-WOM) due to the change in the way communication is done through social platforms such as Facebook. Moreover, E-WOM and other social media platforms create opportunities for customers to communicate with each other by expressing their thoughts and experiences of a particular brand.

Some of the reviews within social media channels can be created by professionals in various fields. For example, a reviewer who is an expert on using make-up can tweet or post reviews regarding particular products. As a result, this reviewer becomes an online opinion leader (Meng, Wei & Zhu, 2011). In their research, Meng et al. (2011) defined an online opinion leader as the reviewer who focuses his or her recommendations on certain products rather than the brands. They analyzed the systematic and professional recommendation process of opinion leaders in the online WOM scenario, where they found that the popularity of opinion leaders has a strong influence on sales of products and consumer behavior. Furthermore, opinion leaders significantly influence WOM propaganda patterns and e-business model innovations (Meng et al., 2011).

Looking in the literature I found that different areas of e-commerce and online stores were covered. However, I could not find studies that tickled the importance of the social media buttons to the online stores.

2.2.1 Customer Behavior And Purchase Decisions

Guo et al. (2011) conducted a study and found that 42% of consumers have searched for a retailer on Facebook, Twitter or a retailer's blog, and they were willing to be contacted by

that particular retailer through social media (Guo, Wang & Leskovec, 2011). Moreover, online store developers such as Shopify.com have been encouraging the owners of online stores to integrate social media links or buttons (figure2.1) into the design of their websites. The social media buttons on Facebook, Twitter or YouTube connect the online store's website to its social media account (figure 2.2) where the owner of the online store can create an online community.

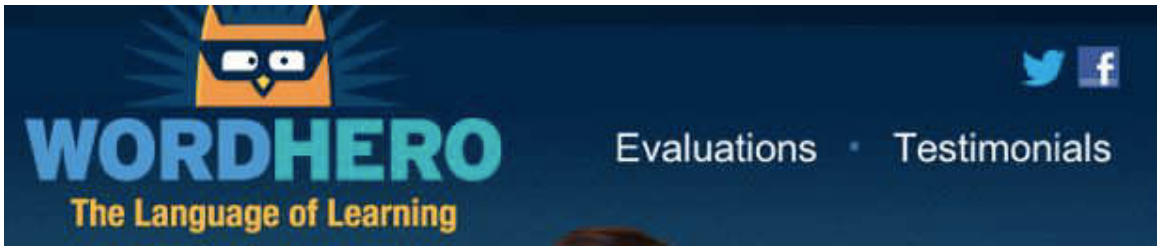


Figure 2.1 Social Media Buttons on an Online Store (Wordhero.ca, 2013)

Figure 2.2 The online store's social media account (facebook.com/WordHeroLearning, 2013).

The year 2009 constituted a time of big changes in the business world's understanding of social commerce. Stephen and Tubia (2009) conducted a study with the objective of identifying social commerce as a new business concept. They investigated how social

commerce generates economic value for business owners in the marketplace with a focus on networking between online stores. They found that the more online stores are connected within a social network, the more economic value they gain since customers are able to easily move from one store to the other, thus creating more economic value for these stores (Stephen & Toubia, 2009). The study also addressed the following questions in relation to social commerce: (1) does allowing sellers to connect to one another create economic value through increased sales?; (2) what mechanisms generate this value?; (3) how is this value distributed for sellers within the network; and (4) how does the position of a seller in the network (e.g., his centrality) influences the amount of benefits that he draws from the network?

In 2011, Guo et al. analyzed the activities of a million users of a Chinese social commerce site. Here, they showed that the communication between buyers is a fundamental driver of consumers' purchasing activities. The researchers used the data from a Chinese e-commerce site to illustrate that high seller ratings are associated with product prices and the consumers' trust of the website. They also explained that a social network is "the most important feature in predicting how consumers choose their transaction partner" (Guo, Wang & Leskovec, 2011, p.10). Later in the same year, Rome and Lee (2011) reported their study, which considered consumers feedback regarding social media as a shopping tool. The study's main objective was to identify consumers' attitudes towards these tools and to find out what they expect to see from retailers in terms of changes or modifications. Another goal of this study was to determine the link between consumers' use of social media and their attitude towards usage. The researchers measured the differences in consumers' use of social media tools based on generational differences and the other demographics. The study has provided retailers with a clear view regarding the differences between different consumer segments and it also helped them improve their social commerce strategy. The third goal of this study was to create a report that could be used as a model to change, modify and develop information on websites over time (Rome & Lee, 2011).

According to Rome and Lee (Rome & Lee, 2011, p.11), the U.S. online shopper "*has gone social*", where 77% of online adult consumers have chosen to use a social platform. The study found that consumers were engaging with multiple retailers, but this behavior

was still in its early stages. Therefore, the researchers suggested that retailers should take the opportunity to build their customer base by maintaining that relationship through focusing on different methods of creating connections and interactions. The study suggested that retailers should consider making product information available to their "fans". The study further found that over 50% of consumers who followed a retailer indicated that they came to a retailer's website via a social media platform. They also indicated that they browsed through the business's products and even commented on those products. This fact gives retailers a strong indication of the way in which their fans tend to interact with them.

Rome and Lee (Rome & Lee, 2011, p.5) also found that "*retailers must project their product stories on Facebook and Twitter without delay*". This point confirms that providing product links on Facebook and Twitter is a good idea since it makes it easier for consumers to learn about such products and eventually purchase them. More importantly, Rome and Lee (Rome & Lee, 2011, p.6) indicate that "consumers are not engaging with retailer blogs". This implies that each brand should make its own decision with regards to developing a blog on its site or using Facebook and Twitter to build a community. Finally, Rome and Lee (Rome & Lee, 2011, p.6) concluded "*consumers want access to what their friends think about products on the retailer's site*".

With reference to the electronic word-of-mouth, Cheung, Liu and Bo (2012) found that both the e-WOM and observational learning have a strong impact on consumers' purchase behavior with the latter being the most important predictor. Furthermore, the study found that the consumer behavior is influenced by their online social interaction and it also found that consumers, who have enough knowledge or experience about a brand, are less likely to be influenced by negative reviews that may impact other users in the online community (Cheung, Liu & Bo, 2012).

Kwahk and Ge (2012) conducted a study, which examined the influence of social media in the e-commerce context, as well as its impacts on users' visits and purchase intentions. It found that social media interactions and comments positively affect normative social influence, as well as informational social influence. It also found that user's behavior is more likely to be affected by group information than by group norms in the combined environment of social media and e-commerce (Kwahk & Ge, 2012).

2.3 Literature focusing on Using Google Analytics as a tool for Studying Referrals

Google Analytics is a type of a web analytics tool. It is a free web analytics and reporting tool that can be encoded into any web page. Thus, it is able to track web traffic through a site's web pages, and provide insight into the behaviors of visitors. Google Analytics also provides data about the visitor's originating website (i.e., "referral site") (Google Analytics, 2012). Google Analytics provides a number of services, including: sales measurements, conversions, visitor analytics, and social media analytics (Ledford & Tyler, 2010). In addition to Google Analytics (GA), there are tools that work similarly to GA such as Yahoo! Web Analytics (web.analytics.yahoo.com, 2013), Piwik (Piwik.org, 2013), Quantcast (quantcast.com, 2013) and Crazy Egg (crazyegg.com, 2013). Consequently, web analytics is not difficult or expensive to implement or use. Pakkala et al. (2012) suggest that every website should monitor and analyze its traffic routinely. The following table (Table 2.1) shows the studies that have used GA for web analysis.

Table 2.1 Studies Used Google Analytics for Web Analysis

Article	Goal	Method	Result
Hasan, Morris & Probets, 2009	To test the metrics of GA to determine if it can measure the usability of e-commerce sites.	Have 3 e - commerce sites install the GA script then compared it to a heuristic evaluation of the sites conducted by experts.	13 GA metrics could be used as alternatives to a heuristic evaluation when measuring an e-commerce site's usability.
Plaza, 2009	Providing tracking methodologies for academics, for measuring the effectiveness of visits depending on the traffic source (e.g., direct visits, referring site entries and search	Time series analysis of Google Analytics data. Some statistical info with regards to the use of Google Analytics data in combination with time series methodology are	Direct visits are the most effective ones, followed by search engine visits, and finally by link-entries.

	engine visits).	fine-tuned.	
Budd (2012)	To measure its web page analytics and improve its commercial marketing strategy.	Gathered raw data from Australian web site then used GA metrics as well as statistical analysis.	Google has the highest volume of conversions and organic (non-paid) traffic volume over the sample period. When running search marketing campaigns, keyword conversion rates of over 10% are a significant metric to identify niche search terms. While Facebook has a lower conversion rate, they attracted the highest traffic flow for returning visitors.
Pakkala, Presser & Christensen, 2012	To demonstrate that web analytics is easy and simple by seeking answers for the following questions: . How are the websites found by users? . What is the content used by visitors? . How often do users come back to the	GA was tested on each page of three food sites in Denmark, Finland, and Switzerland within 5 months.	Access through search engines can be a good sign for the website. The more visitors come to the website through search engines, the more popular the website. There were two types of visitors: those who just "pop in" and leave after a few seconds and those who spend several minutes upon arriving. Visitor loyalty indicated that visitors

	website (and how many new users are there)? . What do we know about users? . What devices were used for visiting our websites?		found the content satisfactory enough that the website was worth visiting several times during the study period. Following traffic from the referring websites give more information about why users were visiting our website and what they were perhaps trying to accomplish.

2.4 LITERATURE FOCUSING ON USING CRAZY EGG TO VISUALIZE CUSTOMER BEHAVIOR

Crazy Egg is an online data collection tool. It uses Java Script code that can be used by online businesses to find out about users interactions.

Crazy Egg tracks four types of interactions. Firstly, it shows the referrals, so that one can compare them with the referrals from Google Analytics. Secondly, it tracks where exactly the user's mouse clicked and how many times, which can help businesses to determine which parts of their online store are working and which parts need to be fixed. This feature is quite helpful since it shows the exact number of clicks on the social media buttons. Thirdly, Crazy Egg shows the point in the online store to which the user has scrolled down. It also shows the eye tracking of the users of online stores. These features helped me to get a better insight of the data from GA (crazyegg.com, 2013).

In 2007, Wiggins reviewed the different tools that are used to measure web traffic. She found that measuring web traffic is not enough to show the complete user picture. Therefore, it is important to support web analytics with other tools such as surveys, customer databases and user testing to evaluate the consumers' experience of each website. Wiggins (2007) stated that Crazy Egg heatmaps give immediate results, including whether clickable graphics drive more traffic than text links.

2.5 LITERATURE FOCUSING ON USING ONLINE SURVEYS TO MEASURE ONLINE PURCHASE DECISIONS

Researchers (Lin, 2008; Yuanxin & Noichangkid, 2011; Kwahk & Ge, 2012; Heidmann et al., 2012; Ziemer, Stahlschmidt, & Kuhn, 2012 and Wirtz, 2013) used online survey to study the customers' perspectives and e-WOM. Table 2.2 below summarizes the results of the surveys found in the literature that focused on online behavior. Some of these studies used an online survey format and others used a paper survey.

Table 2.2 Literature Focused on Online Behavior Using Survey

Article	Number of Participants	Study	Questionnaire items	Population
Lin, 2008	n = 198	DeLone and McLean's IS success model to expand the model.	• Information quality • System quality • Trust • Social usefulness • Sense of belonging • Member satisfaction • Member loyalty	University students
Yuanxin & Pittana, 2011	n=252	Social media users' attitudes towards advertising on social media.	• Characteristics of social media advertising (e.g., informativeness, entertainment, credibility and interactivity). • Psychographic factors (e.g., reference group, privacy concern). • Demographic factors (e.g., gender, age, social media	University students

			usage).	
Kwahk & Ge, 2012	n=233		• Social media interaction ties • Social media commitment • Normative social influence • Informational social influence • Visit intention of e-commerce • Purchase intention of e-commerce.	Online customers who have experience using Taobao.com or Paipai.com and have used social network services.
Ziemer, Stahlschmidt, & Kuhn, 2012	N=192	Evaluate university social media marketing.	• Social media intention ties • Social media commitment • Normative social influence • Informational social influence • Visit Internet of e-commerce • Purchase intention of e-commerce	University students
Wirtz, 2013	N=237		• Customer centricity • Interaction configuration • Customer response • Cooperative value generation • Customer power • Virtual word-of-	Social media users recruited by email.

			mouth • Social identity • Social trust • User generated content • User generated innovation • User generated revenue • Social media website's attractiveness • Intention to use	

2.6 CURRENT RESEARCH

An overwhelming amount of literature on the topic of consumer behavior suggested that in order to improve one's understanding of online consumer behavior, it is important to combine multiple methods. Wiggins (2007) stated that web analysis clearly reflects what users do. It also shows how they behave (e.g., heatmaps, mouse tracking, etc.). However, web analysis does not show why the online consumers behave in a certain way. It also does not indicate what they are thinking, and what factors affect their decisions. In fact, web analytics tools are not enough to get accurate social media analytics (Rautio, 2012). Zhou, Dai & Zhang. (2007) summarized the methodologies that were used to study the online shopping behavior in figure 2.1. In their study, they mentioned that although the online survey has the highest percentage of participants as compared to other methods, online survey results are not as reliable as user study results. Thus, the researcher used three methods, including two user studies (GA and CE) and an online survey to answer the research questions presented in this thesis and the results are discussed below.

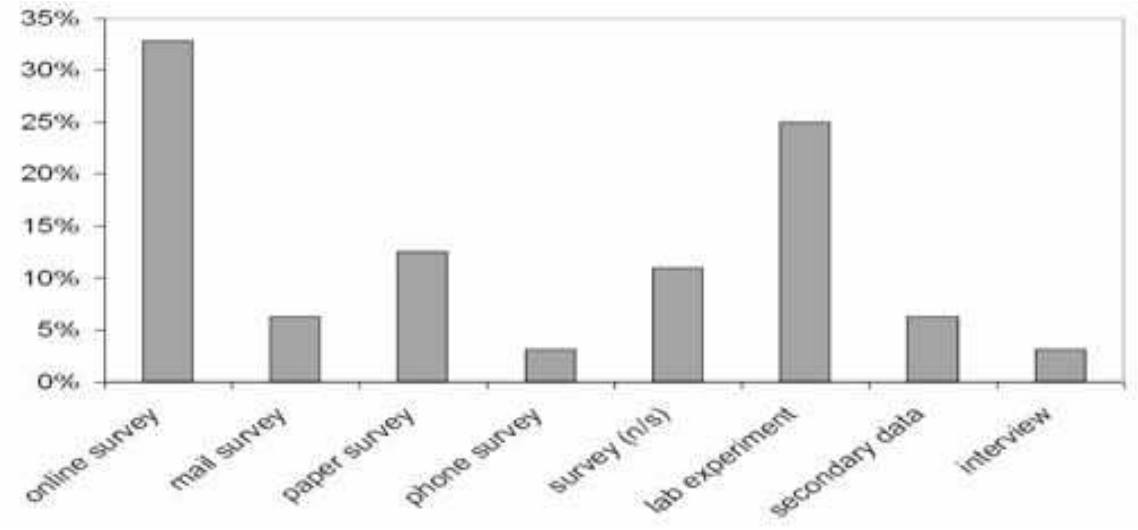


Figure 2.3 Percentage distribution of research methods (Zhou et al., 2007)

Measuring web traffic and user interaction could be done using numerous web analytics tools. The following table (Table 2.3) provides each category and its definition, as well as examples of analytics tools.

Table 2.3 Web Analytics Tools

Analytics tools Categories	Definition	Analytics Tools
Heatmapping	Visualizing users interaction using colors (Gehlenborg & Wong, 2012)	• Crazy Egg • Clickdensity • ClickHeat • SeeVolution
Web Analytics	Cooper (2012) defined it as the "*process of developing actionable insights through problem definition and the application of statistical models and analysis against existing and/or simulated future data*."	• Adobe SiteCatalyst • Google Analytics • Core Metrics • Webtrends Analytics
Screen Recording	Screen recording is mouse tracking (e.g., mouse heatmapping that allows companies to track the visitors' behavior).	• Click Tale • Session Cam • Lucky Orange
Social Media	Social media and blog monitoring	• Radian 6

Analytics	tools that allow businesses to track their communities and what has been said about them on social media sites and blogs.	• Lithium • SDL SM2 • Hoot Suite
Targeting	Tools that help to reach a website's audience.	• Audience Science • Criteo • BTBUCKETS • SiteBrand
Testing	Tools to test websites including the A/B test and multivariate testing, which measure the customers' behaviors when on website and allow for a comparison with previous tests. Those tests help marketers to generate new ideas.	• Optimizely • Visual Website Optimizer • Adobe (Omniture) Test &Target • Site Spect
User feedback	Tools that are using surveys to collect customers' feedback to improve websites.	• User Voice • Kampyle • Opinion Lab • Get Satisfaction
User surveys	Survey tools that are used to design surveys that can be used to collect users' feedback.	• Survey Monkey • Survey Gizmo • Qualtrics Survey Research Suite • Examin Are

This thesis studies the influence that social media sites (e.g., Facebook, Twitter, etc.) have on the behaviors of online customers. The thesis combines information from three different approaches that were used to study how social media sites are used by online stores to help increase their sales. The researcher used Google Analytics, Crazy Egg, and an online Survey. Firstly, Google Analytics was used to collect data from three online stores. The data was used to determine the path that customers used to arrive at the online stores. I used data only from those customers who completed a transaction in order to help figure out the value of the customers who come to the store from the social media compared to users who come from other sources. Secondly, Crazy Egg was used to collect event actions (e.g., button presses) for more webpage specific details. In

particular, the author of this thesis was interested in discovering how often customers clicked on an online store's social media buttons (e.g., for Facebook and Twitter). Finally, an online survey was conducted which targeted social media users and online shoppers. The online survey aimed to capture the opinions and attitudes of customers towards social media use, including their tendencies to follow stores online, and their frequency of visiting the online store's social media sites. The following three chapters describe each study separately in greater detail.

CHAPTER 3 METHODOLOGY

To study the influence of social media sites on online customers' behavior, three different approaches were used; Web traffic through the use of web analytics tools including Google Analytics and Crazy Egg. Moreover, an online questionnaire was used to study the influence of social media buttons on user behavior. This chapter presents the research problem states research questions and describes the methods.

3.1 Problem Statement and Research Goals

The main objective of this thesis is to study the online customers' behavior through three stages. Stage one focus on determining where customers come from (e.g., traffic). Stage two centers on finding out how customers behave when they visit an online store. Stage three focuses on determining the factors and ideas that influence customers' behavior? Research questions are:

1. What is the role of Social Media Sites on online customers' purchase decisions?
2. What is the importance of Social Media Buttons?

3.2 Study Approaches

Three different approaches were used to study how social media sites are used by online stores to help increase their sales, Google Analytics, Crazy Egg, and an online Survey. Firstly, Google Analytics was used to collect data from three online stores. The data was used to determine the path that customers used to arrive at the online stores. The researcher used data only from those customers who completed a transaction. Secondly, Crazy Egg was used to collect event actions (e.g., button presses) for more webpage specific details. In particular, the author of this thesis was interested in discovering how often customers clicked on an online store's social media buttons (e.g., for Facebook and Twitter). Finally, an online survey was conducted which targeted social media users and online shoppers. The online survey aimed to capture the opinions and attitudes of customers towards social media use, including their tendencies to follow stores online, and their frequency of visiting the online store's social media sites. Figure 3.1 shows

study approach. The following two chapters describe each study separately in greater detail.

3.3 WEB TRAFFIC

This section describes in detail the web traffic studies, which contains Google Analytics and Crazy Egg.

3.3.1 Google Analytics

This study examines the influence of engaging virtual customers via social media. We study the flow of referrals of customers from different sources to three online stores' checkout page to see how many of the customers who come from social media actually completed a purchase.

Among the tools that Google Analytics offering, custom-reporting tools was used to build a customized report; shown in Figure 3.2 for each of the three online stores. This custom report focused on web traffic going through the online store's checkout page, and includes the following attributes:

- *Page:* this attribute had a filter put in place to only include the activity of users that went through a successful checkout process and completed a purchase.
- *Source:* shows the customer's referral site (e.g. Google search, Facebook, etc.)
- *Pageviews*: the total number of page views a particular page has, includes refreshing pages.
- *Unique pageviews:* the distinct number of page views on a particular page; does not include page refreshes, and tracks page views from non-unique IP addresses during an active session.
- *Average time on page:* average time users spend on a particular page.
- *Bounce rate:* percentage of visitors who left the "checkout" page in order to go to another page within the same website.
- *Exits:* percentage of visitors who exited the site entirely (e.g. did not click the "continue shopping" button).
- Page value: average value of the checkout page; includes transactions, revenues and total goal value, divided by unique *pageviews* for a particular page.

- Revenue: the total revenue from e-commerce transactions, which includes tax and shipping charges; however, the Saudi Arabia does not apply sales tax.
- Transactions: the total number of completed transactions (i.e., purchases) on that page, for users referred by a specific site.
- Per visit value: the average value based on e-commerce revenue of a visit to the site (i.e., revenue divided by visits).

I examined customers who had used Facebook and Twitter as their referral sites, as these two sites are the largest online costumer community platforms (Jansen, Zhang, Sobel & Chowdury, 2009). I then compared these visitors with those coming to the online store from other sources such as search engines. The shops' Facebook and Twitter pages have a substantial fan base (+1000) and their content is up-to-date - according to the criteria mentioned in (Culnan, McHugh & Zubillaga, 2010).

3.3.2 Crazy Egg

This study aimed to collect event actions (e.g., button presses) for more webpage specific details. In particular, how often customers clicked on an online store's social media buttons (e.g., for Facebook and Twitter).

Importantly, Crazy Egg does not track *users*. That is, one user may have only pressed one button, while another may have pressed the same one plus another 19 buttons, and yet a third may have pressed that same one plus another 34. Crazy Egg simply sums the number of presses (or "clicks") per button regardless of users. This has some consequences for the analysis and associated interpretation.

Crazy Egg was used to track number of button presses on four different websites (see 3.4 Sample). Crazy Egg script was installed on each of the four website. In fact, for two of the online stores (1&2) CE script was already installed by the stores' owner, while the other stores (3&4) was installed by the researcher.

3.4 SAMPLE

The data for Crazy Egg study was gathered from four online stores. Following is a brief description of each store.

3.4.1 Store 1

Store 1 is a Saudi online store that provides original international brands (e.g., Ralph Lauren and Forever 21) to local customers. More specifically, this online store focuses on the sale of female apparel brands that are not currently available at Saudi retail stores. This online shop targets women in Saudi Arabia and neighbouring countries. In addition, as a new business technique, in 2012, the shop signed a number of agreements with local designers to market their products through their online store.

3.4.2 Store 2

Store 3 is a Canadian online store that sells digital English vocabulary flashcards. This store currently sells an academic set of vocabulary that focuses on the 570 words from the Academic Word List (AWL), which include the most commonly used academic-level words. The flashcards are in .pdf format and it includes audio that pronounces each word. In addition, the store offers quizzes online. This online store targets students from all walks of life. Finally, all of the flashcards and quizzes were designed by the storeowner.

3.4.3 Store 3

Store 4 is Saudi Online store that sells T-shirts. The owner of the store, who is a graphic designer, designed all products in this particular store. He creates the store with the aim of introducing the world to the idea of wearing shirts that express ones mood, culture, language or traditions. The audience of this store is from all walks of life with the focus of those who are interested in Arabic language.

All of the stores were chosen based on the number of their fans (followers) on Facebook and Twitter. Culnan et al., (2010) suggested that the online community should include at least 1000 fans to a particular store in order for one to call this an online community. Therefore, I checked the Facebook and Twitter sites for each of the stores and found that all of them are above 1000 except for store 2, where Twitter followers are 21. Although

the number of followers on Twitter for store 2 is low, the number of fans on Facebook is very high almost 12,000. Therefore, I chose this store to be in the sample. In addition, I think the reason is because the store is relatively new (created September 2012). The following table (Table 3.1) shows the number of fans for each store in both Facebook and Twitter sites.

Table 3.1 The Number of Fans for The Sample

	Number of fans on Facebook	**Number of fans on Twitter**
Store 1	13,145	45,099
Store 2	11,837	21
Store 3	2039	1746

The results and discussion based on the collected web traffic data are all addressed in Chapter 4.

3.5 THE SURVEY

3.5.1 Opinio

The survey was created and posted online using Opinio, which is a web-based online survey system run by Dalhousie University. It is hosted on servers located at Dalhousie University. It is a system that allows members of the Dalhousie community to develop (without the need for computer assistance) and present questionnaires to the general public. All data is deleted after five years.

The Survey was designed to take participants about 20-25 minutes to complete. The Dalhousie's Research Ethics Board Committee approved the survey (see Appendix C). Some questions were changed before launching for participants due to the results of a pilot test with nine lab-mates.

I collapsed the options of some of the questions. For example, question 17 had 12 options (answers). I reduced the options from 12 to 9 based on lab-mates suggestions. I combined friends and family in one option instead of two. Also, I deleted the options (location of shipping the item) because I have a similar option (cost of shipping). I deleted the option you have bought items from this store and provided an open-ended option so the

participants would include other factors that influence his/her purchase decision. (see the older version of the questions Appendix E).

In addition, I reduced the categories of social media sites from 18 types of social media to 6. I kept only the most common types of social media sites and provided two blank bars as other options so the participants can fill other types of preferred social media sites. I reduced the types of social media to save the participants time when filling the survey. Moreover, I have changed the scale of some of the questions because previous scale was confusing. For example, the scale of question 7 was as following: 1-5 times a day, once a day, 1-5 times a week, once a week, 1-5 times a month, once a month, every few months, once or twice a year, never use and never heard of. I changed it to the following: at least every day, at least weekly, at least monthly, at least once a year and never (see Appendix E).

The Survey contains a total of 35 questions. However, most of those questions contained several parts. As such, the survey actually contained 190 questions. The survey was divided into four sections. The preamble addressed ethical issues associated with participation (4 questions). The first section gathered demographic data (sex, age, education, citizenship, residency, educational level and profession: Questions 1 to 6). The second section collected data about the participant's use of social media and its relationship to online stores (Questions 7 to 16). The third section was devoted to the influences exerted on the decision to purchase (Questions 17 to 23). The fourth and final section was devoted to social media buttons (Questions 24 to 33). There was a mix of Likert scale, binary scale and open-ended questions. The open-ended questions were only used to allow for the participant to provide elaborative or alternative information (see Appendix D – Survey Questions).

3.5.2 The Survey Study Process

Participants were recruited by the study accounts' on Facebook and Twitter. In addition, participants ere recruited by e-mail announcements through Dalhousie university mailing lists (i.e., Dal students, Computer Science grads and undergrads students, TodayAtDal) and a post on KJIJI.com. In the recruitment notice, participants were asked to log on to the survey website "Opinio", by using a link provided in that notice. The recruitment

notice is shown in Appendix (A). Finally, Dalhousie's Facebook page was also used to advertise for this survey.

3.5.3 Process

An online consent process was used. Information about the study was introduced to the participants before the survey. The participants were informed that they might withdraw from the study at any time without consequences. Those individuals who did not consent to participate the study were automatically directed to a thank you note that ended their participation. The consent form is presented in Appendix B.

The results and discussion based on the collected survey data are all addressed in Chapter 5.

CHAPTER 4 WEB TRAFFIC

In this chapter I present the web traffic two studies. The first study is the Google Analytics study titled “Enhancing Online Sales Through Social Media: Analysis Of Web Traffic Using Google Analytics”. Next comes the Crazy Egg study titled “Tracking Users Utilization Using Crazy Egg”. Both studies examine the same data.

4.1 ENHANCING ONLINE SALES THROUGH SOCIAL MEDIA: ANALYSIS OF WEB TRAFFIC USING GOOGLE ANALYTICS.

The study design includes an analysis of web traffic associated with three online stores. The goal was to determine the relative number of referrals from each type of source. Sources were classified as Twitter, Facebook, various search engines, direct traffic, online ads, and “other”. The secondary goal was to determine sales associated with each referral channel, so web traffic was filtered to only consider those that reached the checkout page. However, actual sales could only be obtained for 1 of the 3 online stores. Sales for two of the online stores were not available because a third party managed the financial transaction. That is, once the customer reached the checkout page, and pressed the buy button, the browser took that customer to a third party website to complete the payment process. Although storeowners were generous, and offered to provide the sales from the period, but it was difficult (impossible) to associate those sales with web traffic. Therefore, for web traffic associated with sales, only one online store (Store 1) provided data. The other two stores provided some traffic data, which was used to check that of the primary store.

4.1.1 Social Media Engagement in Saudi Arabia

The Internet was launched in Saudi Arabia in 1999 (Al-Saggaf and Williamson, 2004). Since then, Saudi Arabia has grown to the largest number of Internet users in the Arab region (Al-Maghrabi, Dennis and Halliday, 2011). However, since its launch, there have been concerns regarding trust in domestic online shopping sites due to two main reasons: Saudi commercial websites are not mature enough to encapsulate the increasing demand for e-commerce, and they tend to lack multimedia elements and online vendor-consumer interaction features (Alotaibi, 2013).

In Saudi Arabia, social media channels represent a significant portion of the online consumer community (Discover Digital Arabia, 2012). Between 2010 and 2011, the number of Saudi Internet users increased by 400%, whereas Facebook and Twitter composed approximately 240% of that increment (Teitelbaum, 2011). This increase was due to several political and social movements, such as the Arab Spring revolutions (Ghannam, 2011). The majority of social media channel users are between the ages of 18 and 26, and have experienced an increased interest in an online brand or website through word of mouth (Alotaibi, 2013). As a result, businesses try to build trustworthy relationships with social media users, and online communities are seen as a way to promote trust as well as customer engagement.

Online communities allowed Saudi citizens to become more confident in their use of the Internet, and more open to new ways of socializing online (Al-Saggaf and Williamson, 2004). Furthermore, these communities allowed businesses to examine individual preferences (i.e., single-customer clusters) from all walks of Saudi Arabia at a relatively low cost (Alotaibi, 2013). This research examines the influence of using social media platforms to enhance business revenue, with the aim of finding whether forming an online community can result in a substantial revenue increase for an online business.

4.1.2 Research Questions

In this case study, I observe the influence of online communities, and their potential for Return On Investment (ROI), through the use of Google Analytics (GA), used to track the flow of visitors and social media engagement of a Saudi online retailer. SPSS was used to analyze the relationship among different traffic referrals.

4.1.3 Google Analytics Evaluation

This data was gathered through GA, a free web analytics and reporting tool that can be encoded into any web page to enable the site to track web traffic through each of a site's web pages. It provides some insight into the behaviour of visitors. GA also provides data about the visitor's originating website (i.e., "Referral site") (Google Analytics, 2011). Among the services that GA provides are sales measurements, conversions, visitor analytics, and social media analytics (Ledford, Teixeira and Tyler, 2009).

To measure the results I observed traffic of three online stores. Our focus was on customers who successfully reached the checkout page and completed an online purchase (i.e., customers reached the checkout's confirmation page). I examined customers who had used Facebook and Twitter as their referral sites, as these two sites are the largest online costumer community platforms in Saudi Arabia (Discover Digital Arabia, 2011). I then compared these visitors with those coming to the online store from other sources such as search engines.

4.1.4 Study Design

GA custom reporting tool was used to build a customized report; shown in Figure 4.1. This custom report focused on web traffic going through the online store's checkout page, and includes the following attributes:

- *Page:* this attribute had a filter put in place to only include the activity of users that went through a successful checkout process and completed a purchase.
- *Source:* shows the customer's referral site (e.g. Google search, Facebook, etc.)
- *Pageviews*: the total number of page views a particular page has, includes refreshing pages.
- *Unique pageviews:* the distinct number of page views on a particular page; does not include page refreshes, and tracks page views from non-unique IP addresses during an active session.
- *Average time on page:* average time users spend on a particular page.
- *Bounce rate:* percentage of visitors who left the "checkout" page in order to go to another page within the same website without completing the payment process.
- *Exits:* percentage of visitors who exited the site entirely (e.g. did not click the "continue shopping" button).
- *Page value:* average value of the checkout page; includes transactions, revenues and total goal value, divided by *unique pageviews* for a particular page.
- *Revenue:* the total revenue from e-commerce transactions, which includes tax and shipping charges; however, the Saudi Arabia does not apply sales tax.
- *Transactions:* the total number of completed transactions (i.e., purchases) on that page, for users referred by a specific site.
- *Per visit value:* the average value based on e-commerce revenue of a visit to the site (i.e., revenue divided by visits).

Page	Source	Pageviews	Unique Page	Avg. Time on	Bounce Rate	Exits	Page Value	Revenue	Transactions	Per Visit Valu
/	(direct)	256	146	81.85	47.55%	84	0.00	0.00	0	0.00
/	advancedsea	1	1	0.00	100.00%	1	0.00	0.00	0	0.00
/	adwords.goo	11	9	31.20	55.56%	6	0.00	0.00	0	0.00
/	bing	8	8	0.00	100.00%	8	0.00	0.00	0	0.00
/	facebook.cor	69	58	115.94	61.11%	34	0.00	0.00	0	0.00

Figure 4.1 Google Analytics custom report table

4.1.5 Study Methodology

These case studies were based on a chronological observation of an e-commerce website's traffic data. All sites (online stores) had to adhere to the framework recommended by (Culnan et al., 2010). This framework focuses on how to build an effective online community and can be summarized as follows:

- Populate the site with more engaging content; assign a formal responsibility for creating the content; and engage the company's executives to post and interact with customers.
- Provide promotions and incentives to participants.
- Be aware of legal regulations and use policies for every platform used.
- Do not mention the company in every conversation.

STORE 1: The most complete data was collected from a Saudi online store that provides original international brands (e.g., Ralph Lauren and Forever 21) to local customers. More specifically, this online store focuses on the sale of female apparel brands that are not currently available at Saudi retail stores. This online shop targets women in Saudi Arabia and neighbouring countries. In addition, as a new business technique, in 2012, the shop signed a number of agreements with local designers to market their products through their online store.

The shop's Facebook and Twitter pages have a substantial fan base (13,000 and 45,000 respectively) and their content is up-to-date, in accordance with the criteria mentioned in (Culnan et al., 2010).

This case study used website's traffic data from January 2012 to December 2012.

STORE 2 Store 2 is a Canadian online store that sells digital English vocabulary flashcards. This store currently sells an academic set of vocabulary that

focuses on the 570 words from the Academic Word List (AWL), which include the most commonly used academic-level words. The flashcards are in .pdf format and it includes audio that pronounces each word. In addition, the store offers quizzes online. This online store targets students from all walks of life. All of the flashcards and quizzes were designed by the storeowner.

The stores Facebook page had 12,000 followers, but the Twitter account had only 21. However, it was new. Store 2 has implemented the recommendations of Culnan et al., (2010) in its design and SNS.

This case study used website's traffic data from January 2013 to July 2013.

STORE 3 Store 3 is Saudi Online store that sells T-shirts. The owner of the store, who is a graphic designer, designed all products in this particular store. He created the store with the aim of selling shirts that express one's mood, culture, language, or traditions. The audience of this store is from all walks of life with the focus of those who are interested in Arabic language.

The stores Facebook page and Twitter account had more than 2000 and 1700 followers respectively. The store has implemented the recommendations of Culnan et al., (2010) in its design and SNS.

This case study used website's traffic data from January 2013 to July 2013.

4.1.6 Study Results

STORE 1: Figure 4.2 provides the *Unique pageviews* as a function of month for each traffic source. As illustrated in Figure 4.2, visitors coming from search engines (e.g., Google, Bing) produced the highest number of *Unique pageviews* (i.e., the majority of customers who visited the online store came from search engines). Note that Figure 4.2 uses a double y axis because the disparity in page views is quite large. Search Engines (the only solid line) uses the right hand y-axis, while all the rest use the left hand y-axis. Note that the right hand axis is 4 times that of the left, so traffic from search engines is a bit more than 4 times that of the traffic from direct links. If a single y-axis had been used traffic from other sources (i.e., Twitter, Facebook, Direct, Online Ads, Other) would be difficult to delineate.

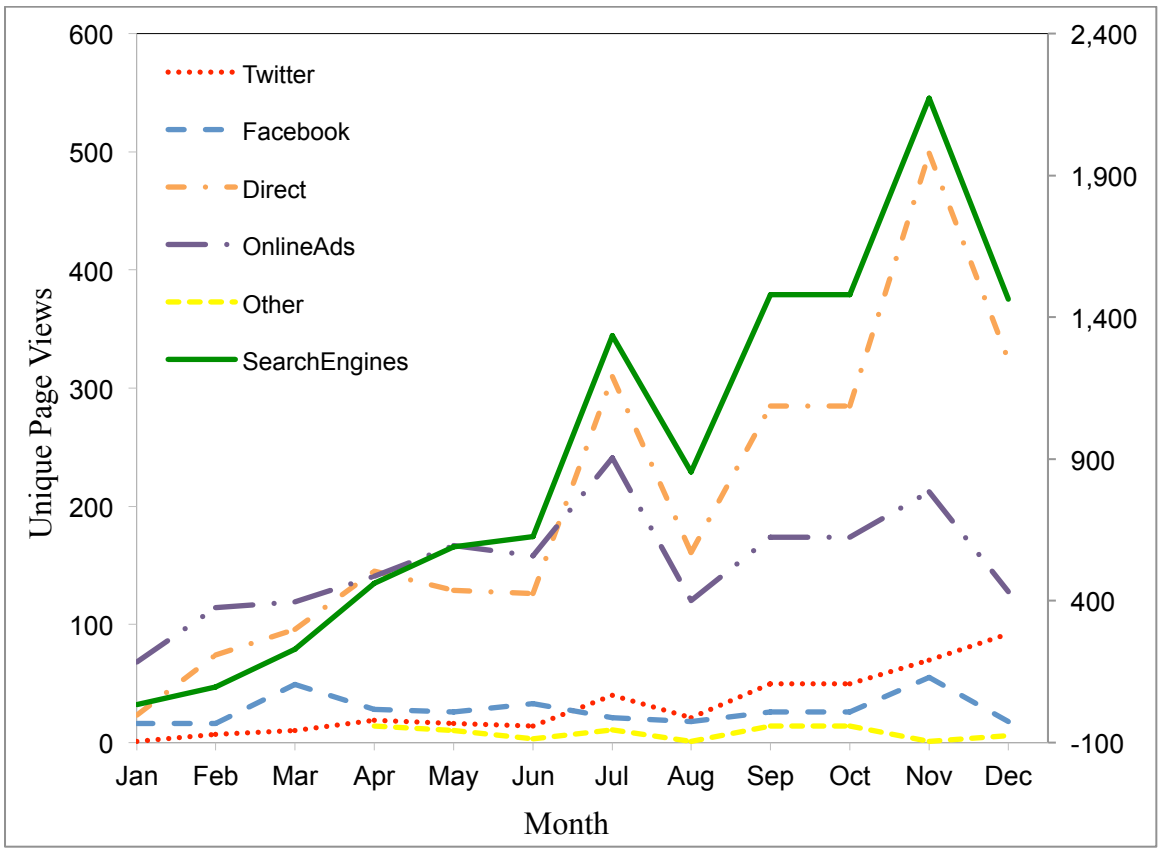


Figure 4.2 Unique page views by month as a function of the traffic source.

Figure 4.2 implies that the pattern for Direct is quite similar to the pattern for Search Engines. This makes some sense in that Direct likely reflects those individuals who have search for that type of online store, found what they liked at Store 1, bookmarked Store 1, and then used a direct link. The correlations between all patterns are shown in Table 4.1. Note that there are no seasonal impacts (i.e., winter season) for this particular store because it serves customers in Saudi Arabia and Gulf area where they do not celebrate Christmas.

Table 4.1 Correlations Between Page Views for Different Referral Traffic.

	Twitter	Facebook	Search Engines	Direct	Online Ads	Other
Twitter	1.00	0.14	0.88	0.88	0.47	-0.09
Facebook	0.14	1.00	0.31	0.39	0.35	-0.34

Search Engines	0.88	0.31	1.00	0.98	0.73	-0.15
Direct	0.88	0.39	0.98	1.00	0.74	-0.17
Online Ads	0.47	0.35	0.73	0.74	1.00	0.16
Other	-0.09	-0.34	-0.15	-0.17	0.16	1.00

Search Engines and Direct are very highly correlated, and that Twitter is also strongly associated with both. However the remaining have low associations.

Figure 4.3 illustrates revenue by month as a function of traffic source. The revenue from search engine traffic is very much higher than the revenue from all other traffic sources. The scale for the y-axis (left hand side) for search engines reaches 800,000 Saudi Riyal (SR), while the scale for the y-axis (left hand side) of other traffic sources (e.g., Facebook, Twitter, Direct, Online ads, Other) is below 200,000 SR. Figure 4.3 also uses a double y axis because the disparity in revenue is so large. Search engines uses the right had y-axis while the others use the left hand axis. Note that the right hand axis is 4 times the right, so that revenue from Search Engines is about 4 times the revenue from Direct. If a single y-axis was used the revenue generated from these other sources (e.g., particularly Online Ads and Other) would appear to be almost a flat line. Although the highest revenue was generated by search engine traffic, in fact this source of revenue peaked and then started to decrease over the year. However, revenue generated by the traffic from Twitter, slightly increased during that same year. As such, the proportion of revenue attributed to Twitter (or Facebook) increased over the year.

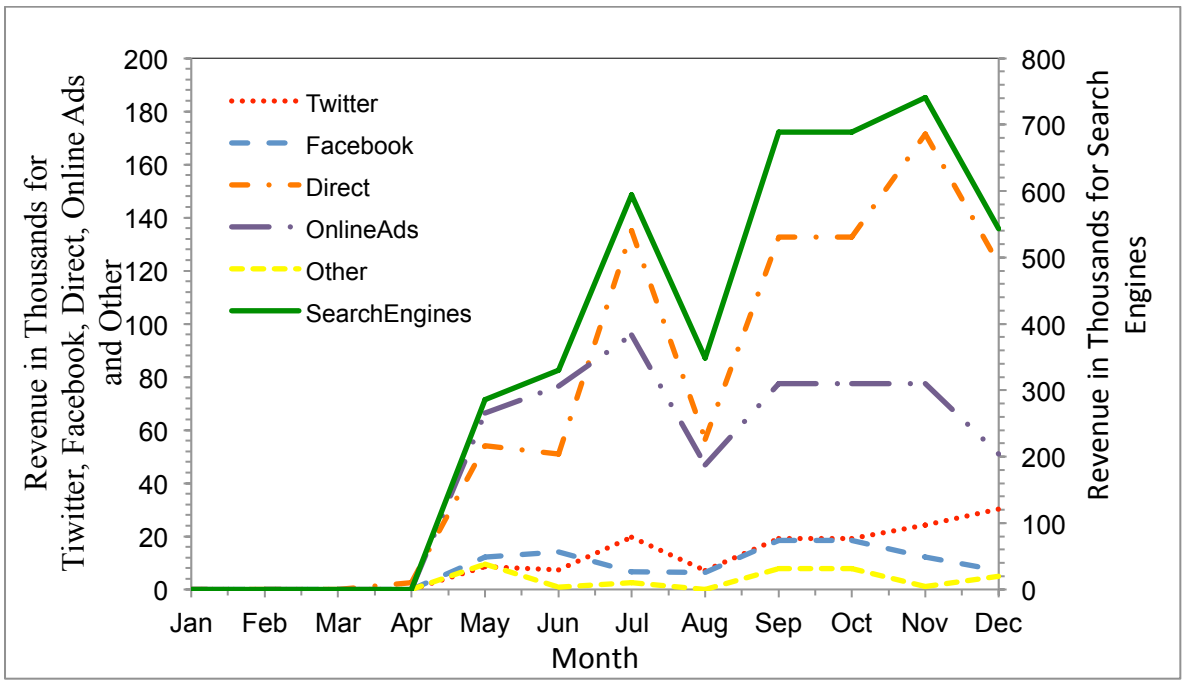


Figure 4.3 Revenue of search engines (in thousands) and revenue (in thousands) for Twitter, Facebook, Direct, Online ads, and other.

Note that the patterns for the revenue curves (Figure 4.3) seem very similar to the patterns for the page visits curves (Figure 4.2). As a check the correlations between each revenue curve and each page view curve was computed. These are provided in Table 4.2.

Table 4.2 Correlations Between Each Revenue Curve and Each Page View Curve.

	Revenue				
	Twitter	Facebook	Search Engines	Direct	Online Ads
Twitter	0.95	0.47	0.80	0.85	0.55
Facebook	0.09	0.15	0.16	0.20	0.11
Search Engines	0.92	0.68	0.95	0.98	0.77
Direct	0.89	0.54	0.88	0.94	0.69

	Revenue				
	Twitter	Facebook	Search Engines	Direct	Online Ads
Online Ads	0.61	0.57	0.74	0.76	0.82
Other	-0.09	0.11	-0.06	-0.07	-0.11

Search Engine revenue is correlated with search engine Page Views, but also with Twitter and Direct. These may be "linked" systems for online shoppers. However, revenue from Facebook is *not* linked to Facebook referrals (or any other referrals). Those from online ads do seem to be linked to the other but in a manner that suggests an exposure effect (i.e., it is linked to everything except Facebook and other).

To determine the relationships among each traffic source, regression analysis models for "*revenue by month"* were created for each traffic source. All models used a cubic equation (see Figure 4.4). Table 4.3 presents the unstandardized and standardized regression equations for each traffic source. The relative importance of each traffic source can be seen in the unstandardized equations (and in Figure 4.3). The relative importance of each term within each equation can be determined by standardized regression equations.

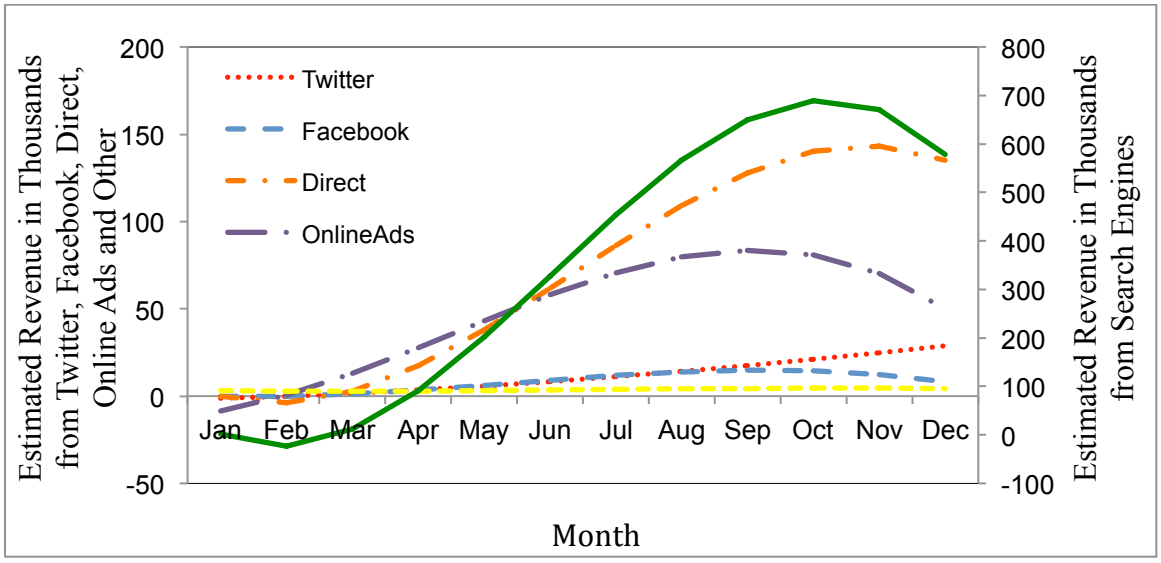


Figure 4.4 Fitted curves (models) for revenue by month as a function of the traffic source.

Generally, all models successfully predicted the data as assessed by the magnitude of R^2 (i.e., R^2 is significantly different from zero). The only exception was the traffic source "other", because the data in this category had no specific pattern (see Figure 4.4). It is noticeable that revenues generated by users coming from Twitter to the online store seem to be rising, whereas revenues generated by users coming from Facebook and search engines appear to be plateauing.

Table 4.3 Standardized and Unstandardized Regression Equation for Revenue (R) as a Function of Month (M).

Traffic Source	R^2 (prob R^2)	Equation
Twitter	.876 ($p < .001$)	$R = -2129.8 + 744.4*M + 175.4*M^2 - 1.8*M^3$ $z_R = 0.250*z_M + 0.786*z_M^2 - 0.096*z_M^3$
Facebook	.664 ($p < .027$)	$R = 1272.5 - 2488.1*M + 1010.6*M^2 - 62.9*M^3$

Traffic Source	R^2 (prob R^2)	Equation
		$z_R = -1.270*z_M + 6.890*z_M^2 - 5.132*z_M^3$
Search Engines	.906 ($p < .0005$)	$R = 100977 - 141648*M + 44684*M^2 - 2463*M^3$ $z_R = -1.717*z_M + 7.232*z_M^2 - 4.771*z_M^3$
Direct	.849 ($p < .001$)	$R= 16916 - 24200*M + 7724*M^2 - 407*M^3$ $z_R = -1.362*z_M + 5.804*z_M^2 - 3.661*z_M^3$
Online Ads	.757 ($p < .008$)	$R = -12380.0 + 829.3*M + 3272.6*M^2 - 242.3*M^3$ $z_R = 0.080*z_M + 4.229*z_M^2 - 3.747*z_M^3$
Other	.031 ($p < .982$)	$R = 4071.1 - 982.6*M - 205.7*M^2 - 10.2*M^3$ $z_R = - 0.706*z_M + 2.388*z_M^2 - 1.551*z_M^3$

STORE 2: For Store 2, the only data available is that of traffic. Figure 4.5 provides the traffic to the store. Note that all of the traffic did complete a transaction. However the amounts are not known. Still if one assumes that there is some average sales per visit that is *not* related to the referral source, then one could conclude that most of the revenue was generated from direct links, and that search engines (or Facebook) would be second. Given the data of Store 1, it does seem reasonable to assume that average sales per visitor do *not* change as a function of the referral site.

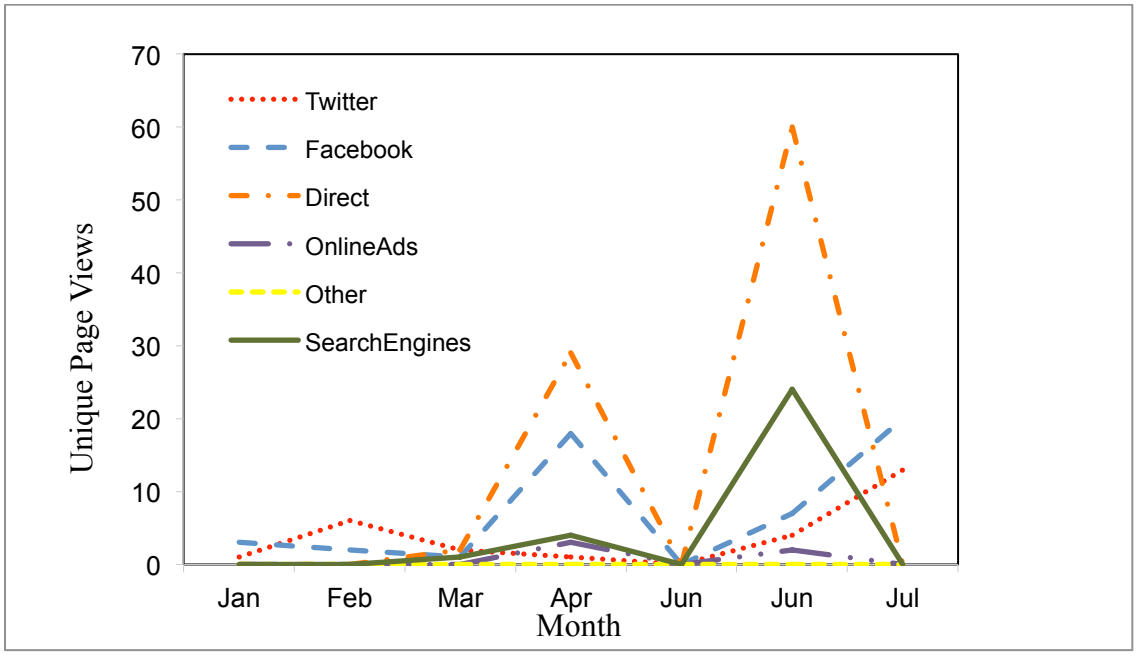


Figure 4.5 Page Views per month for Store 2

STORE 3: For Store 3, the only data available is that of traffic Figure 4.6 provides the traffic to the store. Note that all of the traffic did complete a transaction. However the amounts are not known. If one assumes that there is some average sales per visit that is *not* related to the referral source, then most of the sales are from the search engines, followed by Facebook.

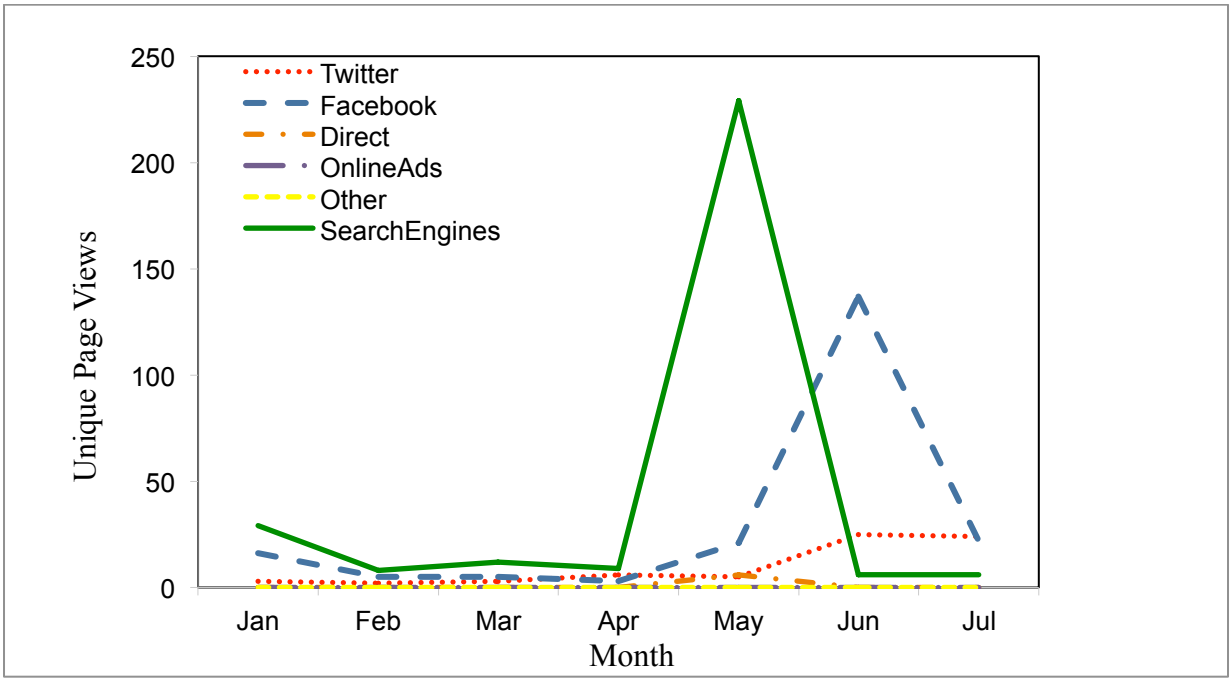


Figure 4.6 Page Views per month for Store 3.

4.1.7 Study Limitations

Google Analytics provides an interesting view of how social media sites may generate revenue for online stores, but it has limitations. Google Analytics does not explain the reasoning behind user behavior and, reports on single device and single session transactions (i.e., the referral page when a purchase was made). For example, it does not capture if a shopper found a deal for the store while using Twitter on their mobile phone, but did not actually purchase the item until a few days later while on their laptop where they searched Google to find the store's webpage. Our results do not capture this multi-device or multi-session behavior for shopping which has been shown to last several days and involve comparisons between site (MacKay & Watters, 2012). Since I do not capture these cases, it may mean that social media sites' influence on generating revenues may be higher than what is reported in our results. Still, our data shows the trends and impact that social media sites have on potential revenues.

If I had more than one year data, I would have be able to see Twitter effects better. But, unfortunately I was not able to gather more data.

Given the nature of my analysis, one might be wondering why I chose only three online stores not more or might think that he results would be straightforward if I consider a

larger set. In fact, all of the needed data can be only found in private data, which is very difficult to gather.

4.1.8 Discussion

Online Store 1, from which the main analysis was taken from, created its Facebook page on June 2011 by offering promotions, selling international brands, and collecting information through customer engagement. On the other hand, the Store's Twitter account was created on September 2011, with less content, no promotions, but offered more customer services. The effects of engaging with customers, by providing prompt costumer service (i.e., provide live answers about shipping), were reflected in the revenue generated by Twitter users despite the lower number of visitors when compared to other sources. One possible reason for this phenomenon is that, recently, in Saudi Arabia the adoption of Twitter as a social media tool has risen by 3000% since 2011 (Discover Digital Arabia, 2012). As well, Twitter users tend to be highly educated and have a higher income, when compared to other SNS (Solis, 2012).

More specifically, these results also reflect the effects of using Twitter as a marketing tool, in the case of this particular online store (Store 1). The increasing trend for Twitter can also be seen in the Page Visits for Stores 2 and 3. This online store (Store 1) uses Twitter as a tool to communicate with customers in a more personal way, answering customer questions, giving detailed instructions for first time customers, and providing a semi-live chat service. The shop uses their followers' social media ties to promote and influence more users. This approach involves the use of followers to spread the word, and recruit more customers, without the shop having to do much more work in terms of marketing. Social media channels can be a cost-effective tool for promoting sales, particularly, for small businesses (Thoring, 2011).

In addition, for the search engine category, it is worthwhile for online storeowners to put more effort into serving this particular group due to its size. The use of Facebook, for enhancing online sales, costs relatively less than Twitter. This cost comes from the need of employees who must be available 24/7 to provide immediate customer services for Twitter. However, Twitter users generate more revenue (i.e., they buy more). On the other hand, the use of search engines and online ads, for enhancing sales, is more costly

when compared to Facebook and Twitter. Just as one would spend money in order to optimize a store, one would need to pay for online ads. Finally, I also observed that non-SNS traffic sources brought a larger number of customers and generated less revenue than SNS traffic, despite the latter bringing fewer customers.

4.1.9 Conclusion

This research examined the importance of building an online customer community as a way of marketing a business. Furthermore, I found that building a strong online community allows a company to engage customers, stay up-to-date with their needs, and consequently, increase their potential ROI of their social media marketing strategy. Finally, these "social media" customers are just as important as those coming from other sources in higher numbers (e.g., search engines).

4.2 Tracking Users Utilization Using Crazy Egg

Data from the same three online stores was collected using Crazy Egg. Note that social media buttons were already on the online stores (I did not implement the buttons). Also, the storeowners preferred to have the stores anonymous, therefore I did not include screenshots of the sites.

4.2.1 Design And Implementations

Crazy Egg script was installed in the sample stores (labeled Store 1, Store 2 and Store 3). Data collection occurred over 6 months. Data was extracted as an Excel file, cleaned, organized, and then analyzed in SPSS. Analyses were quite limited by the nature of the data.

4.2.2 Research Questions

In this study, I aimed to visualize the user interaction to online stores in order to observe the usefulness of social media buttons.

4.2.3 Crazy Egg Evaluation

The data for this study gathered using Crazy Egg. Crazy Egg (CE) is a web analytics tool that tracks user utilization of a web page (Butler, 2008). It provides visual web page

analytics using a java script that must be installed in the web client's web page in order to start working (Crazyegg.com, 2013). It basically tracks four interactions. Firstly, it can show the referrals so that one can know where the customers come from. Secondly, it tracks each element in the web page to show which buttons were clicked and how many times each was clicked. Tracking button presses helps businesses to distinguish the useful elements from the useless ones. Thirdly, CE can help to identify the visual focus of the customer because it monitors the position of the scroll bar (this is, of course, only applicable if there is a scroll bar, and it is a crude measure of visual focus).

4.2.4 Study Design

As a functioning online store, each site offers a large number of clickable buttons. However, the current thesis is focused on the role of social media / online communities (e.g., Facebook and Twitter). Social media are means for individuals (i.e., shoppers) to gain additional insight or involvement with the particular company. Depending on the implementation, social media can also serve as a place for customers to exchange information and comment on products or the company. Hence, in some sense, social media buttons are most similar to (complementary to) buttons that provide information about the company (e.g., company info), or buttons that provide some means to contact the company (contact info). In principle, social media buttons serve a function that is quite distinct from content buttons (e.g., products, purchasing, returning, online account management). The only grey area is that of special offers, which may be listed on a Facebook page or on the online website.

Hence, all buttons within a particular online store were coded to fall within 1 of 5 groups: Company Information, Company Contact, Twitter, Facebook, and Other. Typically, there is only one or two buttons for each of the first 4 categories, while the last may have "many" (e.g., products [the majority], checkout, accounts, or personal shopping lists). This scheme was applied to all sites.

Table 4.4 Number of Clicks for each Category of Button, by Online Store.

	Store 1		Store 2		Store 3		All Sites
	#	%	#	%	#	%	#
Total Visits	3000		82		205		3287
Total Clicks	3743		26		163		3932
Company Information	24	0.64	8	30.77	8	4.91	40
Company Contact	31	0.83	1	3.85	16	9.82	48
Twitter	2	0.05	0	0.00	4	2.45	6
Facebook	2	0.05	1	3.85	0	0.00	3
Other	2319	61.96	16	61.54	33	20.25	2368

Notes: "Other" includes buttons that activate content, purchases or any other content not specifically devoted to the other named types.

The pattern of responding is fairly obvious from the table. For each site, and in total (All Sites), social media buttons are the least used. Naturally, the other (including content) buttons are used the most often. However, company information buttons and company contact buttons are also used more often than social media buttons.

4.2.5 Study Methodology

The analyses had two aspects. The first analyses simply supported the previous observations (Google Analytics study). I did two analysis to further understand the importance of the social media buttons.

Analysis Set 1:

The first analysis used a one-way chi-square analysis to compare the number of button presses within each online store and for the combination of all stores (All Sites). The chi-square (a.k.a. χ^2) compares the number of *counts* in different conditions (the IV) and tests the hypothesis that the number of counts is equal across all specified categories. Given the data, not surprisingly, all analyses indicated a significant difference between the

number of button presses across the five categories. For Store 1, $\chi^2(4) = 8932.6$, $p < .001$. For Store 2 $\chi^2(4) = 35.9$, $p < .001$. For Store 3, $\chi^2(4) = 55.8$, $p < .001$. Finally, for All Sites combined, $\chi^2(4) = 8917.1$, $p < .001$. The significance is not surprising given the inclusion of the other category.

Note that, technically, the chi-square analysis assumes that each individual data point (i.e., each individual button press) is independent. In this data, that is not likely true. That is, one person may have press several different buttons, and in fact, may have pressed the same button several times. However, given the data produced by CE, it is impossible to determine who pushed which buttons and how often. That is, the dependency across scores is not known and *cannot* be obtained. As such, the chi-square analysis is not perfectly valid. Unfortunately, it is impossible to use a theoretically more appropriate analysis (e.g., a log-linear analysis that codes for each individual customer) because the necessary data is not available. In addition, ignoring the potential dependencies in the data simply makes this test more conservative (less likely to achieve significance; less likely to claim a difference in counts) and as such, is not a major concern for interpretation.

To provide a more appropriate test, the *Other* category was eliminated. Again, all analyses indicated a significant difference between the number of button presses across the four categories. For Store 1, $\chi^2(3) = 45.7$, $p < .001$. For Store 2, $\chi^2(3) = 16.4$, $p < .001$. For Store 3, $\chi^2(3) = 20.3$, $p < .001$. Finally, for All Sites combined, $\chi^2(3) = 65.9$, $p < .001$.

The final analyses collapsed the social media sites into one category, and the "traditional interaction" buttons (as if anything in the internet can be considered "traditional") into a second category. Again, all analyses indicated a significant difference between the number of button presses across the four categories. For Store 1, $\chi^2(1) = 44.1$, $p < .001$. For Store 2, $\chi^2(1) = 6.4$, $p < .011$. For Store 3, $\chi^2(1) = 14.3$, $p < .001$. Finally, for all Sites combined, $\chi^2(1) = 64.3$, $p < .001$. Hence, one can conclude that the use of SM buttons is different (less than) the use of the more traditional buttons for company information or contact.

Analysis Set 2:

The second set of analyses used a similar approach to determine whether or not there were different patterns of responding for the different online stores. Such information could potentially provide insights into when or where social media buttons are used.

A two-way chi-square looked at the interaction between the store and the category of button press. When considering all types of buttons (5 categories: Company Information, Company Contact, Twitter, Facebook, and Other) for the three sites, the analysis was $\chi^2(8) = 528.9$, $p < .001$. Hence, it can be concluded that the *pattern* of clicks for different categories of buttons differs as a function of the site. The phi correlation was .463.

When limited to the Company Information, Company Contact, Facebook and Twitter buttons, the $\chi^2(6) = 15.1$, $p < .001$, with a phi coefficient of .395. This implies that the pattern of use for SM and contact buttons differs as a function of site. Note, for example, that for Store 1, the use of Company Information was about the same as Contact Us, but for Store 2, Company Information was used more often than Contact Us, while for Store 3 Company Information was used less often than Contact Us. When buttons were reduced to just two levels (Social media vs Traditional), the $\chi^2(4) = 1.28$, $p < .528$, with a phi coefficient of .115. Hence, when considering the three sites as just Social Media versus Traditional Contact/Information buttons, all three sites have the same pattern. That is, all are equally lower on the use of the SM buttons. The Traditional buttons are used about 9.8 times (ranging from 6 to 13.8 per site) more often than the social media buttons.

2.4.6 Summary

The data and analyses indicate that the social media buttons are used significantly less often than the other buttons on the website. The pattern is fairly consistent across sites. SM buttons are not used.

CHAPTER 5 THE IMPACT OF SOCIAL MEDIA BUTTONS ON CUSTOMERS' PURCHASE DECISIONS

5.1 MOTIVATION FOR RUNNING A SURVEY

The basic goal of the questionnaire was to analyze "virtual communities" and their impact on sales for online stores. That is, how do virtual communities influence purchase decisions? Virtual Communities are a collection of individuals who use social media online as a tool for dialogue and the exchange of information (Heidmann et al., 2012). Hence, anyone who endorsed the use of any of the cited social media were considered to be part of a community.

5.2 THE SURVEY DETAILS

The survey was created and posted online using Opinio, which is a web-based online survey system run by Dalhousie University. This Survey was approved by Dalhousie University Ethics Board (see Appendix C).

Due to the limitations in the web traffic studies the online survey was used to study the attitudes of customers towards social media use, including their tendencies to follow stores online, and their frequency of visiting the online store's social media sites.

1. Do demographic factors (e.g. gender, age, culture, and profession) influence online purchasing decisions?
2. What impact do social media buttons have for online stores?
3. What influences online customers purchase decisions?

5.2.1 Design and Implementations

The survey contained a total of 33 questions, although, most of those questions contained several parts. As such, the survey actually contained 190 questions. The number of questions is high as I included in the survey introductory parts that allow me to further understand the use of social media in general before understand the role of SMBs. After the participants had given consent online (Appendix B), the participants were automatically forwarded to the survey. The survey was divided into five sections:

1 Demographic data (gender, age, education, citizenship, residency, educational level and profession (Questions 1 to 6).
2 Participant's use of social media and its relationship to online stores (Questions 7 to 11 and 14).
3 Online Shopping Behavior (Questions 12 and 13)
4 Influences on the decision to purchase (Questions 15 to 23).
5 Participant's use of social media buttons (Questions 24 to 33).

The questions were a mix of Likert scales, binary scales and open-ended questions. Most of the open-ended questions enabled participants to provide additional information.

When a participant responded "no" or "none" to Questions 8, 12, 19, and 36, some of the subsequent questions were skipped. Therefore, those subsequent questions were assumed to be zero where possible. This skipping of questions was automatically executed by the survey in a manner transparent to the user.

The survey was designed to require between 15 and 20 minutes for completion. In practice it required an average of 21.7 minutes (sd: 9.04) with a maximum of 55 minutes.

5.2.2 Population and Recruitment

All participants were recruited online through some social media resources (i.e., Twitter and Facebook). That is, Twitter and Facebook accounts, created for the purpose of this survey, were used to invite participants. Email announcements via Dalhousie university mailing lists (i.e., the computer science mailing lists) were also used to recruit participants. Finally, an online ads website (kijiji.com) was used to invite participants.

In the recruitment notice, (Appendix A), participants were asked to log on to the survey website "Opinio", by using a link provided in each notice. In addition, an online consent process was used (see Appendix B). Information about the study was introduced to the participants before the survey. The informed consent outlined the risks and benefits associated with the study, a description of the study, the participant's right to withdraw without consequences, and assurances of confidentiality and anonymity of personal data. Those participants were also asked for permission to use quotes should any arise.

A total of 258 participated in the survey, but only 207 completed it and provided data.

5.3 STUDY RESULTS

5.3.1 Analysis Overview

Generally, it must be acknowledged that the analysis is long, primarily because there are 190 questions. Each question is relatively independent. Although there are sections or groups of questions, the questions in those sections do not sum to make a total score, or a subscale, as is common in many questionnaires. Hence, each must be analyzed independently, and each must then be related to the other.

5.3.2 Summary of Main Findings

Because the detailed analysis is so long, a summary is presented first. This summary is intended to be sufficient for an understanding of the results. Detailed analyses are presented in the following sections.

The main focus of the analysis was on the influences to purchase, and the role of the store's SM site in the decision. Most of the analysis presents simple descriptive statistics. The responses across questions are compared using Pearson correlations (when both questions are scaled continuously) or t-tests (when one variable, such as Gender, Age, Education and Culture, is scaled categorical and the other is continuous).

With respect to influences, I found two types of influences; social factors and store influences. Social influences are the influences from friends, family members, other online shoppers or expertise reviewers while store factors include advertising, special offers and promotions, guarantees, costs, and shipping. Participants were more strongly influenced by social factors than by store factors. That is, 85% of participants cited some social influence, but only 71% cited some store influence.

Interestingly, in the social factors section, there appears to be three types of people; those influenced primarily by friends, those influenced primarily by reviewers (or other online shoppers), and those influenced by experts.

Furthermore, those who valued the opinions of other shoppers tended to prefer onsite reviews (reviews on the site of the online store). Those who valued the opinions of experts tended to prefer offsite reviews. Non-social influences were more collective (i.e., most people cited multiple non-social reasons). Interestingly, 64% of individuals cited at least one social and one non-social reason.

With respect to SM and Social M Buttons (SMBs), firstly, only about 50% of the sample actually looked for the store's SM site, but when they did, it was primarily to learn about products. Other reasons (to obtain promotions and to learn about the company) were cited only half as often.

SMBs are the gateway to the store's social media site. The first observation was that only 28% notice such buttons more than 50% of the time. Only 31% actually looked for such buttons, and only 47% have ever clicked on them.

If participants did click on such buttons, it was to obtain special offers or promotions, to check products, or to read comments from other shoppers, or interact with company personnel. All reasons were cited equally often (by about 25% of participants).

Participants also endorsed the notion that the presence of SMBs on a store's website proved a sense of welcoming, friendliness, community and the ability to interact or get assistance. Participants also thought that the presence of SM made shopping more enjoyable, but had a negative consequence in that it tended to consume a lot of time.

With respect to the relationship between Influencing factors and SMBs, there were too many associations to itemize individually. However, generally, those who look for SMBs tend to be those who were influenced by social and non-social (store) factors. Those who have actually clicked on the SMBs tended to be those who were looking for company information and online promotions or special offers. Those who look for the store's SM site for company information tend to rate SMBs as more welcoming. These same people were more influenced by ads and the opinions of experts. Those who look for the store's SM site for product information tend to rate SMBs as implying a community. This group included those influenced by the opinions of other reviewers (other shoppers).

With respect to the relationship between Demographics and Influencing factors, males had more faith in reviews on-site. Those with a higher level of education tended to put more faith in the opinions of reviewers (rather than experts or friends) and more faith in reviews on site. Similarly, those from the Western Culture were more likely to value the opinions of reviewers (rather than experts or friends/family) and reviews posted on the store's SM site. Those from the Western Cultures were also generally more influenced by those non-social attributes controlled by the store (i.e., ads, promotions, guarantee, costs

and shipping) and used special offers more often. Age did not have any relationships with influencing factors.

With respect to the relationship between Demographics and SMBs, females were more likely to look for SMBs. For Age, the middle age group (25-30) was more likely to click on SMBs to see special offers and to read comments. That same age group had more reasons, in general (i.e., Offers, Products or Comments) to click on SMBs. Those from the Middle Eastern cultures tended to look for the SMBs more often. There were no relationships between Education and SMBs.

As a general rule, females and males had the same amount of use of SM sites. However, females were more active when following stores. That is, they followed more stores and were more likely to click on the links embedded on their SM sites to online stores. Strangely, despite the fact that females were more active following stores on SM, there were no significant differences in the number of purchases overall.

The older age group (>31 years) was less likely to follow stores on SM, and to click on embedded links to stores, although all age groups had similar patterns for SM use and for Online Shopping. There were no notable effects for Education groups. For Culture groups, there were no notable differences in SM usage, but there was a tendency for those from the Western Cultures to engage in more online shopping (more purchases in more categories).

With respect to the relationship between influencing factors and Shopping Behavior, those who engaged in more online shopping tended to look for the stores SMBs for company information, for special offers and promotions. They were more influenced by ads on SM and the opinions of friends, and in fact tended to buy more often using special offers.

With respect to the relationships between SMBs and SM Use, there tended to be associations between those who follow stores or click on embedded links and the ability of the SMBs to provide a sense of community. Following and clicking were also associated with an interest in the comments of other shoppers. However, none of the correlations were particularly strong.

5.4 MAIN DESCRIPTIVE ANALYSIS

In the main analysis, I examined each question in turn. In this section, those that were central to this thesis (Influencing factors and Social Media Button Use) are discussed in some detail with context. However, those questions that are not central to this thesis (i.e., Demographics, Social Media Use and Online Shopping Behavior) are only summarized in this section. One must remember that an inclusion criterion for the recruitment of participants included the use of social media. Hence, all participants used social media to some degree.

When appropriate, some reliability checks (reliabilities analyses) are performed. That is, within each section, responses to various questions should be logically related. These serve as reliability checks.

5.4.1 Demographics

For demographics, only basic information about gender, age, education and cultural identification was collected. Based on the distributions, Age was collapsed into three groups as ≤ 24 (n=82), 25 - 30 (n=76), and ≥ 31 (n=49). Education was also collapsed into three groups as high school or less (n=42), undergraduate (97) and masters or higher (64). Finally, there were only two useful groups for Residency (cultural identification) defined as Middle Eastern Cultures, which included Saudi Arabia, United Arab Emirates, Bahrain, Egypt, Jordan, Kuwait, Oman, and Qatar (n = 129), and Western Cultures, which included Canada, USA and territories, UK, Germany, and Australia (n = 71). The remaining individuals were from Armenia, the Ascension Islands and unknown (n=8), which was not considered sufficiently large nor homogeneous to form a single group.

5.4.2 Social Media Use

General use of SM:

The use of SM was documented for each of Facebook, Twitter, Google+, Pinterest, YouTube, Instagram, or Other. For these specific sites tabulated, 76.8% (159 of 207) reported using Facebook, 92.32% (191 of 207) reported using Twitter, 65.1% (114 of 207) reported using Google+, 13.5% (28 of 207) reported using Pinterest, 92.3% (191 of

207) reported using YouTube, and 68.6% (142 of 207) reported using Instagram. Actual frequency of use for all types of social media is presented in Table 5.1.

Table 5.1 Frequency of SM Usage

	Facebook	Twitter	Google	Pinterest	YouTube	Instagram	Other
Never	48 (23.2%)	16 (7.7%)	93 (44.9%)	179 (86.5%)	16 (7.7%)	65 (31.4%)	190 (91.8%)
Yearly	27 (13%)	1 (.5%)	16 (7.7%)	7 (3.4%)	3 (1.4%)	7 (3.4%)	1 (.5%)
Monthly	29 (14%)	3 (1.4%)	28 (13.5%)	7 (3.4%)	11 (5.3%)	21 (1.1%)	6 (2.9%)
Weekly	43 (2.8%)	13 (6.3%)	19 (9.2%)	10 (4.8%)	47 (22.7%)	34 (16.4%)	10 (4.8%)
Daily	60 (29%)	174 (84.1%)	51 (24.6%)	4 (1.9%)	130 (62.8%)	80 (38.6%)	207 (100%)
Any Use	159 (76.8%)	191 (92.3%)	114 (55.1%)	28 (13.5%)	191 (92.3%)	142 (68.6%)	17 (8.2%)

For further clarification see figure 5.1. It shows the frequency of the use of the top four SM sites.

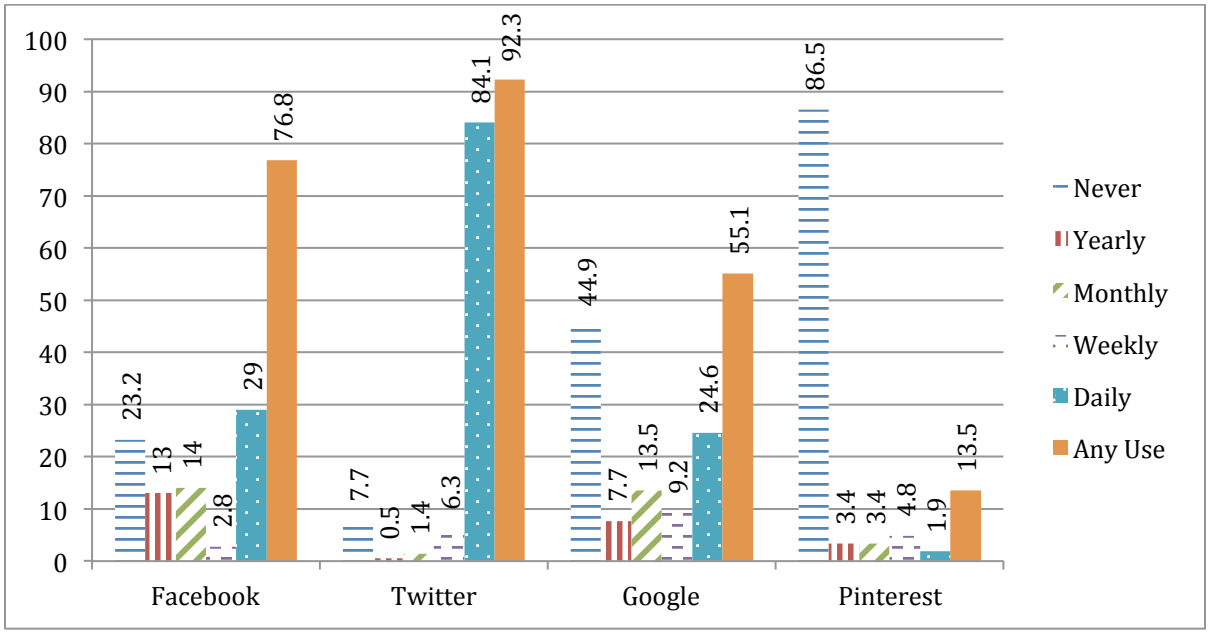


Figure 5.1 Frequency of top four SM Usage

As seen from the figure the use of SM varies. Businesses might need to differentiate the content including in each SM site. For example, they might consider Twitter for immediate customer services while use Facebook for coupons and special offers.

Following online stores on their sites:

When participants were asked generically about the number of stores that they followed on their SM sites (i.e., Question 8), 54.1% (112) of the 207 participants reported that they do follow stores on their social media sites, while 44.9% (93) did not. There were 2 missing values (1.0% of the data).

Follow and click:

Following stores may be passive or active. Participants were asked if they had ever clicked on the embedded links to the online stores *that they follow* within their SM site (i.e., Question 10). For the specific sites tabulated, 37.1% (59 of 159) reported clicking on a link to a store that was followed on Facebook. The corresponding numbers were 46.6% (89 of 191) for Twitter, 18.4%% (21 of 114) for Google+, 32.1% (9 of 28) for Pinterest, 27.2% (52 of 191) for YouTube, and 27.5% (39 of 142) for Instagram. One additional individual (5.9%, or 1 of 17) indicated the use of another site (Tumblr). On average, about 51% of participants followed and clicked on (at least one) embedded links.

Not follow but click:

Participants were asked if they had ever clicked on the embedded links to the online stores that they do NOT follow within their SM site (i.e., Question 11). For the specific sites tabulated, 35.2% (56 of 159) reported clicking on a link to a store that was followed on Facebook. The corresponding numbers were 44.3% (77 of 191) for Twitter, 16.7% (19 of 114) for Google+, 32.1% (9 of 28) for Pinterest, 22.5% (43 of 191) for YouTube, and 23.2% (33 of 142) for Instagram. One additional individual (5.9% or 1 of 17) indicated the use of another site (Tumblr).

"Follow and click", or "not follow but click":

It would seem that some participants follow stores using their SM sites, and they click on the links to those stores. However, other participants do *not* follow stores on their SM sites, but nonetheless, they click on links to stores. Are these the same participants? Some may click on all links rather indiscriminately.

The data is summarized in Table 5.2, which includes the number of site users, the number of site users who follow stores (Follow Stores), the number of site users who follow *and* click on embedded links (Follow and Click), the number of site users who click on embedded links to stores that they do not follow (Not Follow But Click), and the number who click on "anything" (Both).

Using Facebook as an example, of the total of 159 participants, 91 (or 52.7%) do not click on links. Thereafter, 59 (37.1%) click on links to stores that they follow, 56 (35.2%) click on links to stores that they do *not* follow, while 47 (29.6%) click on any links (some reported following stores on Facebook without being a user of Facebook).

Table 5.2 Clicking – Following or Not – for Participants Who Use Each Media Site

	Facebook	Twitter	Google+	Pinterest	YouTube	Instagram	Other
Follow Stores	65 (40.8%)	90 (47.1%)	24 (21.1%)	9 (32.1%)	46 (24.1%)	60 (42.3%)	1 (5.9%)
Not Click	91 (52.7%)	97 (50.8%)	22 (80.7%)	17 (60.7%)	132 (69.1%)	98 (69.0%)	16 (94.1%)
Follow & Click	59 (37.1%)	89 (46.6%)	21 (18.4%)	9 (32.1%)	52 (27.2%)	39 (27.5%)	1 (5.9%)
Not Follow	56 (35.2%)	77 (44.3%)	19 (16.7%)	9 (32.1%)	43 (22.5%)	33 (23.2%)	1 (5.9%)
Both	47 (29.6%)	72 (37.7%)	18 (15.8%)	7 (25.0%)	36 (18.8%)	28 (19.7%)	1 (5.9%)

For further clarification see figure 5.2. It shows the data presented in table 5.2 but for the top four social media sites.

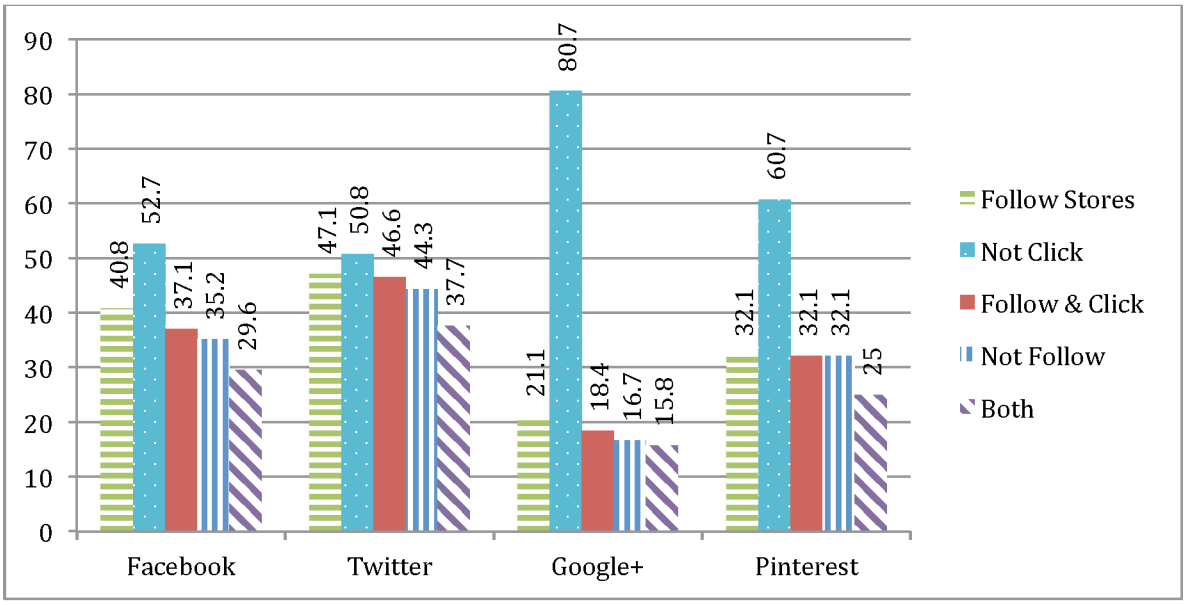


Figure 5.2 Clicking – Following or Not – for Participants Who Use the top four Social Media Sites

The important observation is that the vast majority of SM users do not click on links (average percentage is 63.8, excluding the "other" column) that they find imbedded in their SM. However, of the 36.2% who do click, the majority (averaging 24.4% for all sites, excluding "other") are indiscriminant. That is, it does not really matter if they follow stores or not. Interestingly, the majority of the sample did not click on Google+. That might be because there is less ads (or non) online ads on Google+.

Participants were asked about clicking on any links (Question 14 "How often have you clicked on any link on your social media site?"). Of the 207 participants, 99 (47.8%) reported "never" (coded as 0), 37 (17.9%) reported "Less than 10% of the time" (coded as 1), 29 (14.0%) reported "Less than 25% of the time" (coded as 2), 22 (1.6%) reported "Less than 50% of the time" (coded as 3), and 20 (9.7%) reported "More than 50% of the time" (coded as 4). The mean code was 1.16 (sd: 1.38) implying that most have clicked on some link at least 10% of the time.

Reliability Checks: Responses to Question 14 cannot be compared directly to those of Questions 10 (Follow Stores and Click on Links) and 11 (Not Follow Stores but Click on Links). Clicking on any embedded links (followed or not followed) was correlated with Question 14 with a Person $r = .514$ ($p < .005$) and a Spearman rank $r = .784$ ($p < .0005$). Note that large differences between the standard (Pearson) correlation and the Spearman rank correlation (when both are significant) indicate that the relationship is non-linear (but monotonic).

Summary of SM Site Usage and Links to Online Stores:

It is clear that even though the majority of the sample uses SM (fairly extensively), only about one-quarter to one-third (from 21.1 to 47.1%) of participants actually follow stores on SM sites, and of that, very few (from 18.4 to 46.6%) actually click on links to stores. Of those who do click on links to stores, most are fairly indiscriminant – more than half click on links to stores that they follow and on stores that they do not follow.

For subsequent comparisons, SM Use was collapsed into two separate variables. The first was the count of the number of social media sites used. The second was the weighted sum of all social media usage (e.g., the sum of the amount of Facebook use, the amount of Twitter use, etc). For this, individuals who stated that they used a SM site "daily" were coded as 365. Individuals who stated that they "never" used a site were coded as 0. Between that, there were "at least yearly" (but not monthly) coded as 6, "at least monthly" (but not weekly) coded as 32, and "at least weekly" (but not "daily) coded as 208.

The same technique was used with the number of stores followed, the number of embedded links followed and clicked on, the number of embedded links not followed but clicked on, and the number of embedded links clicked on (i.e., "any links"). Three variables were coded for each. The first was a binary "yes/no" (e.g., followed stores or did not follow stores), the number of sites on which stores were followed, and the weighted sum of the number of stores followed.

For subsequent comparisons between questions (i.e., correlations or group differences), these are the measures used. Note that, simplistically, these scales all simply code for more use.

5.4.3 Online Shopping Behavior

Participants were asked about the number of items purchased (in total) and the number of items purchased within each of 10 categories (books, movies, clothes, appliances, gardening supplies, children's products, luxury items, office supplies, food and other). The analyses of that data showed that about 1/2 of the participants could be considered "active online shoppers". For later analyses, online shopping was reduced to three variables: OnlineShopping_1 (binary yes/no, effectively Question 12 converted to a binary), OnlineShopping_2 (number of categories of items bought) and OnlineShopping_3 (number of items bought, summed over categories).

5.4.4 Influencing Factors for Buying Decisions

The main focus was on the influences on online shoppers when making a decision to purchase. Hence, a main section of the questionnaire concerned the cataloguing of those influences. Of particular interest was the distinction between the social effects and the non-social effects. Social effects would include the roles of friends (or family), other online shoppers, online expert opinion, and social networks in the decision. Non-social effects would include those factors that the online store would control such as price (including special offers), product selection, and product availability (including shipping).

When participants were asked if they had ever used a special offer from an online store. (Question 15: "In the past year, how many times have you made a purchase based on a special online offer on an online store"). Of the 207 participants, 138 (66.7%) reported "never", 29 (14.0%) reported "Less than 10% of the time", 25 (12.1%) reported "Less than 25% of the time", 9 (4.3%) reported "Less than 50% of the time", and 6 (2.9%) reported "More than 50% of the time". The mean code was .63 (sd: 1.04) implying that the use of special offers is negligible.

When participants were asked about the special offers (Question 16: "If a friend on your social media site posts a link to a special online offer, how often do you check the deal?"). Responses were binary (yes/no), with 69 (33.3%) saying that it "depends on product" and 38 (18.4%) saying that it "depends on the friend". Of the 207 participants, 125 (6.4%) did not select either, 57 (27.5%) selected only one option, and 25 (12.1%)

selected both options. Said another way, the two options were correlated at r = .33 ($p < .0005$), which implies that those who endorsed "depends on the product" also tended to endorse "depends on the friend".

When specifically asked about the frequency of checking recommendations from friends, 21 (1.1%) reported "usually", 11 (5.30%) reported "Sometimes", 16 (7.7%) reported "Rarely", and 69 (33.3%) reported "never". The sum of usually, sometimes and rarely (48) is consistent with "depends of product" (69) and "depends of friend" (38) of the previous question. However, the sum of all four categories was only 117, implying that 90 participants did not pick any response. In fact, 112 participants did not provide any response because 22 participants chose two of "never", "rarely", "sometimes" and "usually". Hence, this was not considered reliable, and was not considered further.

Questions 17 through 23 specifically dealt with the various influences on the decision to buy. In particular, a subsection (Question 20 through 23) asked about the role of the online store's social media sites.

When participants were asked about factors that might influence purchase decisions (Question 17: "Which factors would influence your purchase decisions when purchasing items online? (Please check all that apply)"), they provided a list of the most important contributions. Each category was probed in a binary (yes/no) fashion. Missing values were imputed as "no". The first three could be considered *Social Influences*: 75 (36.2%) participants said that the opinions of *Experts* mattered, 105 (5.7%) said that the opinions of *Reviewers* mattered, and 116 (56.0%) said that the opinions of *Friends* mattered. One additional individual claimed "own research", while another claimed "TV shows". Both of these reflect *social influences* of "reviewers" because "own research" reduces to reading the thoughts of others (for any product outside the area of expertise of the participant) and TV involves presentations by self-labeled reviewers or, occasionally, experts. Hence, both were recoded as *Reviewers* (rather than *Experts*) because reviewer does not necessarily imply expertise. However, these changes did not affect the totals (i.e., these participants had also indicated *Reviewers*).

Considering the three options (*Experts*, *Reviewers*, *Friends*) together, 32 (15.5%) chose no options, 87 (42.0%) chose just one option, 55 (26.6%) chose two options and 33 (15.9%) chose all three options. The mean number of options was 1.43 (sd: .94). Hence,

the majority (85%) of participants acknowledged some *social influence* on purchases. Note that the largest category reflected the selection of just one option (i.e., friends *or* reviewers, *or* experts).

The next five categories could be considered the non-social *Store's Influence*. These involve attributes that the store controls to a large degree. Of these five, 33 (15.9%) participants endorsed "Ads on your social media sites" (*Ads*), 54 (26.1%) endorsed "Promotions on the online store" (*Promotions*), 45 (21.7%) endorsed "Money back guarantees" (*Guarantee*), 83 (4.1%) endorsed "Cost of items including duty" (*Cost*), and 79 (38.2%) endorsed "Cost of shipping" (*Shipping*). One addition participant (.5%) indicated "Groupon, buytopia" while another (.5%) indicated "Payment method, such as PayPal". "Groupon, buytopia" was re-classified as *Promotions*. However, this did not change the total (i.e., the participant had also indicated store promotions).

A further 11 participants indicated that there were other influences, but they did not supply the name of that influence. Hence, those responses were not usable and discarded (the point of the thesis is to determine what those other influences are). Of these six Store Influences (*Ads*, *Promotions*, *Guarantee*, *Cost*, *Shipping* and *Other*) options, 61 (29.5%) chose no options, 64 (3.9%) chose 1 option, 36 (17.4%) chose 2 options, 29 (14.0%) chose 3 options, 14 (6.8%) chose 5 options, 3 (1.4%) chose 5 options, and none chose all 6 options. The mean number of options was 1.42 (sd: 1.63). Note that about 2/3 of participants did *not* acknowledged the store's influence, and that 1.4 options out of 6 is much less than the previous 1.4 options out of 3 for Social Influences. Also note that multiple categories were chosen as often as the single category.

When considering either *Social* or *Store Influence**s***, the mean number of influences was 2.85 (sd 1.81) with 11 (5.3%) participants acknowledging neither. Interestingly, 50 (24.2%) participants only acknowledged *Social Influences*, while 21 (1.1%) participants only acknowledged the *Store's Influence*. The majority (125 or 6.4%) acknowledged both. Hence, although social influences are stronger, both are acknowledged.

A simple within-subjects ANOVA *ignoring* the other category (a Chi-Square is not appropriate because the data includes a within-subjects component) indicated that the eight influences had different levels of endorsement with $F(7,1442) = 21.448$ ($p <$.

0001).The effect size was small, but still reasonable, at $\eta^2 = .094$. That is, importance of each type of influence differs.

Furthermore, the combined effect of the three *Social Influences* was different from the combined effect of the five store's influences, with $F(1,206) = 65.485$ ($p < .0001$) and $\eta^2 = .241$. Given the relatively large effect size, clearly the social influences are much more important than the non-social store's influences. The correlations between the different sources of influence are noted in Table 5.3 (these are correlations between binary values, often called the phi coefficient).

Table 5.3 Correlations Between the sources of Influence

	Experts	Reviewers	Friends	Ads On My SM	Promotions At Store	Guarantee	Costs
Experts	1.00						
Reviewers	**.18**	1.00					
Friends	.08	.04	1.00				
Ads On My SM	-.08	*.14*	.07	1.00			
Promotions At Store	.06	*.15*	.02	.13	1.00		
Guarantee	.09	*.17*	.11	.09	*.17*	1.00	
Costs	.08	***.24***	*.15*	.05	.08	***.26***	1.00
Shipping	*.15*	*.14*	*.14*	*.15*	***.24***	***.26***	***.37***

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

Note that none of the correlations are particularly strong (the Spearman correlations would be the same values because the variables were binary), except perhaps those that involve issues of cost. Furthermore, *Expert*, *Reviewers* and *Friends* are not strongly related. People seem to use one source or the other (the reaffirms the previous analysis that showed that most participants only chose one of the three *Social Influence* options).

The correlation-squared is a better measure of the strength of a relationship. The correlation-squared ranges from 0 to 1, and it represents the proportion of variance expanded. Hence, the influence of Experts only explains about $.18^2 = .0324$ (3.2%) of the variance in the influence of Reviewers. They are essentially independent. As a general rule of thumb, one can consider an $r > .7$ ($r^2 > .49 \approx 50\%$) to be "exceptional", an $r > .5$ ($r^2 > .25 \approx 25\%$) to be "large", an $r > .3$ ($r^2 > .09 \approx 10\%$) to be "reasonable", and an $r > .1$ (r^2

> .01 ≈ 1%) to be "miniscule". As a guide to interpretation, assume that A explains 10% of B. That means that A can be seen as 1 of 10 equally-important variables that contribute to B (i.e., there might be 9 other equally important variables). If A only explains 1% of B, then A is just 1 of 100 equally-important variables (i.e., there are 99 other equally important variables). Conversely, if A explains more than 50% of B, then there is no other variable that could be as important as A

Participants were asked specifically about the influence of friends on a purchase (Question 18: "After you have checked a DEAL posted by a friend, how often have you made a purchase based on that post?"). Missing values were imputed as "Never" (0). Of the 207 participants, 60 (29.0%) reported "Never" (coded as 0), 82 (39.6%) reported "Less than 10% of the time" (coded as 1), 42 (2.3%) reported "Less than 25% of the time" (coded as 2), 17 (8.2%) reported "Less than 50% of the time" (coded as 3), and 6 (2.9%) reported "More than 50% of the time" (coded as 4). The mean code was 1.16 (sd 1.03), which corresponds to "Less than 10% of the time". Friends may have an influence, but it does not translate to a purchase very often

Participants were asked if participants looked for the stores SM (Question 19: "Do you look for an online store's social media sites?") using a binary (yes/no) response. For the sake of later comparisons, missing values were imputed as "Never" (0). The sample was split nearly 50/50 with 102 (49.3%) of participants saying yes.

If participants responded "yes" to Question 19, then they were asked why in the form of a set of options in Question 20 (i.e., "Why do you look for an online store's social media sites (e.g. Facebook or Twitter)?"). For the sake of later comparisons, missing values were imputed as a lack of endorsement (0). It can be assumed that if one did not (intend to) visit a store's SM site, then any reasons for visiting would be invalid. Table 5.4 summarizes the results including the percent out of 207 (the full sample) and the percent out of 102 (those who looked for the store's SM site: Question 19):

Table 5.4 Number of Participants Who Looked for Store's SM Site

	Number	% Of 207	% Of 102
To learn about promotions or get coupons	41	19.8%	4.2%
To learn more about the company	35	16.9%	34.31%

	Number	% Of 207	% Of 102
To learn more about the product	82	39.6%	8.9%
Other	6	2.9%	5.9%
One Reason	51	24.6%	5.0%
Two Reasons	40	19.3%	39.2%
Three Reasons	11	5.3%	1.8%

The reasons cited by the 6 participants in the other category included "i like to keep up with new collections from brands i love like LV, also i like to be up with discounts offers", "Just to be updated about new things" "To know the price", "to see what's new" "funny time", and "it's reaching all ppl so my product will find its way to be wide known". Four of these comments referred to product monitoring, so in some sense, they could be placed within either the "to learn about promotions" or "to learn about products" categories. However, they were not moved because they were a bit ambiguous.

A simple within-subjects ANOVA *ignoring* the other category (a Chi-Square is not appropriate because the data includes a within-subjects component) indicated that the three reasons for visiting a store's SM site had different levels of endorsement with $F(2,412) = 25.567$ ($p < .0005$). The effect size was small, but reasonable, at $\eta^2 = .107$. That is, importance of each reason differs. The correlations between the different reasons are noted in Table 5.5.

Table 5.5 Correlations Between Reasons to Look for a Store's SM Site

	Promotions	Company Info	Product Info
To learn about promotions or get coupons	1.00		
To learn more about the company	-.05	1.00	
To learn more about the product	-.01	-.10	1.00

The different reasons are not strongly related. Table 5.4 also included the number of participants who cited 1, 2, or 3 reasons. Note that half had only one reason, but half had

two or more reasons. For the entire sample, the mean number of reasons was .79 (sd: .93), but this included all those who did not visit online store's SM site at all. Considering only those who looked for the online store's SM site, the mean number of reasons was 1.57 (sd: .72).

Participants were asked about the sources of product information or reviews (Question 21: "If you read reviews from other online shoppers, where do you find the reviews?"). Each option was a binary coding and missing values were imputed as the lack of endorsement (0). "Yelp" was endorsed by 22 (1.6%) participants, "Amazon.com" was endorsed by 88 (42.5%) participants, "The online store's social media site (e.g. Facebook, Twitter, Pinterest, YouTube, etc)" was endorsed by 93 (44.9%) participants, "Search Engines" was endorsed by 96 (46.4%) participants, and "Other" was endorsed by 10 (4.8%) participants. Under "Other", the options cited included "Adslgate.com's online trade forums", "CNet", "eBay" (by 3 participants), "goodreads.com for books", "Google", "In review section for any item i need which could be out of all mention abouve", "my friends" and "Youtube customer review". Of these, "Google" was moved to be included in the "Search Engines" category bringing that total to 97 (46.9%).

A simple within-subjects ANOVA *ignoring* the other category indicated that the four sources of reviews had different levels of endorsement with $F(3,618) = 26.127$ ($p < .0005$). The effect size was small, but reasonable, at $\eta^2 = .113$. That is, importance of source of reviews differs. The correlations between the different sources of reviews are presented in Table 5.6.

Table 5.6 Correlations Between the Sources of Reviews

	Yelp	Amazon	Store's Online SM Site	Search Engines
Yelp	1.00			
Amazon	.08	1.00		
Store's Online SM Site	-.09	***-.25***	1.00	
Search Engines	-.01	**-.20**	-.11	1.00

The different reasons are not strongly related, although, those who use Amazon tend to *not* use the Store's Online SM site, or search engines. Of the 207 participants, only 7(3.4%) endorsed none of the four sources of reviews, while 117 endorsed just one source (56.5%), 61 endorsed two sources (29.5%), 18 endorsed three sources (8.7%), and 4 endorsed all four sources including the" other" source (1.9%). The mean number of sources was 1.49 (sd: .78). Of the 200 participants who did endorse some source of reviews, fully half (117 or 58.5%) only checked one source of reviews.

Participants were asked about other sources of information (Question 22: "Which of the following would be considered important for you when you want to make a purchase online? (Please check all that apply)"). All responses were binary (yes/no). Missing values were considered the lack of endorsement. Of the options, "comments from friends" was endorsed by 119 (57.5%) participants, "comments from reviewers on the site" was endorsed by 122 (58.9%) participants, "comments from reviewers from other sites" was endorsed by 75 (36.2%) participants, "information about the online store" was endorsed by 96 (46.4%) participants, and "Other" was endorsed by 5 (2.4%) participants. Under other, the options cited included "Needs/Wants", "nonavailability in a stor", "the totat cost", and "Well known brand". None of these really belong in the previous source, so they were left as a conglomerate.

A simple within-subjects ANOVA *ignoring* the other category indicated that the four sources of comments had different levels of endorsement with $F(3,618) = 9.717$ ($p < .0005$), but that the effect size was small, $\eta^2 = .045$. That is, importance of the source of comments differs, but not dramatically. The correlations between the different sources of comments are noted in Table 5.7.

Table 5.7 Correlations Between the Sources of Reviews

	Friends	Reviewers On Site	Reviewer Off Site	Store Information
Friends	1.00			
Reviewers On Site	-.14	1.00		
Reviewers Off Site	.06	.12	1.00	
Store Information	.02	.03	-.02	1.00

The different reasons were not strongly related. Of the 207 participants, only 2 (1.0%) endorsed none of the five sources, 73 (35.3%) endorsed just one source, 73 (35.3%) endorsed two sources, 39 (18.8%) endorsed three sources, 19 (9.2%) endorsed four sources, and 1 (.5%) endorsed all five sources (this includes the other source). The mean number of sources was 2.01(sd: 1.00). Note that of the 205 participant who endorsed some source of reviews, 64.4% endorse more than one source.

The last question of this section is Question 23. It asked participant to rate the importance of each type of information source ("Reviews from friends", "Reviews from online shoppers", and "Reviews from experts"). Each was rated on a five-point scale from 0 ("Not important") to 4 ("Very important"), with 2 being explicitly neutral ("Neutral"). The raw data is presented in Table 5.8.

Table 5.8 Answers For Question 23

	Rating of Importance					
	0 Not Important	1 Somewhat Important	2 Neutral	3 Important	4 Very Important	Mean (sd)
Friends	13 (6.3%)	8 (3.9%)	26 (12.6%)	49 (23.7%)	111 (53.6%)	3.14 (1.17%)
Shoppers	18 (8.7%)	13 (6.3%)	44 (21.3%)	80 (38.6%)	52 (25.1%)	2.65 (1.18%)
Experts	23 (11.1%)	12 (5.8%)	33 (15.9%)	56 (27.1%)	83 (4.1%)	2.79 (1.33 %)

A simple within-subjects ANOVA indicated that the three ratings were, in fact, different from each other with $F(2,412) = 1.967$ ($p < .0001$), but the effect size was quite small at $\eta^2 = .051$. The different types of information were *not* related. The correlation between Experts and Reviewers (other online shoppers) was only $r = .093$ ($p < .181$), the correlation between Experts and Friends was moderate at $r = .257$ ($p < .0005$) and the correlation between Reviewers and Friends was moderate at $r = .202$ ($p < .003$). There is a slight tendency for people to use multiple sources of information. The correlations are provided in Table 5.9.

Table 5.9 Correlations between Experts, Online Shoppers and Friends

	Experts	Online Shoppers	Friends
Experts	1.00		
Online Shoppers	.09	1.00	
Friends	***.27***	**.20**	1.00

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05

Summary of Influences:

In general, this section of the survey indicated that participants are more strongly influenced by social factors than by non-social (e.g., store) factors. Only about 1/2 of the sample actually used the online store's social media, and that use was predominantly for the collection of information about the product. This is the same type of information that is collected from friend, reviewers and experts. Interestingly, check the integrity of the store itself does not seem to be a high priority. Another general observation is that different people use different sources. Some collect information from friends, some from other reviewers and some from experts. The three methods are not highly linked.

Reliability Checks Because the analysis of the influences on shopping decisions is a key focus of the current work, it was deemed important to verify the reliability of the measures. Note that several questions contained in Section 4 (Influencing Factors) should be related to each other. For example, responses to the social influences of Questions 17 should be related to the appropriate elements of Questions 22 and 23. In addition, Question 21 about the sources of reviews should be rated to the opinions of experts, reviewers, but not necessarily friends. These relationships were assessed using the correlations between responses. They are summarized in Table 5.10.

Table 5.10 Summary of Relations between Influences Questions

Question		Question 17		
		Experts	Reviewers	Friends
15: Bought	Because of Special Offer	-.02	.04	-.09
16: Check Friends	Because of Product	.02	.12	.05
	Because of Friend	-.02	.04	**.17**
18: Buy	Because of Friends	.05	.10	**.20**
Q19: Store SM	Go to store's SM site	-.04	-.09	.00

Q20: Reasons	Look for Promotions	.13	.08	-.02
	Company Information	.06	-.12	-.07
	Store Information	.07	-.03	.06
21: Sources	Yelp	.10	*.15*	-.07
	Amazon	.08	***.28***	.01
	Online SM	.07	-.08	*.15*
	Search Engines	.00	.13	.07
22: Comments	from Friends	**.20**	.01	***.32***
	from Reviewers Onsite	.10	***.40***	.05
	from Reviewers Offsite	.06	*.16*	-.04
	about Store Info	.05	.06	.06
23: Rating of Influence	Friends	.13	.06	***.29***
	Shoppers	.01	***.38***	.06
	Experts	***.27***	*.16*	.11

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

The bolded values by-and-large correspond to those relationships that should be larger. That is, the various influences from friends are correlated, and the various influences from reviewers are correlated. These values are in the "reasonable" range. In addition, the other relationships are not bolded (i.e., they are small). Hence, the questionnaire has some validity. The only other large correlation is between the use of *Amazon* for reviews and *Reviewers*, but this is not surprising because that site provides reviews. Interestingly, *Reviewers Off Site* is not strongly correlated with *Reviews*. Apparently, some online shoppers are disinclined to move to another site (which is likely less biased) to obtain better information.

It is also interesting to note that the relationships between the types of reviewers / sources of information (*Experts*, *Shoppers*, *Friends*) are *not* strongly related. Apparently, people use one source or the other.

Table 5.11 presents the correlations between the *Store's Influence* (of Question 17) and these same variables. One would not expect these to be strongly related. Note that previously, the variables in *Store's Influence* (of Question 17) were not strongly related to the variable in *Social Influences* (of Question 17).

Table 5.11 Correlations Between Store's Influences

Question		Question 17				
		Ads On My SM	Promotions At Store	Guarantee	Costs	Shipping
15: Bought	Because of Special Offer	**.18**	***.23***	.04	.07	.06
16: Check Friends	Because of Product	**.20**	.09	*.17*	.11	***.27***
	Because of Friend	.10	.00	.11	.07	.09
18: Buy	Because of Friends	.07	.01	.08	.01	.05
19: Store SM	Go to store's SM site	-.01	-.04	.00	-.04	.00
20: Reasons	Look for Promotions	.08	.15	.12	.11	.13
	Company Information	.09	-.06	.01	-.11	.02
	Store Information	.08	-.05	.03	.10	.12
21: Sources	Yelp	.00	.03	.05	-.08	.04
	Amazon	.05	-.04	.09	.09	.03
	Online SM	.06	-.05	.11	-.09	.07
	Search Engines	.01	*.15*	.09	.10	.08
22: Comments	from Friends	-.03	.00	.03	.01	.07
	from Reviewers Onsite	.07	*.16*	.11	.08	*.17*
	from Reviewers Offsite	-.03	*.15*	.09	.12	.09
	about Store Info	**.18**	.13	**.19**	***.27***	***.29***
23: Rating of Influence	Friends	-.02	.06	*.17*	.07	*.16*
	Shoppers	.10	.04	.05	.08	**.22**
	Experts	.07	.09	.11	*.16*	*.15*

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

None are high except the relation between issues of costs and Store Information, and those that relate to the use of special offers (those who used special offers actually looked for special offers). Hence, the previously noted correlations in Table 5.10 are, in fact, generally higher. The questionnaire has some reliability.

As a further reliability (manipulation) check, the correlations between the remaining questions in Section 4 were computed. Some should be related, while others should not. The data is presented in Tables 5.12 and 5.13. It is split simply for type setting and the structure is maintained across the two. Note that correlations previously discussed (i.e., those within a single question) are not included.

Table 5.12 Correlations between Question 16 through 20 and the rest of Section 4.

		16: Check		18: Buy	19: SM	20: Reasons		
15: Bought	Because of Special Offer	***.40***	**.19**	***.23***	***.24***	**.22**	*.14*	***.25***
16: Check Friends	Because of Product			-.11	**.21**	**.19**	.04	***.29***
	Because of Friend			.01	.13	*.14*	.02	.20
18: Buy	Because of Friends	-.11	.01		-.02	.00	*.14*	-.01
19: Store SM	Look for store's SM	**.21**	.13	-.02		***.50***	***.41***	***.78***
20: Reasons	Look for Promotions	**.19**	*.14*	.00	***.50***			
	Company Information	.04	.02	*.14*	***.41***			
	Store Information	**.29**	***.20***	-..01	***.78***			
21: Sources	Yelp	.12	.04	-.03	.04	-.01	.10	.01
	Amazon	-.03	.00	.02	*-.16*	-.01	-.02	*-.14*
	Online SM	**.23**	**.20**	.08	**.20**	*.14*	*.16*	**.20**
	Search Engines	*.14*	.03	-.03	.08	.04	-.01	.11
22: Comments	from Friends	-.04	**.18**	*.16*	.03	.06	.05	.08
	from Reviewers Onsite	.11	.04	.07	-.04	.05	-.02	-.01
	from Reviewers Offsite	-.11	-.02	.11	.00	.11	.06	-.10
	about Store Info	**.21**	.06	-.03	.03	*.17*	.05	*.14*
23: Rating of Influence	Friends	.10	.04	.09	.13	.09	.08	*.15*
	Shoppers	*.17*	.02	.04	.05	.00	.02	.10
	Experts	*.13*	.02	-.02	-.01	.07	-.03	.02

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

Question 15 ("In the past year, how many times have you made a purchase based on a special online offer on an online store") is related to 16 through 20 (looking at the recommendations of friends, buying because of a recommendation of a friend, looking for the stores SM, and reasons to look for a store's SM). That is, those who *have* bought are more involved generally.

Interestingly, buying because of friend's recommendation (Question 18, "After you have checked a DEAL posted by a friend, how often have you made a purchase based on that post") is not related (strongly) to the tendency to check a friend's recommendation (Question 16: "If a friend on your social media site posts a link to a special online offer, how often do you check the deal?").

Checking because of a friend is related to actually visiting the stores SM site (Question 19: "Do you look for an online store's social media sites?") and reasons for the visit (Question 20: "Why do you look for an online store's social media sites"). Questions 19 and 20 are very strongly related but this is not surprising given the structure.

Finally, the importance of "comments from friends" (Question 20) is related to the propensity to check products recommended by friends (Question 16). The use of reviews from the online store's SM site (Question 21) is related to the use of the store's SM site. All of these support the reliability of the questionnaire.

The remaining values are a scattering of low correlations. Generally, this is also support for reliability (questions that should not be related, are not). It is notable that the influence rating of friends (Question 23) is *not* related to the propensity to check for offers highlighted by friends (Question 16) or the propensity to buy because of a friend's recommendation.

Table 5.13 Correlations between Questions 21 and 22 with the rest of Section 4.

		21: Sources				22: Comments			
15: Bought	Because of Special Offer	.11	-.03	.02	.06	*-.16*	.03	.02	.04
Q16: Check Friends	Because of Product	.12	-.03	**.23**	*.14*	-.04	.11	-.11	**.21**
	Because of Friend	.04	.00	**.20**	.03	**.18**	.04	-.02	.06
18: Buy	Because of Friends	-.03	.02	.08	-.03	*.16*	.07	.11	-.03
Q19: Store SM	Look for store's SM	.04	-.16	**.20**	.08	.03	-.04	.00	.03
Q20: Reasons	Look for Promotions	-.01	-.01	*.14*	.04	.06	.05	.11	*.17*
	Company Information	.10	-.02	*.16*	-.01	.05	-.02	.06	.05
	Store Information	.01	-.14	**.20**	.11	.08	-.01	-.10	*.14*
21: Sources	Yelp					-.05	.10	.07	-.01
	Amazon					-.05	**.18**	**.21**	.06

		21: Sources				22: Comments			
	Online SM					***.25***	.00	-.03	**.19**
	Search Engines					.04	.12	*.14*	.21
22: Comments	from Friends	-.05	.10	.07	-.01				
	from Reviewers Onsite	-.05	**.18**	**.21**	.06				
	from Reviewers Offsite	***.25***	.00	-.03	**.19**				
	about Store Info	.04	.12	*.14*	.21				
23: Rating of Influence	Friends	.08	-.02	*.15*	.10	***.49***	.08	-.03	.04
	Shoppers	.01	.11	.04	.20	-.04	***.45***	*.16*	.02
	Experts	.05	.12	.06	*.14*	.12	.08	**.19**	***.23***

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

The use of a store's SM site for reviews (Question 21: "If you read reviews from other online shoppers, where do you find the reviews?") is related to the other use of a stores SM (Questions 19 and 20) as well as the propensity to check recommendations from friends (Question 16). Not surprisingly, the use of reviews on the store's SM was related to the importance of comments on site. However, the use of reviews on Amazon was also related to the importance of comments on site. The use of reviews on Yelp and on other search engines was related to the importance of comments off site. The various sources of reviews were not related to the rating of the influence due to Friends, Other Shoppers or Experts.

In Question 22 ("Which of the following would be considered important for you when you want to make a purchase online?"), the importance of reviews from friends was related to Questions 15 (uses special offers), 16 (check recommendations of friends), and 18 (bought because of friends). In Question 22, the importance of store information was related to product information (in Question 16) and to the use of the stores SM site to assess promotions or the store (Question20). Most interestingly, Question 22 was strongly and predictably related to Question 23.

Note that comments from friends was related to the rating of friends, reviews on site are related to comments from other shoppers, and that reviews offsite (and store information are related to the rating of experts.

Hence, these correlations also support the reliability of the questionnaire. In summary, the detailed analysis of the responses within Section 4 (Influencing Factors) implies that the data has some reliability.

5.4.5 The Impact of Social Media Buttons

The final section was concerned with the role of social media buttons (e.g., Facebook, Twitter) on the website of the online store. Note that these questions did *not* refer to the embedded links placed on the participant's SM site (addressed in Section 2).

The main goal of this section was to consider the role of Social Media Buttons (SMBs) on the purchasing decision. SMBs are the gateway to the store's social media site. As such, they were considered as direct indicators of the potential interest of an online shopper in the store's social media site. SMBs are not the store's social media site. Because a store's social media site can take many different forms (e.g., Facebook site, Twitter feed, Google + site, Pinterest site, a link to a YouTube channel), it was thought that the social media button could serve as a proxy for the social media site.

It is also important to remember that those who answered "no" to the third question of this section (Question 26) did not complete Questions 27 through 33 (i.e., that was the end of the survey for those individuals).

Participants were asked if they notice social media buttons at an online store (Question 24: "How often do you notice social media buttons on an online store?"). Responses were collected using a Likert type scale with 21 (1.1%) saying "Never" (coded as 0), 58 (%) saying "Less than 10% of the time", 41 (%) saying "Less than 25% of the time", 29 (%) saying "Less than 50% of the time", and 58 (%) saying "More than 50 % of the time" (coded as 4). The mean response was 2.22 (sd: 1.38). The distribution was relatively flat. Also note that missing values were inferred as a zero ("Never").

Question 25 was a binary (yes/no) response to the question "When you visit the online store, do you look for the social media buttons?". Also, Question 26 was a binary (yes/no) response to the question "Have you ever clicked on social media buttons on an online store?" For both questions, missing values were inferred as a zero ("No"). For Question 25, 65 participants (31.4%) indicated "yes", while for Question 26, 98 (47.3%) indicated "yes". For the combination of Questions 25 and 26, 49 (23.7%) look for the SM

buttons and click on those buttons, while 93 (44.9%) do neither. These two combinations are quite reasonable. However, 49 (23.7%) happen to click on the SM buttons without looking for them, and 16 (7.7%) have looked for them but never clicked on them. Those who *Look But Never Click* may be using the SMBs for some other function.

Participants who had clicked on the online stores SM buttons were asked which sites (Question 27: "Which social media buttons have you ever clicked on, so to visit social media sites?"). Of the options, 74 (35.7% of 207, or 75.5% of 98) had clicked on Twitter, 58 (28.0% of 207, or 59.2% of 98) had clicked on Facebook, 2 (1.0% of 207, or 2.0% of 98) had clicked on Pinterest, and 41 (19.8% of 207, or 41.8% of 98) had clicked on You Tube. In addition, a further 5 (2.4% of 207, or 5.1%x of 98) indicated other sites that included "amazon", "instagram" or "instigrame", "tumblr" and "i search for the brand name on instagram".

Participants who had clicked on the online stores SM site buttons were asked why (Question 28: "I click on social media buttons because I want to:"). Of the available options, 52 (25.1%) had clicked on "Check on offers", 61 (29.5%) had clicked on "Check on products", and 51 (24.6%) had clicked on "To read comments made by the owners and the customers of the store". A further 3 (1.5%) provided other reasons which included "Complain", "complains" and "to as [sic]". It is assumed that the third was intended as "to ask questions" or "to ask for help/assistance".

Of the 98 who responded to this question, 45 (21.7%) provided only one reason, 35 (16.9%) provided two reasons, 16 (7.7) provided three reasons, one (.5%) provided four reasons (including the other category), and one did not provide any reasons. The mean number of reasons was 1.70 (sd: .79). Note that it is reasonable to infer a zero (lack of endorsement) for Question 28 for those participants who responded "no" to Question 26. That is, those who do not use SM Buttons, logically, do not use SM Buttons to check on products or offers. Table 2.14 provides the correlations between the components of Question 28. Note that they are mild correlations when considering the entire sample of 207 because there are numerous participants who were recorded as zero for all three elements. When the analysis was restricted to those who answered yes to Question 26 (i.e., the 98 participants who had clicked on SMBs), the correlations were much smaller.

Table 5.14 Correlations Between Components of Question 28

		Q28: Offers	Q28: Products	Q28: Comments
Q28: Click on SM Buttons to See (n= 207)	**Offers**	1.00	***.33***	***.34***
	Products		1.00	***.37***
	Comments			1.00
Q28: Click on SM Buttons to See (n = 98)	**Offers**	1.00	-.14	-.04
	Products		1.00	-.07
	Comments			1.00

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05
Given N = 98, |r| > .327 are p < .001, |r| > .259 are p < .01, and |r| > .198 are p < .05

Table 5.15 provides the detailed breakdown of the site (Question 27) by reason (Question 28). There is no clear pattern. That is, individuals do not click on Twitter (in combination or isolation) to achieve particular goals. People do not check offers only on Facebook. For simplicity, Table 5.15 only includes the raw number, but since the total is 98 (i.e., in Question 26, only 98 people indicated that they clicked on SMBs), these values are roughly the percentages out of 98. In addition, one should remember that, for reasons, "Other" tends to be about complaining, while for the SMBs selected, "Other" tends to be Instagram.

Table 5.15 The Reasons For Visiting an Online Store's SM Sites by the SM Sites Visited (n = 98).

	Reasons for Looking for the Store's SM Site									
SMB Selected	Offers (A)	Products (B)	Comments (C)	Other (D)	A & B	A & C	B & C	C & D	≥ 3	Total
Twitter (1)	5	5	1	1	2	1	1	0	0	16
FaceBook (2)	4	3	2	0	1	2	0	1	0	13
Pinterest (3)	0	1	0	0	0	0	0	0	0	1
YouTube (4)	0	0	1	0	0	0	0	0	0	1
Other (5)	0	1	0	0	0	0	0	0	0	1
1 & 2	3	3	3	0	4	0	3	0	4	20
1 & 3	1	2	1	0	2	2	3	0	2	13
1 & 4	0	1	0	0	0	0	0	0	1	2
2 & 4	0	0	0	0	1	1	0	0	0	2
3 & 5	0	0	0	0	0	1	0	0	1	2

≥ 3 Sites	1	1	2	0	2	2	6	0	9	23
Total	14	19	11	1	12	9	13	1	17	

It is also interesting to note that certain combination of sites or reasons did not occur.

Question 29 addressed the affect (emotion) associated with SM buttons ("When I see social media buttons on an online store, they give the sense of:") using a five-point Likert scale ranging from "Strongly Disagree" (coded as 0) to Strongly Agree" (coded as 4). Missing values were not inferred because no reasonable inference could be made (e.g., would a missing value be a 0, or a 4 or a 2?).

For "I feel welcomed", the mean response was 2.76 (sd: .98). For "They will be friendly", the mean response was 2.62 (sd: .93). For "There is a community for the store", the mean response was 2.99 (sd: .78). For "I could interact", the mean response was 2.79 (sd: 1.00). Finally for "I can get assistance for purchasing", the mean response was 2.69 (sd: 1.10). All the distributions ranged from 0 to 4, except that of "There is a community" which ranged from 1 to 4. All the distributions were somewhat positively skewed. One could argue that this implies that the SM buttons do have a positive association in the minds of customers. The different affects were generally related to each other, as shown in Table 5.16.

Table 5.16 Relations Between the Affect Induced by SM Buttons in Question 29 (n = 98)

	Welcomes	Friendly	Community	Interact	Assistance
I am welcomed	1.00	***.58***	.09	-.02	-.16
They will be friendly		1.00	.21	.02	-.05
There is a community			1.00	**.36**	*.26*
I could interact				1.00	***.62***
I can get assistance					1.00

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 98, |r| > .327 are p < .001, |r| > .259 are p < .01, and |r| > .198 are p < .05

Most of the correlations are reasonable high.

Question 30 (Comments) specifically asked about the propensity to visit a stores SM site(s) to read comments ("How often have you clicked on social media buttons to visit one of the store's social media sites in order to read other customers or owner comments?"). Responses were collected on a Likert scale: 31 (15.0% of 207, or 31.6% of 98) said "Less than 10% of the time", 27 (13.0% of 207, or 27.6% of 98) said "Between

10 and 25% of the time", 11 (5.3% of 207, or 11.2% of 98) said "Between 25 and 50% of the time", and 15 (7.2% of 207, or 15.3% of 98) said "More than 50% of the time". Of the 98 who completed the question, the mean was 1.82 (sd: 1.26). In addition, for those who responded "no" to Question 26, a zero could be inferred for Question 30 allowing the total sample size to be 207 in some analyses.

Reliability Check Responses to Question 30 should be directly related to responses to Question 28. That is, those who click on SM buttons (in Question 28) to read comments should endorse Question 30 more strongly. Hence, the correlations between Questions 28 and 30 were tested (see Table 5.17). The first row is for all participants, while the second row is for the 98 participants who answered both Questions 28 and 30.

Table 5.17 Correlations Between Question 28 and Question 30 (n = 98)

	Question 28			
	Offers	**Products**	**Comments**	**Other**
Question 30 **(n=207)**	***.52***	***.60***	***.60***	-.02
Question 30 **(n=98)**	.16	**.22**	**.30**	-.16

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05
Given N = 98, |r| > .327 are p < .001, |r| > .259 are p < .01, and |r| > .198 are p < .05

"Comments" in Question 28 has the highest correlation, as it should. However, there were equally high associations between Question 30 and Products or Offers, when considering all participants. This was due to the effect of the number of zeros (i.e., those who did not respond to Question 28 or 30, but were inferred as zero).

Question 31 (Ratings) asked about a number of aspects of SMBs. Responses were collected on a Likert scale ranging from "Strongly Disagree" (coded as 0), through "Disagree" (coded as 1), "Somewhat Agree" (coded as 2), and "Agree" (coded as 3), to end with "Strongly Agree" (coded as 4). Note that the neutral point is near 2 (around 1.75). As before, only 98 participants saw each question, but of the 98, not all provided an answer (missing values were not estimated). In addition, the direction of the response must be noted.

The first question in Question 31 concerned feelings about the use of SMBs. For "Social media buttons would help to make my shopping experience more enjoyable", the mean

was 2.63 (sd: 1.04; n = 93). That is, the mean is just above the mid-point of the scale implying a weakly positive affect associated with SMBs.

Reliability Check Responses to Question 31 should be related to responses to Question 28 but not to other questions. Hence, as a reliability check, the responses for this question were correlated with those of the rest of this section. Table 5.18 presents the results (sample size was down to 79, reflecting only those participants who provided responses to all).

Table 5.18 Correlations between Question 29 and Question 31 (n = 79)

	Q31: Enjoyable
Q29: I am welcomed	**.30**
Q29: They will be friendly	*.27*
Q29: There is a community for the store	.20
Q29: I could interact	.21
Q29: I can get assistance for purchasing	.15
Q24: Do you notice SM buttons	.19
Q25: Do you look for the SM buttons?	**.37**
Q27: Have you Clicked on Twitter	.09
Q27: Have you Clicked on Facebook	.12
Q27: Have you Clicked on Pinterest	.13
Q27: Have you Clicked on YouTube	.11
Q30: Clicked to see offers	*.29*
Q30: Clicked to see products	.06
Q30: Clicked to see comments	.13
Q28: Clicked to read comments	*.22*

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05

Note that Question 31 is correlated with aspects of enjoyment (Question 29), but not with the choice of SM site (Question 27). The remaining correlations are in the middle.

Three questions in Question 31 were directed at the salience (noticeability) of the SMBs. For "The size of social media buttons is very important for me to notice them", the mean was 2.37 (sd: 1.00; n = 93). Given that the mean is slightly above neutral, size does matter. For "The design and the color of social media buttons in the online store is important in order to notice them", the mean was 2.68 (sd: 1.04; n = 93). Given that the mean is slightly above neutral, design and color do matter. For "The location of social media buttons in the online store is important to notice them", the mean was 2.98 (sd:

1.00; n = 94). Given that the mean is substantially above neutrality, the location of the SM buttons is a bit of a priority.

Reliability Check Responses to these questions should be related to each other and to previous questions about SMB salience. That is, those who care about the graphic design of SMBs should also be those who use the functions associated with those SMB. Table 5.19 presents the relationships.

Table 5.19 Relationships between Question 32 and Questions 31, 29, 28, 27, 28 and 30 (n = 98).

	Q31:		
	Size	**Design & Color**	**Location**
Q31: Help make shopping more enjoyable.	.21	.12	.19
Q31: Size is very important		**.34**	**.44**
Q31: Design and color is important			**.37**
Q31: Location is important			
Q29: I am welcomed	.17	.14	-.05
Q29: They will be friendly	.15	.06	.02
Q29: There is a community for the store	.05	.22	.19
Q29: I could interact	.08	**.33**	.18
Q29: I can get assistance for purchasing	.07	*.26*	.18
Q24: Do you notice SM buttons	.10	.04	**.34**
Q25: Do you look for the SM buttons?	-.03	.01	.12
Q27: Have you Clicked on Twitter	-.09	.15	-.03
Q27: Have you Clicked on Facebook	*.28*	.21	.19
Q27: Have you Clicked on Pinterest	.01	.13	.08
Q27: Have you Clicked on YouTube	.08	.22	-.11
Q30: Clicked to see offers	.07	.09	.14
Q30: Clicked to see products	-.09	*.23*	-.15
Q30: Clicked to see comments	.09	.20	.14
Q28: Clicked to read comments	-.13	.20	.01

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05

Questions related to the location are related to each other. The ability to notice (Question 24) is also correlated with location, and the desire to interact or contact the store (Question 29) is associated with design and color. However, there is not much else that matters.

Finally, four questions in Question 31 actually addressed use. For "Social media buttons are time consuming to use", the mean was 1.96 (sd: 1.10; n = 92), implying that people do not have a strong opinion on this question. Agreement would have implied the people would *not* use the SMBs. For "I do not prefer to click on social media buttons when I shop online", the mean was 1.81 (sd: 1.04; n = 94), again implying (on average) that there is no strong opinion on the topic. Again, a higher score would imply less use. For "I usually click on social media buttons before I purchase items on the online store", the mean was 2.10 (sd: 1.10; n = 93). In this case, a higher score implies use. Finally, for "I usually click on social media buttons when I see them", the mean was 2.05 (sd: 1.15; n = 95). In this case, a higher score implies use.

Reliability Check As before, responses to these questions should be related to each other and to previous questions: Questions 24, 25, 26, 27 and 30. That is, those who use SM should be consistent in their response. Table 5.20 presents the relationships.

Table 5.20 Relationships between Question 24, 25, 26, 27 and 30

	Q31:			
	Time Consuming	**Do Not Use**	**Use Before Purchase**	**When I see them**
Q31: Help make shopping more enjoyable.	.17	***-.48***	***.46***	***.42***
Q31: Size is very important	.07	-.01	.04	.13
Q31: Design and color is important	.15	.05	.20	*.24*
Q31: Location is important	-.16	-.11	**.31**	***.38***
Q31: Time consuming		.21	.00	.00
Q31: Do not use			-.19	-.21
Q31: Click before purchase				***.71***
Q31: Click when I see them.				
Q29: I am welcomed	.18	-.12	.20	.15
Q29: They will be friendly	.13	**-.30**	.10	.15
Q29: There is a community for the store	-.03	-.16	.16	.22
Q29: I could interact	.05	.10	*.24*	.20
Q29: I can get assistance for purchasing	.04	.14	.15	.15
Q24: Do you notice SM buttons	-.19	*-.24*	**.30**	*.27*
Q25: Do you look for the SM buttons?	-.05	***-.39***	*.28*	***.43***
Q27: Have you Clicked on Twitter	.00	-.06	.14	.09
Q27: Have you Clicked on Facebook	.15	.04	-.03	.04
Q27: Have you Clicked on Pinterest	-.07	-.11	.14	.13

Q27: Have you Clicked on YouTube	-.08	-.03	*.24*	.00
Q30: Clicked to see offers	-.02	**-.36**	*.25*	.16
Q30: Clicked to see products	.11	-.08	.08	.10
Q30: Clicked to see comments	-.12	-.02	.04	.01
Q28: Clicked to read comments	-.11	*-.22*	**.31**	.31

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05

The correlations generally seem reasonable. Those who use SMBs tend to respond in a consistent fashion.

Question 32 asked about the ideal location for SMBs. The option, "At the top of the page" was endorsed by 58 participants (25.6% of 207, or 57.0% of 98), the option "At the bottom of the page" was endorsed by 58 participants (25.6% of 207, or 57.0% of 98), and the option "On the side of the page (right or left)" by 58 participants (25.6% of 207, or 57.0% of 98). A further 4 participants (1.9% of 207, or 4.3% of 98) said other. Those responses included "Does NOT matter", "Doesn't matter", "on anyplace since they are big enough to be noticed" and "on the side (right or left) and to keep moving with the page when I go up or down".

The final question of Section 5 (Question 33) asked about the particular forms of SM that were used with each type of purchase ("The most common social media buttons for online stores are Pinterest, Facebook, Twitter, and YouTube; for each type of online products please indicate which button you clicked."). That is, for each of Books, Movies, Music or Games, Apparel (e.g clothing), Furniture or Appliances, Home accessories or gardens, Children products, Luxury items (e.g., jewelry), Office supplies, and Food or Grocery, participants indicated which SM site that they used. Only one selection was permitted for each. There was also an "other" category. Missing values were not inferred. Across all categories, there were 91 responses to this question (i.e., 91 participants provided an answer to at least one category of purchase or SM site). Table 5.21 presents the raw data.

Table 5.21 Answers to Question 33

		Q33					
		Pinterest	Facebook	Twitter	YouTube	Other	No Response
Books	n	7	16	37	3	8	136
	% of 207	3.4%	7.7%	17.9%	1.4%	3.9%	65.7%
	% of 71	9.9%	22.5%	52.1%	4.2%	11.3 %	
Movies, Music, Games	n	2	14	11	44	8	128
	% of 207	1%	6.8%	5.3%	21.3%	3.9%	61.8%
	% of 79	2.5%	17.7%	13.9%	55.7%	1.1%	
Apparel	n	10	22	26	8	8	133
	% of 207	4.8%	1.6%	12.6%	3.9%	3.9%	64.3%
	% of 74	13.5%	29.7%	35.1%	1.8	1.8%	
Furniture, Appliances	n	7	22	15	12	6	145
	% of 207	3.4%	1.6%	7.2	5.8	2.9%	70%
	% of 62	11.3%	35.5%	24.2%	19.4%	9.7%	
Home & Garden	n	6	11	19	13	6	152
	% of 207	2.9%	5.3%	9.2%	6.3%	2.9%	73.4%
	% of 55	1.9%	20%	34.5%	23.6%	1.9%	
Children's Products	n	4	14	21	15	9	144
	% of 207	1.9%	6.8%	1.1%	7.2%	4.3%	69.6%
	% of 63	6.3%	22.2%	33.3%	23.8%	14.3 %	
Luxury	n	7	17	19	7	7	150
	% of 207	3.4%	8.2%	9.2%	3.4%	3.4%	72.5%
	% of 57	12.3%	29.8%	33.3%	12.3%	12.3 %	
Office Supplies	n	8	20	14	7	5	153%
	% of 207	3.9%	9.7%	6.8%	3.4%	2.4%	73.9%
	% of 54	14.8%	37%	25.9%	13%	9.3%	
Food, Grocery	n	5	14	20	12	4	152
	% of 207	2.4%	6.8%	9.7%	5.8%	1.9%	73.4%

		Q33					
		Pinterest	Facebook	Twitter	YouTube	Other	No Response
	% of 55	9.1%	25.5%	36.4%	21.8%	7.3%	
Other	n	1	2	8	1	3	192
	% of 207	.5%	1%	3.9%	.5%	1.4%	92.8%
	% of 15	6.7%	13.3%	53.3%	6.7%	20%	
Unique Users		21	55	63	56	22	

Under other, the addition sites selected included “Amazon”, “e-bay” (“Ebay”), “Google” (twice), “Instagram”, “Instagram and Facebook”, “Itunes”, “search energies [sic]” and “tumblr”. There is no particular pattern to the choices. That is, for example, Twitter is not used preferentially for books. The percentages have very similar patterns for all categories of purchases.

Table 5.20 also includes the number of unique users. For example, one individual may use Facebook to obtain information about books, movies and office supplies. This would be one unique individual who uses that site. The same individual may use other sites for the same or different functions. Hence, Facebook, Twitter and You Tube all have about the same number of unique users.

Finally, each individual may use more than one site for various functions. Participants were limited to a single (forced choice) for each category of purchase. Hence, they could not respond with Facebook and Twitter when shopping for books. For those who provided answers, 19 used only one site (9.2% of 207 or 2.9% of 91), 33 used two sites (15.9% of 207 or 57.1% of 91), 27 used three sites (13.0% of 207 or29.7% of 91), 9 used four sites (4.3% of 207 or 9.9% of 91), and 3 (1.4% of 207 or 3.3% of 91), indicated five choices (including other). Hence, there is no particular consistency.

Summary of Descriptive Analysis:

The main focus of this thesis was on the factors that influence purchase decisions for online shoppers. It was also concerned with the role of SM as an influence.

In the analysis of Section 4 (Influencing Factors) the main variable was Question 17 (“Which factors would influence your purchase decisions when purchasing items online?”). This coded for *Social Influences* (Friend, Reviewers, Experts) and *Store Influences* (Ad, Promotions, Costs, Guarantees, Shipping, and Duty). Responses to

Question 17 were binary (yes/no), but they were consistent with other questions in Section 4

In the analysis of Section 5 (SMBs), the main variables were Questions 28 ("I click on social media buttons because I want to: [check offers, check products, or read comments]"), Question 29 ("When I see social media buttons on an online store, they give the sense of: [welcomed, friendly, community, interactivity, or assistance]"), the first two parts of Question 31 ("SM Buttons provide: [enjoyment, or too time consuming]"), and Question 30 ("How often have you clicked on social media buttons to visit one of the store's social media sites in order to read other customers or owner comments?"). Responses to these questions were also internally consistent. Responses in Sections 4 and 5 were also consistent.

5.5 MAIN INFERENTIAL ANALYSIS

5.5.1 The Relationship Between Influencing Factors and Social Media Buttons

The two main areas of focus for this thesis concerned the influence of social networks on buying decisions and the role of social media buttons (SMBs) for that influence and buying decisions. Hence, an important consideration was the relationship between questions in Section 4 (Influencing Factors) and Section 5 (Social Media Buttons). In this analysis, Questions 21 of Section 4 ("If you read reviews from other online shoppers, where do you find the reviews?"), 27 ("Which social media buttons have you ever clicked on, so to visit social media sites?"), 32 ("Where would you prefer the social media buttons be placed on the online store"), and 33 ("... for each type of online products please indicate which button you clicked") of Section 5 were not considered because they referred to specific sites in a categorical fashion (i.e., they were not amenable to a correlational analysis). Some elements of Question 31 were not considered (those that pertained to SMBs visibility).

Questions 24 though 26 concerned the actual use of the SMB. Table 5.22 presents the Pearson correlations beween these questions (the Spearman correlations were generally quite similar indicating that the relationships were nearly linear). Correlations were based on the full 207 participants.

Table 5.22 Influencing Factors with Questions 24, 25, and 26

Pearson r	Q24:	Q25:	Q26:
	Notice	**Look For**	**Clicked On**
Q17: Experts	.04	-.16	.05
Q17: Reviewers	***.23***	-.06	.08
Q17: Friends	.03	.05	.04
Q17: Ads	.13	.10	*.17*
Q17: Promotions	*.17*	.03	.12
Q17: Guarantee	*.16*	-.05	.04
Q17: Costs	*.14*	*-.15*	-.07
Q17: Shipping	.05	-.10	.09
Social Influences	*.16*	-.09	.09
Store Influences	**.22**	-.08	.11
any Influences	***.24***	-.10	.12
Q23: Rating Friends	.09	-.04	-.03
Q23: Rating Shoppers	*.14*	-.01	.05
Q23: Rating Experts	**.18**	-.08	.02
Q22: Comments from Reviewers On Site	.11	-.01	.04
Q22: Comments from Reviewers Off Site	**.15**	-.01	.03
Q20: Look for Store's SM for Promotions	.10	***.24***	***.26***
Q20: Look for Store's SM for Company Info	.04	.11	**.19**
Q20: Look for Store's SM for Product Info	.07	***.26***	**.18**
Q15: Used Special Offers	*.15*	*.16*	*.17*
Q18: Buy Because Friend	***.26***	*.16*	.11

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

Note that there are relatively higher correlations between Questions 20 and Questions 24 through 26. This is reasonable in that those who look for a store's SM site (not buttons) would tend to notice and click on the SMBs once on the store's site. More generally, those who notice the buttons are the same ones who consider store influences in general, who value the opinions of experts (and reviewers off-site), and who buy because of the recommendations of friends.

Table 5.23 presents the correlations for Section 4 (Influencing Factors) and Questions 28 and 30 of Section 5 (SMBs). This analysis was based on the entire set of 207

participants. The Pearson r and Spearman r were generally similar so only the Pearson r is reported

Table 5.23 Influencing Factors with Question 28.

	Q28: Click on SM Button to See				Q30
	Offers	Products	Comments	Count of Reasons	Comments
Q17: Experts	.03	.04	**.18**	.10	.08
Q17: Reviewers	.04	.11	**.18**	*.14*	*.14*
Q17: Friends	.00	.06	*.15*	.09	.12
Q17: Ads	.08	***.24***	.12	**.19**	**.19**
Q17: Promotions	***.27***	-.02	.15	*.17*	.08
Q17: Guarantee	.10	.07	.11	.12	.09
Q17: Costs	.03	-.01	.08	.04	.05
Q17: Shipping	*.16*	.10	**.20**	**.21**	*.14*
Social Influences	.03	.11	***.27***	*.17*	**.18**
Store Influences	**.21**	.11	**.22**	***.24***	*.17*
any Influences	*.17*	*.14*	***.29***	***.26***	**.22**
Q23: Rating Friends	-.05	.06	.04	.02	-.02
Q23: Rating Shoppers	.06	.07	*.14*	.11	*.15*
Q23: Rating Experts	.01	.08	.12	.08	.06
Q22: Comments from Reviewers On Site	.12	.04	.11	.13	.10
Q22: Comments from Reviewers Off Site	.03	-.02	**.22**	.11	.00
Q20: Look For Store's SM for Promotions	***.36***	***.24***	***.25***	***.37***	***.37***
Q20: Look for Store's SM for Company Info	.01	**.25**	*.16*	**.18**	*.15*
Q20: Look for Store's SM for Product Info	*.17*	***.28***	**.18**	***.26***	***.29***
Q15: Used Special Offers	***.25***	*.14*	*.16*	**.23**	***.30***
Q18: Buy Because Friend	.03	.13	.12	.12	**.19**

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

For these questions, the same relationships are evident. Those who look for a store's SM site (Question 20) tend to click on the SMBs to see offers, products or comments (Question 28). Those who sought or used promotions were related for all questions. Those who were focused on products were consistent across all questions. Those who

were interested in what others have said (social influences) were consistent across questions.

Table 5.24 presents the correlations for Section 4 (Influencing Factors) and Question 29 of Section 5. For these questions, data was collected only from the 98 participants who answered "yes" to Question 26, and to simplify the comparisons, the analysis was further restricted to only those participants who responded to all questions. Thus, the sample size was reduced to 81.

As before, the Pearson r and Spearman r were generally quite similar so only the Pearson r is reported in Table 5.24.

Table 5.24 Influencing Factors with Question 29

	Q29: SM Button Provide a Sense of:				
	Welcome	Friendly	Community	Interact	Assistance
Q17: Experts	-.10	-.10	-.12	.10	.18
Q17: Reviewers	-.06	-.15	**.29**	.05	-.09
Q17: Friends	-.12	.02	-.16	.05	.13
Q17: Ads	***.35***	.19	.03	.01	-.03
Q17: Promotions	-.15	-.14	-.16	.11	.08
Q17: Guarantee	.09	.17	.14	.02	.06
Q17: Costs	-.08	*-.25*	-.05	.17	.20
Q17: Shipping	-.03	.06	.08	**.29**	*.24*
Social Influences	-.16	-.13	.01	.12	.13
Store Influences	.06	.00	.02	*.22*	*.21*
any Influences	-.04	-.07	.02	*.23*	*.23*
Q23: Rating Friends	.08	.09	-.08	.01	-.12
Q23: Rating Shoppers	-.05	.09	**.30**	.12	.10
Q23: Rating Experts	*.25*	.20	.11	.16	.11
Q22: Comments from Reviewers On Site	-.13	-.13	**.29**	.09	.09
Q22: Comments from Reviewers Off Site	-.05	-.06	-.08	.02	-.01
Q20: Look for Store's SM for Promotions	.09	.20	.20	.17	.09
Q20: Look for Store's SM for Company Info	*.23*	.10	.14	.16	.03
Q20: Look for Store's SM for Product Info	.06	.13	*.22*	.02	-.08
Q15: Used Special Offers	-.10	-.11	.17	.01	-.12

Q18: Buy Because Friend	.00	.00	.09	.09	.07

Notes: ***Italic Bold*** indicates p < .001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 81, |r| > .338 are p < .001, |r| > .268 are p < .01, and |r| > .205 are p < .05

Note that those who were interested in community (Question 29) also give higher ratings to the influence of reviewers or other shoppers (Question 17, 22 and 23). Those who were interested in a welcoming face were also looking for sales and promotions. Those interested in the ability to interact seemed more interested in shipping, though it is unclear why that would be.

Table 5.25 presents the correlations for Section 4 (Influencing Factors) and Question 31 of Section 5. Again, the Pearson r and Spearman r were similar so only the Pearson r is reported. In addition, the sample size was down to n = 81

Table 5.25 Influencing Factors with Question 31

	Q31: SM Buttons:	
	More Joy in Shopping	**Time Consuming**
Q17: Experts	.01	-.14
Q17: Reviewers	-.02	-.05
Q17: Friends	-.10	.17
Q17: Ads	.09	.01
Q17: Promotions	.00	-.14
Q17: Guarantee	.06	-.02
Q17: Costs	.07	.07
Q17: Shipping	.20	-.04
Social Influences	-.07	-.01
Store Influences	.15	-.04
any Influences	.08	-.04
Q23: Rating Friends	.07	-.07
Q23: Rating Shoppers	-.03	.05
Q23: Rating Experts	.11	.13
Q22: Comments from Reviewers On Site	-.01	.01
Q22: Comments from Reviewers Off Site	.16	.00
Q20: Look for Store's SM for Promotions	*.24*	-.11
Q20: Look for Store's SM for Company Info	.12	.06
Q20: Look for Store's SM for Product Info	*.26*	-.05
Q15: Used Special Offers	.07	-.06
Q18: Buy Because Friend	.12	**.36**

Notes: ***Italic Bold*** indicates $p < .001$; **Bold** indicates $p < .01$; *Italics* indicates $p < .05$
Given $N = 81$, $|r| > .338$ are $p < .001$, $|r| > .268$ are $p < .01$, and $|r| > .205$ are $p < .05$

The only relationship involves purchases based on the recommendations of friends and the fact that SM is considered time consuming.

5.5.2 Influencing Factors, Social Media Buttons and Demographics

The following analyses examine differences on each quantitative variable based on demographics. In turn, each question was used as a DV, and each demographic variable was used as the IV. There were four analyses per question: As a function of Gender (Sex) with two levels (Female vs Male), as a function of Age with three levels (≤24, 25 – 30, ≥31), as a function of Education with three levels (< Undergraduate, Undergraduate, > Undergraduate), and as a function of Residency with two levels (Western and Middle East).

All analyses used a between subjects ANOVA to compare group means. One could use correlational or regression analysis for Age and Education (or Gender and Culture given that they are binary), but the ANOVA was chosen because, as coded, these IVs were not measured on a ratio or interval scale (i.e., Age and Education are ordinal variables), and because a simple correlational analysis only assess linear relationships. At this point, there is no reason to assume that the relationship between each DV and Age or Education would be linear (e.g., for Age or Education, the highest means could be associated with the middle groups). Sample sizes were not equal for any grouping variable, but they were reasonably close for Gender (110 and 94), Age (82, 76, and 49), Education (42, 97, and 64), and for Culture (70 and 129).

For the analyses of Gender, the three missing values were not included in the analysis. Hence, all analysis had $F(1,202)$. However, data from Questions 29 and 31 through 33 was only collected for the 98 participants who responded "yes" to Question 26 (a zero was inferred for Questions 27, 28, and 30). In addition, there were some additional missing values. Hence, those analyses are based on lower df (generally in the range of $F(1,90)$. For the analysis of Age, there were no missing values and all analysis had $F(2,204)$ except those that involved Questions 29, and 31 though 33. For the analysis of Education, there were 4 missing values so all analysis were based on $F(2,200)$, except

those that involved Questions 29 thought 33. For the analysis of Culture, there were 8 missing values so all analysis were based on F(1,198), except those that involved Questions 29, and 30 though 33.

Only the significant results are presented here. Hence, one can assume that those questions that are not cited did not show significant differences. Furthermore, no correction for type 1 error was applied. Firstly, the assessment of demographic effects for each question was technically a planned test. Secondly, the standard correction (e.g., a Bonferroni correction) would imply the use of a significance level of .05 / 760 (for 190 questions by 4 demographic variables) or .000065 which would make it impossible to detect any significant effects. Finally, the actual p-values are provided in the following summary. Hence those who could like to apply a correction can do so.

For Gender, there was only one significant effect of Gender on Influencing Factors (from 31 possible questions), and there was only one significant effect of gender on SMBs (out of 15 possible questions). The means and analyses are presented in Table 5.26.

Table 5.26 Gender Differences for Influencing Factors and SMBs

	Female		Male		ANOVA	
	Mean	**sd**	**Mean**	**sd**	**F**	**p(F)**
Q22: Comments from Reviewers On Site	**0.52**	**0.50**	**0.69**	**0.46**	**6.472**	**0.012**
Q25: SM Buttons: Look For	**0.38**	**0.49**	**0.24**	**0.43**	**4.443**	**0.036**

Apparently, males prefer to obtain information from reviewers on site, ad females are more likely to look for SMBs.

For Age (Table 5.27), there were no significant effects of Age on Influencing Factors (out of 31 questions), but there were three significant effects of Age (out of 15 questions) on SMBs differences due to age.

Table 5.27 Age Differences for SMBs

	<24		25-30		>31		ANOVA	
	Mean	**sd**	**Mean**	**sd**	**Mean**	**sd**	**F**	**p(F)**
Q28: Click on Buttons for Offers	**0.24**	**0.43**	**0.36**	**0.48**	**0.10**	**0.31**	**5.283**	**0.006**

Number of Reasons	**0.82**	**1.03**	**0.99**	**1.06**	**0.51**	**0.82**	**3.400**	**0.035**
Q30: Use Buttons to Read Comments	**0.91**	**1.33**	**1.04**	**1.31**	**0.49**	**0.96**	**3.041**	**0.050**

The middle age group was more likely to click on SMBs to see special offers, and more generally, the middle group had more reasons to click on SMBs (i.e., Offers, Products or Comments). The middle age group was also more likely to click on SMBs to read comments.

For Education (Table 5.28), there were two significant effects of Education on Influencing Factors. More highly educated participants tended to pay more attention to the comments of reviewers in general, and reviewers on the stores SM site.

Table 5.28 Education Differences for Influencing Factors and SMBs.

	<Undergrad		Undergrad		>Undergrad		ANOVA	
	Mean	**sd**	**Mean**	**sd**	**Mean**	**sd**	**F**	**p(F)**
Q17: Reviewers	**0.36**	**0.49**	**0.47**	**0.50**	**0.64**	**0.48**	**4.501**	**0.012**
Q22: Comments from Reviewers On Site	**0.50**	**0.51**	**0.53**	**0.50**	**0.72**	**0.45**	**3.750**	**0.025**

However, there were no significant effects of Age on SMBs.

For Cultural effects, there were seven significant effects of Culture on Influencing Factors (see Table 5.29), and there was one significant effect of Culture on SMBs

Table 5.29 Culture Differences for Influencing Factors and SMBs

	Western		Middle Eastern		ANOVA	
	Mean	**sd**	**Mean**	**sd**	**F**	**p(F)**
Q17: Reviewers	**0.63**	**0.49**	**0.46**	**0.50**	**5.418**	**0.021**
Q17: Costs	**0.51**	**0.50**	**0.34**	**0.48**	**5.770**	**0.017**
Q17: Shipping	**0.51**	**0.50**	**0.32**	**0.47**	**7.590**	**0.006**
Store Influences	**1.81**	**1.32**	**1.22**	**1.26**	**9.887**	**0.002**
any Influences	**3.37**	**1.75**	**2.61**	**1.81**	**8.162**	**0.005**
Q22: Comments from Reviewers On Site	**0.71**	**0.46**	**0.51**	**0.50**	**7.892**	**0.005**
Q15: Used Special Offers	**0.87**	**1.13**	**0.47**	**0.96**	**6.893**	**0.009**
Q25: SM Buttons: Look For	**0.21**	**0.41**	**0.36**	**0.48**	**4.831**	**0.029**

Those from the Western culture were more likely to value the comments of reviewers (but not experts or friends/family) including reviews posted on the store's SM site. They also used special offers more, and were generally more influenced by those attributes controlled by the store (i.e., ads, promotions, guarantee, costs and shipping). Those from the Middle Eastern cultures were higher on their tendency to look for the SMBs.

5.5.3 Influencing Factors, Social Media Buttons and Online Shopping

It is important to know whether or not issues about influence or the use of SM (SMBs) actually translates into higher levels of online shopping. That is one would like to know that any effort expended on creating a social network actually results in (the potential for) increased sales.

Note that the variable *Online Shopper* codes for shopper (coded as 1) or not (coded as 0). The variable *Number of Categories* simply counts the number of categories (from books, movies, clothes, appliances, gardening supplies, children's products, luxury items, office supplies, food and other) in which the participant shops. Finally, the variable *Number of Items Bought* is an estimate of the number items purchased online summed over all categories.

Table 5.30 presents the correlations between Section 4 (Influencing Factors) and Online Shopping. The Pearson r and Spearman r were similar so only the Pearson r is presented.

Table 5.30 Influencing Factors with Questions 12 and 13 (0nline Shopping)

Pearson r **Spearman r**	Q12 and Q13		
	Online Shopper	**Number of Categories**	**Number Items Bought**
Q17: Experts	-.05	-.06	-.09
Q17: Reviewers	-.04	.00	-.03
Q17: Friends	-.08	-.07	-.05
Q17: Ads	*.14*	.11	.12
Q17: Promotions	.06	.10	.09
Q17: Guarantee	.02	.02	-.02
Q17: Costs	-.03	-.03	-.05
Q17: Shipping	.09	.02	-.06

Social Influences	-.09	-.07	-.09
Store Influences	.09	.07	.02
Any Influences	.02	.01	-.03
Q23: Rating Friends	-.06	-.11	**-.20**
Q23: Rating Shoppers	*.14*	.11	.01
Q23: Rating Experts	-.03	.01	-.07
Q22: Comments from Reviewers On Site	.06	.08	-.05
Q22: Comments from Reviewers Off Site	-.01	.01	-.05
Q20: Look for Store's SM for Promotions	.11	.14	-.01
Q20: Look for Store's SM for Company Info	**.19**	**.20**	*.14*
Q20: Look for Store's SM for Product Info	**.28**	**.18**	-.01
Q15: Used Special Offers	***.67***	***.69***	***.49***
Q18: Buy Because Friend	.02	.13	**.20**

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

Note that the analysis of *Online Shopper* is equivalent to a t-test compare the means for shoppers to non-shoppers. In addition, the coding implies that if the correlation is positive, then the mean for shoppers is higher than the mean for the non-shoppers. As such, shoppers are more likely to use SM to gather information about the company or product and shoppers are more likely to use special offers. Shoppers are *not* more likely to buy because of a friend's recommendation.

Generally, the same hold for the amount of shopping measured by the number of categories of items bought or the number of items bought. More active online shopping is correlated with the tendency to use special offers, and with the general tendency to use the store's SM sites for gathering information, but not so much for promotions.

Table 5.31 presents SMBs with Online Shopping. Again, both Pearson and Spearman's r were computed but only the Pearson's r are presented because the values were quite similar.

Table 5.31 SMBs vs Online Shopping vs SMBs

Pearson r **Spearman r**	Q12 and Q13		
	Online Shopper	**Number of Categories**	**Number Items Bought**
Q24: SMBs: Notice	-.04	.03	-.02
Q25: SMBs: Look For	.10	.13	.11
Q26: SMBs: Clicked On	*.14*	**.21**	*.17*
Q28: Click on SMBs to see Offers	.08	**.18**	.10
Q28: Click on SMBs to see Products	*.14*	**.19**	*.14*
Q28: Click on SMBs to see Comments	*.14*	.13	-.01
Number of Reasons to Click On	*.16*	***.23***	.10
Q30: Use SMBs To Read Comments	*.15*	***.23***	*.16*
Q29: SMBs Give Sense Of Welcome	-.08	.02	.10
Q29: SMBs Give Sense Of Friendly	-.13	-.05	-.07
Q29: SMBs Give Sense Of Community	.15	.16	.09
Q29: SMBs Give Sense Of Interactivity	.12	.05	*-.21*
Q29: SMBs Give Sense Of Assistance	-.02	-.14	-.20
Q31: SMBs Provide More Joy	-.13	-.15	***-.39***
Q31: SMBs are Time Consuming	-.08	-.06	.05

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05
Given N = 81, |r| > .338 are p < .001, |r| > .268 are p < .01, and |r| > .205 are p < .05

There were not many large correlations, but the largest was negative. This implies that those who use SMBs for fun buy *less*. These people may represent those who like to browse current offerings as form of entertainment (poor graduate students?) or as a form of monitoring. However, there were a number of positive correlations between the number of categories and the use of SMBs. Hence, those who use SMBs might simply do more of their shopping online.

5.5.4 Influencing Factors, Social Media Buttons and Online Shopping

The final set of analyses examined the relationships between the amount of social media use and the effect of influences and SMBs. In this, SM Usage was coded by two variables. The first was the count of the number of SM sites used. The second was the weighted sum of all social media usage (e.g., the sum of the amount of Facebook use, the

amount of Twitter use, etc). For the number of stores followed, the number of embedded links followed and clicked on, the number of embedded links not followed but clicked on, and the number of embedded links clicked on (i.e., "any links") there were three variable each. The first of each was a simple binary coding of the concept (e.g., followed stores vs did not follow stores). The second was the number of SM sites (e.g., Facebook, Twitter, Google +, etc) on which stores were followed. The third was the weighted sum of the number of stores followed on all sites.

Table 5.32 presents all the data for SM Usage (effectively Question 7) and Following Stores (effectively Questions 8 and 9). Pearson's and Spearman's r were computed but only the Pearson's r are presented.

Table 5.32 Influencing Factors with SM Usage and Following Stores

	Q7: SM Usage		Q8 and Q9: Follow Stores		
	2	**3**	**1**	**2**	**3**
Q17: Experts	.02	-.05	-.09	-.12	*-.16*
Q17: Reviewers	.05	.06	-.09	-.10	*-.14*
Q17: Friends	.10	-.06	-.02	.02	.00
Q17: Ads	.07	*.15*	.13	*.16*	*.14*
Q17: Promotions	.04	-.02	-.01	-.04	-.05
Q17: Guarantee	**.18**	.10	.06	.04	.00
Q17: Costs	.09	.05	-.01	-.04	-.08
Q17: Shipping	*.14*	.11	.06	.00	-.09
Social Influences	.09	-.03	-.11	-.10	*-.16*
Store Influences	**.18**	.13	.07	.03	-.04
any Influences	*.17*	.08	.00	-.03	-.11
Q23: Rating Friends	**.18**	.05	.00	-.09	-.17
Q23: Rating Shoppers	.09	.13	.05	.00	-.05
Q23: Rating Experts	**.23**	**.20**	.06	.03	-.02
Q22: Comments from Reviewers On Site	.05	-.05	.01	-.06	-.11
Q22: Comments from Reviewers Off Site	.03	-.01	-.02	-.01	-.08
Q20: Look for Store's SM for Promotions	.11	*.16*	*.16*	.11	.07
Q20: Look for Store's SM for Company Info	.05	.05	**.21**	**.19**	*.14*
Q20: Look for Store's SM for Product Info	.08	**.19**	***.36***	***.28***	**.20**
Q15: Used Special Offers	.10	*.17*	***.55***	***.46***	***.39***
Q18: Buy Because Friend	.10	.10	-.03	.09	*.15*

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05

Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

For SM Usage (both variables), there were few significant or "reasonable" correlations (r > .30). Ratings of the importance of experts tended to be related to SM usage no matter how it was measured. It could be that those who use the net more often are also more versed in the need for proper external reviews.

More interestingly, there were strong relationships between the use of special offers and the tendency to follow stores. Those who follow stores also tend to look for the store's SM site, and to use the store's SM site to find product information or company information.

The associations between Section 4 (Influencing Factors) and the tendency to click on embedded links are shown in Table 5.33.

Table 5.33 Influencing Factors with Questions 10 and 11 (Clicking on Links)

	Q10: Follow and Click			Q11: Not Follow But Click			Any Click
	1	**2**	**3**	**1**	**2**	**3**	
Q17: Experts	-.05	-.08	-.07	-.09	-.08	-.11	-.09
Q17: Reviewers	-.05	-.12	-.06	-.01	-.05	-.05	-.06
Q17: Friends	-.01	-.04	-.04	-.03	-.04	-.10	-.07
Q17: Ads	.08	*.17*	*.16*	.09	*.16*	*.17*	*.17*
Q17: Promotions	.01	.02	.03	-.02	-.02	.02	.02
Q17: Guarantee	.05	.05	.05	.05	.04	.07	.06
Q17: Costs	.03	-.03	-.03	-.02	-.07	-.06	-.05
Q17: Shipping	.07	-.01	-.04	-.02	-.06	-.09	-.07
Social Influences	-.06	-.13	-.09	-.07	-.09	-.13	-.11
Store Influences	.08	.06	.04	.02	.01	.02	.03
any Influences	.03	-.02	-.02	-.02	-.04	-.05	-.04
Q23: Rating Friends	-.01	-.12	*-.17*	-.05	-.12	**-.22**	**-.20**
Q23: Rating Shoppers	.06	-.01	.01	.05	-.04	-.03	-.01
Q23: Rating Experts	.07	.02	.02	.05	-.04	-.02	.00
Q22: Comments from Reviewers On Site	.03	-.03	-.02	.02	-.08	-.04	-.03
Q22: Comments from Reviewers Off Site	-.03	.02	.00	-.03	-.03	-.04	-.02
Q20: Look for Store's SM for Promotions	**.19**	*.15*	.11	.09	.13	.07	.09

Q20: Look for Store's SM for Company Info	**.21**	***.23***	*.14*	**.17**	***.23***	**.18**	**.17**
Q20: Look for Store's SM for Product Info	***.42***	***.26***	***.22***	***.29***	***.23***	.11	.17
Q15: Used Special Offers	***.54***	***.48***	***.45***	***.49***	***.48***	***.47***	***.48***
Q18: Buy Because Friend	-.03	.06	.12	-.02	.10	*.16*	*.14*

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05

As a continuation of the previous observations, those who clicked on links (to stores followed or not) also use special offers. Those who click on links (to stores followed or not) also tend to look for the store's SM site, and to use the store's SM site to find product information or company information.

What is generally interesting is that SM Usage, following stores and click on links do not have large correlations with the tendency to buy because of the recommendations of friends.

For SMBs, the complementary analyses are presented in Table 5.34.

Table 5.34 Influencing Factors with Questions 7 (SM Usage) and 8 and 9 (Following Stores)

	Q7: SM Usage		Q8 and Q9: Follow Stores		
	2	**3**	**1**	**2**	**3**
Q24: SMBs: Notice	.08	.13	.02	.05	.07
Q25: SMBs: Look For	.06	.07	**.19**	***.24***	***.27***
Q26: SMBs: Clicked On	*.15*	*.15*	.12	*.14*	.11
Q28: Click on SMBs to see Offers	.09	.12	.06	.04	.01
Q28: Click on SMBs to see Products	.13	*.15*	**.19**	**.24**	**.21**
Q28: Click on SMBs to see Comments	.09	.09	.08	.11	.08
Number of Reasons to Click On	.13	*.15*	*.15*	**.18**	.13
Q30: Use SMBs To Read Comments	.13	*.15*	*.14*	**.20**	**.21**
Q29: SMBs Give Sense Of Welcome	-.02	.19	.02	.06	.13
Q29: SMBs Give Sense Of Friendly	.01	.08	-.01	.09	.10
Q29: SMBs Give Sense Of Community	.11	.12	.15	*.21*	.19
Q29: SMBs Give Sense Of Interactivity	.01	-.06	.03	-.08	-.06
Q29: SMBs Give Sense Of Assistance	.18	-.02	-.04	-.08	-.03
Q31: SMBs Provide More Joy	-.02	.18	-.08	-.13	-.08
Q31: SMBs are Time Consuming	-.14	.11	-.048	-.04	-.12

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05
Given N = 81, |r| > .338 are p < .001, |r| > .268 are p < .01, and |r| > .205 are p < .05

Note that there are few relationships. The reasons for using SMBs are not related to the level of involvement with SM. Table 5.35 presents the last set of analyses: SMBs against clicking on embedded links.

Table 5.35 Influencing Factors with Questions 10 and 11 (Clicking on Links)

	Q10: Follow and Click			Q11: Not Follow But Click			Any Click
	1	**2**	**3**	**1**	**2**	**3**	
Q24: SMBs: Notice	.01	.07	.12	.09	*.14*	.13	.13
Q25: SMBs: Look For	**.18**	**.18**	**.21**	*.17*	**.18**	*.15*	**.19**
Q26: SMBs: Clicked On	.11	.11	.12	.09	.09	.10	.11
Q28: Click on SMBs to see Offers	.05	.04	.08	.02	.00	.04	.07
Q28: Click on SMBs to see Products	**.19**	**.18**	**.21**	*.17*	*.17*	**.20**	**.21**
Q28: Click on SMBs to see Comments	.09	.08	.09	.05	.04	.03	.06
Number of Reasons to Click On	*.15*	*.14*	**.18**	.11	.09	.12	*.15*
Q30: Use SMBs To Read Comments	*.14*	*.17*	**.24**	.10	*.15*	**.21**	***.23***
Q29: SMBs Give Sense Of Welcome	-.05	.08	.04	-.09	.05	.12	.08
Q29: SMBs Give Sense Of Friendly	.00	.10	.01	-.11	.03	.03	.02
Q29: SMBs Give Sense Of Community	.15	.15	.16	.15	.15	.13	.15
Q29: SMBs Give Sense Of Interactivity	.09	-.08	-.12	.09	-.06	-.12	-.13
Q29: SMBs Give Sense Of Assistance	-.03	-.09	-.09	-.02	-.06	-.06	-.08
Q31: SMBs Provide More Joy	-.02	-.08	-.06	-.04	-.06	-.12	-.09
Q31: SMBs are Time Consuming	-.12	-.14	-.10	-.01	-.05	.02	-.04

Notes: ***Italic Bold*** indicates p < 001; **Bold** indicates p < .01; *Italics* indicates p < .05
Given N = 207, |r| > .227 are p < .001, |r| > .178 are p < .01; and |r| > .136 are p < .05
Given N = 81, |r| > .338 are p < .001, |r| > .268 are p < .01, and |r| > .205 are p < .05

Those who click on links tend to be the same individuals who look for the SM buttons. They use them to check products (but not so much for offers or comments).

Summary of Influencing Factors, SMBs and Online Shopping:

The main focus of this analysis was on the influences to purchase, and the role of the store's SM site in the decision. SMBs on the stores were considered as a kind of proxy for the store's SM site.

With respect to influences, participants were more strongly influenced by social factors (e.g., the opinions of friends, reviewers, experts) than by non-social factors (i.e., or "store") factors (e.g., advertising, special offers and promotions, guarantees, costs, shipping). That is, 85% of participants cited some social influence, but only 71% cited some non-social influence. Within the social factors section, there appears to be three types of people: those influenced by friends, those influenced by reviewers (or other online shoppers), and those influenced by experts. Furthermore, those who valued the opinions of other shoppers tended to prefer onsite reviews, while those who valued the opinions of experts tended to prefer offsite reviews. Non-social influences were more collective (i.e., most people cited multiple non-social reasons). Most participants (64%) cited at least one social and one non-social reason.

Only about 50% of the sample actually looked for the store's SM site, but when they did, it was primarily to learn about products. Other reasons (to obtain promotions and to learn about the company) were cited only half as often.

Furthermore, only about 28% of participants noticed the SMBs more than 50% of the time. Only 31% actually looked for SMBs, and only 47% have ever clicked on them. If participants did click on such buttons, it was to obtain special offers or promotions, to check products, or to read comments from other shoppers, or interact with company personnel. All reasons were cited equally often (by about 25% of participants).

Participants also endorsed the notion that the presence of SMBs on a store's website proved a sense of welcoming, friendliness, community and the ability to interact or get assistance. Participants also thought that the presence of social media made shopping more enjoyable, but tended to consume a lot of time.

Generally, those who look for SMBs tend to be those who were influenced by social and non-social (store) factors. There was a tendency for these to be the people who were more concerned about the opinions of experts and the content of reviews off-site. Those who have actually clicked on the SMBs tended to be those who were looking for company information and online promotions or special offers. Those who look for the store's SM

site for company information tend to rate SMBs as more welcoming. These same people were more influenced by ads and the opinions of experts. Those who look for the stores SM site for product information tend to rate SMBs as implying a community. This group included those influenced by the opinions of other reviewers (other shoppers). Finally, those influence by the cost of shipping (or other non-social store influences) were more likely to rate the SMBs high for assistance and the ability to interact, as well as "joy". With respect to the relationship between Demographics and Influencing factors, males had more faith in reviews on-site. Those with a higher level of education tended to put more faith in the opinions of reviewers (rather than experts or friends) and more faith in reviews on site. Similarly, those from the Western Culture were more likely to value the opinions of reviewers (rather than experts or friends/family) and reviews posted on the store's SM site. Those from the Western Cultures were also generally more influenced by those non-social attributes controlled by the store (i.e., ads, promotions, guarantee, costs and shipping) and used special offers more often. Age did not have any relationships with Influencing factors.

With respect to the relationship between Demographics and SMBs, females were more likely to look for SMBs, and females are more likely to use the buttons to seek assistance. However, males rated the buttons higher on "joy". For Age, the middle age group (25-30) was more likely to click on SMBs to see special offers and to read comments. That same age group had more reasons, in general (i.e., Offers, Products or Comments) to click on SMBs. Those from the Middle Eastern cultures tended to look for the SMBs more often. There were no relationships between Education and SMBs.

As a general rule, females and males had the same amount of use of SM sites. However, females were more active when following stores. That is, they followed more stores and were more likely to click on the links embedded on their SM sites to online stores. Strangely, despite the fact that females were more active following stores on SM, there were no significant differences in the number of purchases overall. The older age group (>31 years) was less likely to follow stores on SM, and to click on embedded links to stores, although all age groups had similar patterns for SM use and for Online Shopping. There were no notable effects for Education groups. For Culture groups, there were no

notable differences in SM usage, but there was a tendency for those from the Western Cultures to engage in more online shopping (more purchases in more categories).

As for the age, the middle age group (25-30) is more likely to click on SMBs to see special offers, and more generally, the same age group had more reasons to click on SMBs (i.e., Offers, Products or Comments). This age group was also more likely to click on SM buttons to read comments.

Culture was the only demographic to show differences in online shopping. Those from the western culture were more active shoppers, although the total number of items bought did not differ (likely due to the large standard deviations). The same group (Western culture) was more likely to value the comments of reviewers (but not experts or friends/family) including reviews posted on the store's SM site. They also used special offers more, and were generally more influenced by those attributes controlled by the store (i.e., ads, promotions, guarantee, costs and shipping).

With respect to the relationship between Influencing factors and Shopping Behavior, those who engaged in more online shopping tended to look for the stores SMBs for company information, for special offers and promotions. They were more influenced by ads on SM and the opinions of friends, and in fact tended to buy more often using special offers.

With respect to the relationship between SMBs and Shopping Behavior, online shoppers who noticed the buttons were the same ones who considered the non-social (store) influences in general, who value the opinions of experts (and reviewers off-site), and who buy because of the recommendations of friends. However, higher online shopping (more purchases in more categories) was associated with less "joy". It would seem that some like to shop, while others like to buy. Online shoppers who looked for, or clicked on, SMBs tend to be more interested in promotions, and the use of SMBs for promotions, for product and company information.

CHAPTER 6 CONCLUSION

This thesis aimed to study the influence of social media sites on e-commerce and online shoppers' behavior through different stages. The researcher started by tracking the web traffic to multiple online stores in order to see the influence of the online communities and the stores social media channels on the sales. After that, I conducted an online survey that helped to increase the understanding of the customers' behavior and purchase decisions.

Research questions were:

1. What is the role of Social Media Sites on online customers' purchase decisions?
2. What is the importance of Social Media Buttons?

6.1 SYNOPSIS

I conducted an online survey to investigate the role of social media on the purchase decisions of online customers. The survey consisted of five main sections: demographics, social media use, online shopping, influencing factors and social media button use.

By design, all participants were social media users. About 55% could be labeled as online shoppers. However, only 54% of users follow stores online through their social media sites. Of those, following stores using Twitter was the most common option, followed by Facebook and Pinterest. Of online shoppers who follow online stores on their personal social media accounts, 50% indicated that they clicked on links posted by online stores that they follow, which is not surprising. In fact, they follow stores because they are interested and as a result they would click on links posted by stores they follow. This indicates that the majority of the online shoppers who use social media are more likely to click on links that are posted by stores that they follow on their personal social media sites.

As expected 50% have ever clicked on a link posted by online stores that they actively follow on social media sites. Similarly, 44% have clicked on a link posted by a store that they do *not* follow. However, by and large, those were the same people. That is, those who do click on posted links are fairly indiscriminant about whether or not it belongs to a store that they follow. The main section about influences indicated that the influences for

purchases could be divided into two main categories: Social influences or Store influences. Social influences included the opinions of friends and family, the opinions of other reviews (i.e., other shoppers) and the opinions of experts (the concept of expertise was not defined or explored). The majority of people (85%) acknowledged some social influence. Interestingly, the three types of social influences tended to be endorsed by different groups of people. Furthermore, some people preferred to obtain product/company reviews *on the store's* site (onsite reviews), or from other shoppers on other sites (offsite) and these two groups tended to be distinct. Store influences included advertising, special offers, guarantees, shipping and cost. Only 70% of participants acknowledged store influences, primarily cost, promotions and guarantee. The final section asked about social media buttons that may exist on a store's online websites. Such button would take a shopper to the stores social media site (e.g., Facebook or Twitter), and thus indicate interest in the store's social media site. About 50% look for a store's social media buttons. They do so to find information about promotions, products and/or the company itself. About the same number have actually clicked on a social media button. Finally, for those who do use the social media buttons, such buttons provide a sense o welcome or friendliness or community as well as the ability to interact with other shopper or the store's representatives, and the ability to get assistance.

The Google analytics study of three stores indicated that the vast majority of traffic to a store came from search engines. Twitter and Facebook were far less important. Online ads and direct URL (possibly bookmarked access) were more generally important than social media. However, traffic from Twitter seemed to be increasing while that of the other sources had plateaued. In the one store that provided revenue data, the important observation was that revenue was directly correlated with traffic. Hence, the increasing trend for Twitter could be important. Given that the cost to setup and maintain a Facebook or Twitter account is likely much less (absolutely no cost) Reuben (2008) than the cost to maintain one's ranking in Google search (or other search engines), it is possible that the ROI for social media is higher than that of search engines in general. However, the ROI was not computed.

Note that the results for Google analytics are consistent with those of the survey in that the survey indicated that most people do *not* connect with online stores through their

social media sites. As such, at this point, one can conjecture that social media represents an untapped potential, or alternatively, that social media will never be a strong source of traffic to stores. However, even if it does not provide traffic, a social media presence can still be important, even mandatory. Only further research can answer these types of questions.

Finally, the Crazy Egg study (with the same three stores) indicated that social media buttons were used significantly less often than other buttons on the online stores. In fact, the use of social media buttons was comparable to (but less than) the use of buttons associated with company information or company contacts. This was consistent with the results of the survey in that most people simply did not use social media. One must remember that the survey specifically targeted social media users whereas the Crazy Egg data represents all online shoppers (many who do not use social media at all). Again, one can conjecture about the future of this phenomenon. However, it might be premature to continually admonish retail enterprises to setup and maintain social media sites (e.g., Facebook or Twitter) in addition to a regular online presence. Such sites require more resources that might be better applied elsewhere. Conversely, one might advise online retailers to split their resources carefully. The survey implied that the retailer's social media sites (Facebook and Twitter) serve primarily as a conduit for communication between customers and between customers and the store. The latter function is similar to the role of sales and support staff in a bricks and mortar store. As such, retailers might find it useful to remove such functionality (i.e., customer interaction) from a main online website and to place it in a separate social media site. This would allow for a clearer delineation of roles for each type of site, which would be of some benefit to site maintenance and would help clarify the tasks assigned to specific employees.

6.3 RECOMMENDATIONS

For business sector:

The results of this study showed the critical role of the social factors on influencing purchase decisions. The overall impression is complicated. The decision to purchase is affected by many factors, and there may be particular subgroups of relevance to a particular product. Some shoppers are influenced by friends, some by store offerings

(e.g., promotions or pricing), and some by reviews. Online customers may value the information provided at the online store at the store's SM site, and possibly at other online sources. Therefore, the store must maintain consistency in its own offerings, and must be willing to monitor the online offerings and comments of the community. As such, stores must be careful about their investment in SM, which would imply that stores should seek the assistance of SM specialists.

In addition, the use of heat mapping and other web traffic tools is recommended for businesses as it helps to understand the needs and to see the interaction of the cutomers with the different elements on the store which concequently help to discoevr the weak elements and fix or improve them.

For academia:

There is a lack of web traffic measures that help the e-commerce/ social commerce user studies. There is a need for tools that help to understand the affect of multible factors on e-commerce.

6.4 LIMITATIONS

There are several limitations that need acknowledgement for the proper contextualization of the current work. Firstly, the participants for the survey provided only a narrow cross section of the general shopping community. To properly extend the results, one would need a broader more general sample. This would include more individuals who are older, more who are less educated, and more from other cultures (a particular absence is that of Asian cultures).

The web-analytics studies need more stores. Inferences based on just three stores are always suspect. Furthermore, only one store provided revenue data. Hence, one must be careful about the extrapolation to other stores, to other types of retail business, to other geographical locations, to other target markets.

6.5 FUTURE WORK

Whlie this work has added to the literature, it also has drawn attention to a number of questions. First of all, the study focused on the purchase decision. It would be much more interesting to relate this type of information to the actual ROI. However, it must be

acknowledged that this would be a much more complicated project. Collecting the data necessary for the computation of ROI would be difficult. This would include itemizing the costs associated with the maintenance of a SM presence and the revenue associated with other factors. Furthermore it would be necessary to delineate cost and revenue associated with SM from other costs and revenues. Most of this data would be considered proprietary. Such would be best accomplished though a pre-post design that studies company before and after they initiate a SM program. It could also be accomplished by comparing companies (in similar markets) that have SM to similar companies that do not. Secondley, the vast majority of the survey partipants in this study were SM users (only 1% is not) and active online shoppers. Collecting similar data from participants who are active online shoppers and who do not use SM would also help to uncover the role of SM. Finally, it seems rather obvious to point out that the web-analytics data collection from more and from larger online stores would be helpful. In addition, sales figures for completed transaction would seem to be essential.

6.2 SUMMARY

A main conclusion of the three studies is that the role of social media in the online retail market is not as clear as some would argue. Every participant in the survey was a social media user. Participants were relatively young, educated, and computer literate. Yet very few bothered with the social media buttons for an online retailer. In addition, the analysis of demographics did not find any major or startling differences based on age, sex, education or culture (western vs middle eastern). Admittedly, there were some differences associated with each demographic variable (e.g., women were more likely to link to a store from their social media), but those differences were not large.
Hence, one must conclude that it is premature to make sweeping claims or prognoses for social media. One trend that did seem to emerge is the use of Twitter as a form of immediate contact for simple and direct customer queries. A second trend seems to be that the retailer's social media site could be useful for customers who want more of a shopping community – to exchange information (reviews) and to connect with retailers. However, not all shoppers would want this, even from a bricks and mortar store.

BIBLIOGRAPHY

Aimiuwu, E. E. (2012). Building a competitive edge through social media. *In Proceedings of the Conference on Information Systems Applied Research ISSN* (2167). 1508.

Al-Maghrabi, T., Dennis, C. & Vaux Halliday, S. (2011). Antecedents of continuance intentions towards e-shopping: The case of Saudi Arabia. *Journal of Enterprise Information Management*, *24*(1). 85-111.

Alghamdi, E. Lawson, K. MacKay, B. & Mosquera, G. (2013). The Influence of social media on e-commerce sites. In *Proceedings of the Social Media and Society 2013 International Conference*, September 14-15, 2013, Halifax, NS, Canada.

Al-Saggaf, Y. & Williamson, K. 2004. Online communities in Saudi Arabia: Evaluating the impact on culture through online semi-structured interviews. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*. (5) 3. Retrieved from http://www.qualitative-research.net/index.php/fqs/article/viewArticle/564 [Accessed: Jan. 4th, 2013].

Alotaibi, M. 2013. E-Commerce adoption in Saudi Arabia: An assessment of international, regional and domestic Web Presence. *International Journal of Information Technology and Computer Science*. (5) 2. 42-56.

Auker, C. (2011). Social media and its application in business marketing. Available at SSRN 2067223.

Benevenuto, F., Rodrigues, T., Cha, M., & Almeida, V. (2009). Characterizing user behavior in online social networks. In *Proceedings of the 9th ACM SIGCOMM conference on Internet measurement conference* (pp. 49-62). ACM.

Benevenuto, F., Rodrigues, T., Cha, M., & Almeida, V. (2012). Characterizing user behavior in online social networks. In *Proceedings of the 9th ACM SIGCOMM conference on Internet measurement conference* (pp. 49-62). ACM.

Budd, B. Q. (2012). Website data and uses for strategic marketing–a commercial experience. *International Journal of Management & Information Systems (IJMIS)*, 16(3), 239-246.

Butler, J. (2008). WIPO patent no. 2008024706. Geneva, Switzerland: World intellectual property organization.

Chen, Y., Fay, S., & Wang, Q. (2011). The role of marketing in social media: How online consumer reviews evolve. *Journal of Interactive Marketing*, 25(2), 85-94.

Cheung , C. M. K., Liu, I. L. B., & Bo , X. (2012). The impact of observational learning and electronic word of mouth on consumer purchase decisions: The moderating role of consumer expertise and consumer involvement. (2338-3237). Hawaii: *2012 45th Hawaii International*. Retrieved from http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6149215&isnumber=6148595

Constantinides, E., & Fountain, S. J. (2008). Web 2.0: Conceptual foundations and marketing issues. *Journal of Direct, Data and Digital Marketing Practice*, 9(3), 231-244.
crazyegg.com

Culnan, M. J., McHugh, P. J., & Zubillaga, J. I. (2010). How large US companies can use Twitter and other social media to gain business value. *MIS Quarterly Executive,* 9*(*4). 243-259.

Dahl, S. (2010). Using social media for social good–a conceptual overview. Available at SSRN 1624522.

Discover Digital Arabia. (2012). The state of social media in Saudi Arabia 2012. *Discover Digital Arabia*. Available at: http://www.ddarabia.com/infograph/the-state-of-social-media-in-saudi-arabia-2012/ [Accessed: Apr. 22nd, 2013].

Forman, C., Ghose , A., & Wiesenfeld , B. (2008). Examining the relationship between reviews and sales: The role of reviewer identity disclosure in electronic markets. (3rd ed., Vol. 19, pp. 291-313). *Information Systems Research*. Retrieved from http://infosys.highwire.org/content/19/3/291.abstract

Gehlenborg, N., & Wong, B. (2012). Heat maps. *Nature Methods*, 9(3), 213.

Ghannam, J. 2011. *Social Media in the Arab World: Leading up to the Uprisings of 2011*. Center for International Media Assistance, Washington, DC.

Google Analytics (2012) Google Analytics. [online] Retrieved from http://www.google.ca/analytics/features/index.html#utm_source=gaha&utm_campaign=ca-en-ha-ga-bkws&utm_medium=ha-search&utm_term=+google%20+analytics [Accessed: 5th Jan 2013].

Guo, S., Wang, M., & Leskovec, J. (2011). The role of social networks in online shopping: information passing, price of trust, and consumer choice. *ACM Conference on Electronic Commerce 2011* Retrieved from http://arxiv.org/abs/1104.0942

Hasan, L., Morris, A., & Probets, S. (2009). Using google analytics to evaluate the usability of e-commerce sites. In *Human Centered Design* (pp. 697-706). Springer Berlin Heidelberg.

Heidemann, J., Klier, M., & Probst, F. (2012). Online social networks: A survey of a global phenomenon. *Computer Networks*.

Jansen, B. J., Zhang, M., Sobel, K., & Chowdury, A. (2009). Twitter power: Tweets as electronic word of mouth. *Journal of the American society for information science and technology*, 60(11), 2169-2188.

Kaske, F., Kugler, M., and Smolnik, S. 2012. Return on investment in social media--does the hype pay off? Towards an assessment of the profitability of social media in organizations. In *Proceedings of the 45th Hawaii International Conference on System Sciences, HICSS*, Maui, Hawaii, January 2012, *IEEE Computer Society*, Los Alamitos, CA, 3898-3907.

Kwahk, K. Y., & Ge, X. (2012). The effects of social media on e-commerce: A perspective of social impact theory. In *System Science (HICSS), 2012 45th Hawaii International Conference on (1814-1823). IEEE.*

Ledford, J. L., Teixeira, J. & Tyler, M. E. *Google Analytics, 3rd Edition*. Wiley Publishing Inc., Indianapolis, 2009.

Lin, H. F. (2008). Determinants of successful virtual communities: Contributions from system characteristics and social factors. *Information & Management*, 45(8), 522-527.

MacKay, B. & Watters, C. (2012). An Examination of Multi-session Tasks. *Journal of the American Society for Information Science and Technology, JASIST, 63,* 6, 1183-1197.

Meng, F., Wei, J., & Zhu, Q. (2011). Study on the Impacts of Opinion Leader in Online Consuming Decision. *In Service Sciences (IJCSS), 2011 International Joint Conference on* (pp. 140-144). IEEE.

Miller, R., & Lammas, N. (2010). Social media and its implications for viral marketing. *Asia Pacific Public Relations Journal*, 11(1), 1-9.

Mudambi, S. M., & Schuff, D. (2010). What makes a helpful online review? A study of customer reviews on Amazon. com. *Mis Quarterly*, 34(1), 185-200.

Piwik.org. (2013) reviewed from http://piwik.org/features/

Pakkala, H., Presser, K., & Christensen, T. (2012). Using Google Analytics to measure visitor statistics: The case of food composition websites. *International Journal of Information Management*, *32*(6), 504-512.

Plaza, B. (2009, September). Monitoring web traffic source effectiveness with Google Analytics: An experiment with time series. In *Aslib Proceedings* (Vol. 61, No. 5, pp. 474-482). Emerald Group Publishing Limited.

Preece, J. (2000). Online communities: Designing usability and supporting socialbilty. John Wiley & Sons, Inc.

Rautio, A. (2012). Of thesis social media ROI as part of marketing strategy work–observations of digital. *Networks*, *35*, 61-103.

Reuben, R. (2008). The use of social media in higher education for marketing and communications: A guide for professionals in higher education. *EduGuru.*

Rome, K., & Lee, P. (2011, May). *2011 social commerce study: Consumer shopping via social media*. Paper presented at Shop.org, Shop.org, comScore, Inc. and PJL Digital LLC (dba Social Shopping Labs). Retrieved from: http://www.google.ca/url?sa=t&rct=j&q=2011 social commerce study shopping via social media – the consumer speaks a study by comscore, inc., social shopping labs and shop.org &source=web&cd=3&ved=0CDAQFjAC&url=http://www.thepartneringgroup.com/pdf/2011_Social_Commerce_Study_%20exec_summ.pdf&ei=sqFiT4r1GeaN0QHnkOyLCA&usg=AFQjCNERgOo310Odkfqjen9F7-ubEFqL6w&cad=rja

Solis, B. (2012). Who uses Twitter anyway? *Pandodaily*. Available at: http://pandodaily.com/2012/06/11/who-uses-twitter-anyway/ [Accessed: Jan. 4th, 2013].

Spaulding, T. J. (2010). How can virtual communities create value for business? *Electronic Commerce Research and Applications*, 9(1), 38-49.

Stelzner, M. (2012). 2012 Social media marketing industry report how marketers are using social media to grow their businesses. p.14, 17. Available through: social media examiner http://www.socialmediaexaminer.com/SocialMediaMarketingIndustryReport2012.pdf [Accessed: 10th June, 2013].

Stephen, A., & Toubia , O. (2009). Deriving value from social commerce networks. *Journal of Marketing Research*, Forthcoming , *ACM Conference on Electronic Commerce 2011* URL: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1150995

Teitelbaum, J. (2011). Saudi Arabia contends with the social media challenge. *Jerusalem Issue Briefs*, *10,* 28, 1-7.

Thall, S., & Hjelm, Y. (2012). *Facebook as a platform for corporate branding: How IKEA brand values are co-created in communication by users on Facebook* (Doctoral dissertation, Jönköping University).

Thoring, A. (2011). Corporate tweeting: Analysing the use of Twitter as a marketing tool by UK trade publishers. *Publishing research quarterly*, *27*, 2, 141-158.

Wiggins, A. (2007). Information architecture: Data-driven design: Using web analytics to validate heuristics system. *Bulletin of the American Society for Information Science and Technology*, 33(5), 20-24.

Wirtz, B. W., Piehler, R., & Ullrich, S. (2013). Determination of Social Media Website Attractivness. *Journal of Electronic Commerce Research*, 14(1).

Yahoo.com. (2013) reviewed from http://web.analytics.yahoo.com/features

Yuanxin, M., & Noichangkid, P. (2011). Bored with ads?: A study investigating attitude towards social media advertising (Doctoral dissertation, Umeå University).

Zhou, L., Dai, L., & Zhang, D. (2007). Online shopping acceptance model-a critical survey of consumer factors in online shopping. *Journal of Electronic Commerce Research*, *8*(1), 41-62.

Ziemer, L., Stahlschmidt, T., & Kuhn, N. (2012). Social media in the context of academic marketing: Case study: Evaluation of the umwelt-campus campaign. In *Computational Aspects of Social Networks (CASoN), 2012 Fourth International Conference on* (pp. 161-166). IEEE.

APPENDICES

Appendix A – Recruitment Notice – Survey study

Attachment A-1 Social Media Recruitment Notice

Facebook

Interested in adding to the knowledge of social media and e-commerce, you can take part in a short 10 minutes survey at (URL:TBA)

Twitter

Looking for online shoppers to help us with our research survey at (URL:TBA)

Attachment A-2 e-mail Recruitment Notice

I am a Master of E-Commerce student at Dlahousie University. I am conducting an online survey titled " The Impact of Social Media Buttons on The Users' Purchase Decision." I am looking for participants who use and do not use social media.

Your participation helps to understand the online shopping behavior. You can withdraw at any time without any consequences.

You can participate at: TBA; it will take 8-10 minutes. Your participation is highly appreciated.

If you have any questions regarding the study in general or the survey please do not be hesitate to contact me at Elham@cs.dal.ca

Attachment A-3 online ad Recruitment Notice

I am a Master of E-Commerce student at Dlahousie University. I am conducting an online survey titled " The Impact of Social Media Buttons on The Users' Purchase Decision." I am looking for participants who use and do not use social media.

Your participation helps to understand the online shopping behavior. You can withdraw at any time without any consequences.

You can participate at: TBA; it will take 8-10 minutes. Your participation is highly appreciated.

If you have any questions regarding the study in general or the survey please do not be hesitate to contact me at Elham@cs.dal.ca

Appendix B – Informed Consent

DALHOUSIE UNIVERSITY
Inspiring Minds

The Impact of Social media Buttons on The Users' Purchase Decision.

Principal Investigators: Elham Alghamdi, E-commerce Masters Student

Supervisor: Dr. Keith Lawson, School of Information Management

keith.lawson@dal.ca

Co-ivestigator: Dr. Bonnie MacKay, Faculty of Computer Science, bmackay@cs.dal.ca

Contact Person: Elham Alghamdi, **elham@cs.dal.ca**

You are welcome to voluntarily participate in our research study being conducted by the above investigators at Dalhousie University. You may decline to answer some questions or withdraw at any time. Our study is a part of Elham Alghamdi's Masters thesis work at Dalhousie University. To be eligible to participate in the study, you must be an Internet user. The study is described below. The description explains the risks, inconvenience or discomfort that you might experience. Participating in the study might not benefit you but we might learn things that will benefit others. You should discuss any questions you have about this study with Elham Alghamdi by email elham@cs.dal.ca or phone: 902 412-6512.

The purpose of the study is to find out how social media channels (e.g., Facebook, Twitter, YouTube) affect the users' purchase decision when they shop online. In this regard, we will be able to measure the effectiveness and the usefulness of having social media icons that connect the online consumers to the online stores' social media accounts. We are also interested in knowing whether these icons affect sales in a positive way or they just help to increase the trust level and the reputation of the online store. You will be asked to complete an online questionnaire about the effectiveness and the usefulness of having social media icons on an online store. The questionnaire will take about 10 minutes to complete.

There is no compensation or benefits for participating in the study and you can withdraw at any time without any consequences. There is a low risk that you may find some questions to be confusing, however the researchers are always available by email elham@cs.dal.ca and klawson@dal.ca to answer any questions you may have.

No personally identifying data will be collected and all responses will be kept confidential and anonymous. All research data will be kept in a secure location in accordance to University policy for 5 years post publication.

In the event that you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Catherine Connors, Director, Office of Research Ethics Administration at Dalhousie University's Office of Human Research Ethics for assistance: phone: (902) 494-1462, email: Catherine.connors@dal.ca.

"*I have read the explanation about this study and have contacted the researchers for clarification if I had any questions and any questions have been answered to my satisfaction. I hereby consent to take part in the study and to have my anonymous responses quoted in reporting of the data. However, I understand that my participation is voluntary and that I am free to withdraw from the study at any time."*

If you are interested in seeing the results of this study, please check below and provide your email address. We will contact you with publication details that describe the results.

☐ "I would like to be notified by email when results are available via a publication."

[if this option is chosen, please include a contact email address:
_____]

Please select one of the options below:

"I agree to let you directly quote any comments or statements made in any written reports without viewing the quotes prior to their use and I understand that the anonymity of textual data will be preserved by using pseudonyms."

"I want to read direct quotes prior to their use in reports and I understand that the anonymity of textual data will be preserved by using pseudonyms." [if this option is chosen, please include a contact email address: _____] "

"I do not want any comments or statements quoted in any written reports even though the anonymity of textual data would have been preserved by using pseudonyms."

Appendix C – Ethics Board Approval Letter – Survey Study

Social Sciences & Humanities Research Ethics Board
Amendment Approval

April 19, 2013

Mr Elham Alghamdi
Computer Science\Computer Science

Dear Elham,

REB #: 2012-2799
Project Title: The Impact of Social Media Buttons on the Users' Purchase Decision

The Social Sciences & Humanities Research Ethics Board has reviewed your amendment request dated April 11,2013 and has approved this amendment request effective today, April 19, 2013.

Sincerely,

Dr. Sophie Jacques, Chair

Appendix D – Survey Questions

1. Age group:
    - Under 18
    - 18-24
    - 25-30
    - 31-40
    - 41-65
    - +65

2. Gender:
    - Male
    - Female

3. What country do you currently live in?

4. What is your citizenship?

5. What is your highest level of education?
    - Some high school
    - High school/ diploma
    - Bachelor's/ undergraduate degree
    - Master's degree

- o PhD degree

6. What is your profession?

7. What social media sites do you use and how often?

	At least everyday	At least weekly	At least monthly	At least once a year	Never
Facebook					
Twitter					
Google+					
Pinterest					
YouTube					
Instagram					
Other					
Other					

8. Do you follow online stores on your social media sites?

- o Yes
- o No

9. How many online stores do you follow on each of your social media sites?

	None	1-5	6-9	+10
Facebook				
Twitter				
Google+				
Pinterest				
YouTube				
Instagram				
Other				
Other				

10. In the past year, how often have you clicked a link that has been posted on your social media site by an online store that you **are following (e.g**. they posted a link on your Facebook wall or tweeted a link)?

	N/A	1-5	6-9	+10
Facebook				
Twitter				
Google+				
Pinterest				
YouTube				
Instagram				
Other				
Other				

11. In the past year, how often have you clicked a link that has been posted on your social media sites by an online store that you are **NOT following (e.g. t**hey posted a link on your Facebook wall or tweeted a link)?

	N/A	1-5	6-9	+10
Facebook				
Twitter				
Google+				
Pinterest				
YouTube				
Instagram				
Other				
Other				

12. In the past year, how many items have you bought online?

- None
- 1-10
- 11-20
- 20-50

- +50

13. In the past year, how many of the following products have you **purchased** online?

	Never	1-5	6-10	11-20	21-50	+50
Books						
Movies, Music or Games						
Apparel (e.g clothing)						
Furniture or Appliances						
Home accessories or Gardens						
Children products						
Luxury items (e.g jewlery)						
Office supplies						
Food or Grocery						
Other						
Other						

14. How often have you clicked on any link on your social media site?

- Never
- Less than 10% of the time
- Less than 25% of the time
- Less than 50% of the time
- More than 50% of the time

15. In the past year, how many times have you made a purchase based on **a special online offer** on an online store (e.g. discount, coupon or sale)?

- Never
- Less than 10% of the time

- Less than 25% of the time
- Less than 50% of the time
- More than 50% of the time

16. If a friend on your social media site posts a link to a special online offer, how often do you check the deal? (Please check all that apply)

- It depends on the product / deal.
- It depends on the friend.
- Usually (more than 50% of the time).
- Sometimes (less than 50% of the time)
- Rarely (less than 25% of the time).
- Never

17. Which factors wou**ld influe**nce your purchase decisions when purchasing items online? (Please check all that apply)

- Experts recommendations
- Reviewers recommendations
- Friends and family recommendations
- Ads on your social media sites
- Promotions on the online store.
- Money back guarantees.
- Cost of items including duty.

- Cost of shipping.
- Other (e.g emails, other websites, TV, magazines or newspapers)

18. After you have ch**ecke**d a DEAL posted by a friend, how often have you made a purchase based on that post?

- Never
- Less than 10% of the time
- Less than 25% of the time
- Less than 50% of the time
- More than 50 % of the time

19. Do you look for an online store's social media sites?

- Yes
- No

20. Why do you look for an online store's social media sites (e.g. Facebook or Twitter)? (Please check all that apply)

- To learn about promotions or get coupons.
- To learn more about the company.
- To learn more about the product.
- Other (specify)

21. If you read reviews from other online shoppers, where do you find the reviews? (Please check all that apply)

- o The online store's social media site (e.g. Facebook, Twitter, Pinterest, YouTube, etc)
- o Search Engines
- o Yelp
- o Amazon.com
- o Other (specify)

22. Which of the following would be considered important for you when you want to make a purchase online? (Please check all that apply)

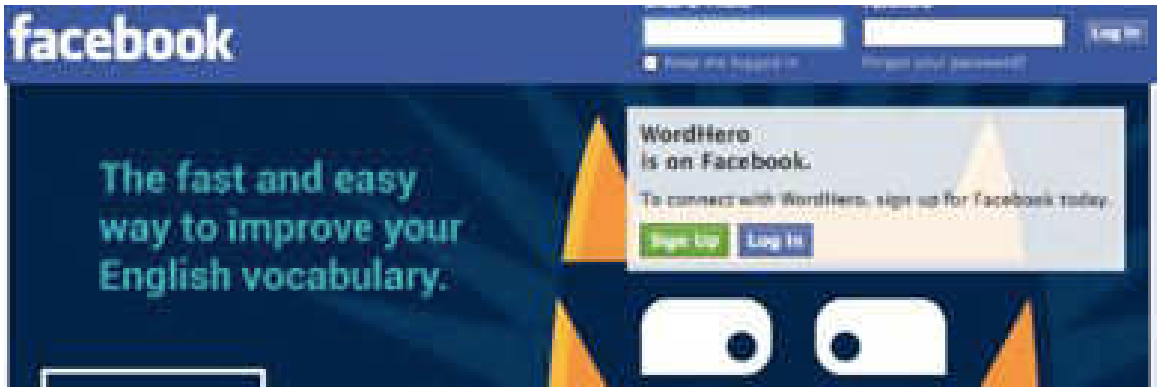
- o Comments from friends
- o Comments from reviewers on the sites
- o Comments from reviewers from other sites
- o Information about the online store
- o Other

23. How important are the reviews from other online shoppers to you when you shop for online products?

	Very important	Important	Neutral	Somewhat important	Not important
Reviews from friends					
Reviews from online shoppers					
Reviews from experts					

24. Inside the red circle in the following figure you can see the social media buttons that appear on most of the online stores,

if you clicked on the Facebook button, for example, you will see the online store's site on Facebook similar to the following figure:



How often do you notice social media buttons on an online store?

- Never
- Less than 10% of the time
- Less than 25% of the time
- Less than 50% of the time
- More than 50 % of the time

25. When you visit the online store, do you look for the social media buttons?

- o Yes.
- o No.

26. Have you ever clicked on social media buttons on an online store?

- o Yes.
- o No.

27. Which social media buttons have you ever clicked on, so to **visit** social media sites?

- o Twitter
- o Facebook
- o Pinterest
- o Youtube
- o I never clicked on social media buttons
- o Other

28. I click on social media buttons because I want to: (please check all that apply)

- o Check on offers
- o Check on products
- o To read comments made by the owners and the customers of the store
- o Other

29. When I see social media buttons on an online store, they give the sense of:

	Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree
I am welcomed					
They will be friendly					
That there is a community for the store					
That I could interact					
That I can get assistance for purchasing					

30. How often have you clicked on social media buttons to visit one of the store's social media sites in order to **read o**ther customers or owner comments?

- Never
- Less than 10% of the time
- Less than 25% of the time
- Less than 50% of the time
- More than 50 % of the time

31. Do you agree or disagree to the following statements?

	Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree
Social media buttons would help to make my shopping experience more enjoyable.					
Social media buttons are time consuming to use.					
I do not prefer to					

	Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree
click on social media buttons when I shop online.					
The size of social media buttons is very important for me to notice them.					
The design and the color of social media buttons in the online store is important in order to notice them.					
The location of social media buttons in the online store is important to notice them.					
I usually click on social media buttons before I purchase items on the online store.					
I usually click on social media buttons when I see them.					

32. Where would you prefer the social media buttons be placed on the online store (web page)?

- o At the top of the page
- o At the bottom of the page

- On the side of the page (right or left)
- Other

33. The most common social media buttons for online stores are Pinterest, Facebook, Twitter, and YouTube, for each type of online products please indicate which button you clicked.

	Pinterest	Facebook	Twitter	YouTube	Other	N/A
Books						
Movies, Music and Games						
Apparel (e.g clothing)						
Furniture or Appliances						
Home accessories or Gardens						
Children products						
Luxury items (e.g jewlery)						
Office supplies						
Food or Grocery						

Appendix E – Older Version of The Survey Questions

1. Age group:
   - Under 18
   - 18 - 24
   - 25 - 30
   - 31 - 40
   - Over 41

2. Gender:
   - Male
   - Female

3. What country do you currently live in? [Drop down box]

4. What is your citizenship? [Drop down box]

5. What is you highest level of education?
   - Some high school
   - High school diploma
   - Bachelor's/ undergraduate degree
   - Master's degree
   - PhD degree

6. What is your profession?

7. What social media sites do you use and how often?

	1-5 times a day	Once a day	1-5 times a week	Once a week	1-5 times a month	Once a month	Every few months	Once or twice a year	Never use	Never heard of
Facebook										
Twitter										
Google+										
Pinterest										
Flicker										
MySpace										
YouTube										
Ning										
Orkut										
Instagram										
What's app										
Path										
Gather										
LinkedIn										
Tagged										
Blogs										
Digg										
News sites										
Other _____										

8. How many online stores do you follow on your social media sites?

	None	1-5	6-9	+10
Facebook				
Twitter				
Google+				
Pinterest				
Flicker				
MySpace				
YouTube				
Ning				
Orkut				
Instagram				
What's app				
Path				
Gather				
LinkedIn				
Tagged				
Blogs				
Digg				
News sites				
Other _____				

9. In the past six months, how often have you clicked a link that has been posted on social media site by an online store that you are following (e.g., they post a link on your Facebook wall or tweet a link)?

	1-5 times	6- 9 times	+ 10 times
Facebook			
Twitter			
Google+			
Pinterest			
Flicker			
MySpace			
YouTube			
Ning			
Orkut			
Instagram			
What's app			
Path			
Gather			
LinkedIn			
Tagged			
Blogs			
Digg			
News sites			
Other _____			

10. In the past six months, how often have you clicked a link from a social media site to a store that you do not follow (e.g., they post a link on your Facebook wall or tweet a link)?

	1-5 times	6- 9 times	+ 10 times
Facebook			
Twitter			
Google+			
Pinterest			
Flicker			
MySpace			
YouTube			
Ning			
Orkut			
Instagram			
What's app			
Path			
Gather			
LinkedIn			
Tagged			
Blogs			
Digg			
News sites			
Other _____			

11. In the past year, how many items have you bought online?

- Never
- 1-10 items
- 11-20 items
- 20-50 items
- 50+ items

12. How many of the following products have you purchased online (over the last two years)?

	Never	**1-5**	**6-10**	**11-20**	**21-50**	**50+**
Books						
Clothing, shoes and accessories						
Stationary products (paper, pens, etc.)						
Furniture						
Household items (e.g., sheets, decorative, etc.)						
Electronics and computers						
Services (e.g., mobile phone, cable, memberships)						
Other – _____						

13. Which of the following influences your purchase decisions for purchasing items online? (Check all the apply)
    - Experts recommended the product or online store
    - Reviewers recommended the product or online store
    - Friends recommended the product or online store
    - Family members recommended the product or online store
    - Ads from social media sites, emails, TV, magazine, newspapers
    - Promotions on the online store itself
    - Money back guarantees
    - Location of shipping the item (e.g., is there duty applied)
    - Cost of item
    - Cost of shipping
    - You have bought items from this store before
    - Other

14. How many times in the past year, have you made a purchase based on an interesting deal (e.g., discount, coupon or sale)?
    - I have not made a purchase based on a deal
    - 1-5 times
    - 6-10 times
    - 11-20 times
    - More than 20 times

15. In the past year, how many times have you purchased an item directly from a special deal advertised on a social media site (e.g, Facebook or Twitter)?
    - Never
    - 1-5
    - 6-10
    - More than 10

16. If a friend on your social media sites (e.g., Facebook, Twitter) posts a link to an interesting shopping deal, do you check the deal? (check all that apply)
    - It depends on the product / deal
    - It depends on the friend
    - I usually do, because I am always looking for a deal
    - I rarely do because I rarely buy online
    - Sometimes if I have time
    - Never

17. Of the number of times that you have checked out a deal posted by a friend, how often have you made a purchase from that post?
    - 0%
    - 1-9%
    - 10-20%

- 21-50%
- More than 50% of the time.

18. Do you visit online store's social media sites (e.g., their Facebook page)?
    - Yes
    - No

19. Why do you visit online stores' social media sites (e.g., their Facebook page)? (Check all that apply)

    - To learn about promotions or get coupons
    - To purchase gift certificates
    - To read reviews on products
    - To read reviews on the store
    - To learn more about the company
    - To learn more about the products
    - Other (specify)

20. If you read reviews from other online shoppers, where do you do so?
    - Yelp
    - Amazon
    - The online store's social media account (e.g. Facebook, Twitter, YouTube, etc)
    - Epinions
    - Cent
    - DadDoes
    - Blogs
    - Search engines
    - I do not read reviews
    - Other (specify)

21. How important are the reviews from other online shoppers to you when you shop for online products?
    - It often depends on the product (specify)
    - Not important
    - Somewhat important
    - Important
    - Very important
    - Extremely important
    - Comment

22. How important are reviews from experts when you shop for online products?
    - It often depends on the product (specify)
    - Not important
    - Somewhat important
    - Important
    - Very important
    - Extremely important
    - Comment

Figure 1 shows a screen shot for the social media buttons that appear in a lot of online stores. These buttons connect the online store to their accounts' on social media sites. Figure 2 is an example image of an online store's social media site that you will see when you click on the Facebook button.

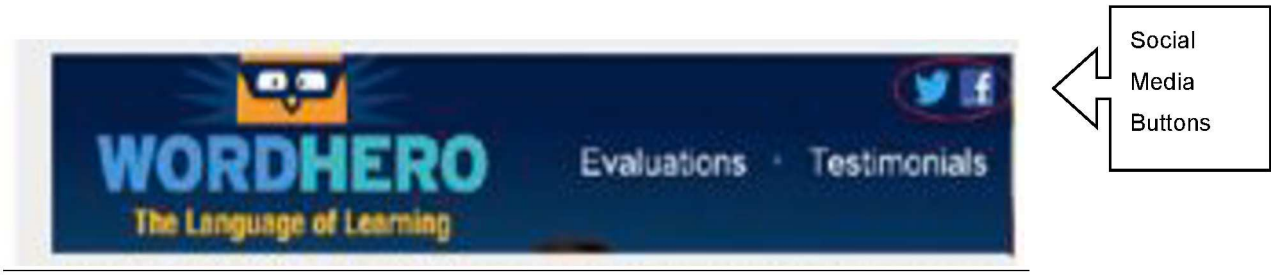


Figure 1: social media buttons

Figure 2: Store's social media site (Facebook page)

23. How often do you notice the social media buttons on the online store?
    - I have not noticed them before
    - Rarely
    - Sometimes
    - Usually
    - Most of the times
    - Always

24. When you visit the online store, do you look for the social media buttons?
    - Yes
    - No

25. Have you ever clicked on social media buttons on an online store?
    - Yes
    - No

26. What social media buttons have you ever clicked on to visit social media sites:
    - Twitter
    - Facebook
    - Pintrest
    - YouTube
    - I never clicked on social media buttons
    - Other (specify)

27. I click on social media buttons because I want to: (check all that apply)
    - Check on promotions
    - Check on offers
    - Check on products
    - Get an idea about the online store
    - Visit the store's social media account
    - To read comments made by the owners and the customers of the store
    - I never click on social media buttons
    - Other

    [ ]

28. When I see the social media buttons in the online store, I feel that there is pleasantness in this online store.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

29. When I see the social media buttons in the online store, I feel that there is friendliness in the online store.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

30. Social media buttons enable me to form a sense of online store's community (the owner and the customers).
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

31. I would use social media buttons to interact with other customers or the owner of an online store.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

32. How many times have you clicked on a social media button to visit one of the store's social media sites in order to read other customers or owner comments?
    - Never
    - 1-5 times
    - 6-10 times
    - 11-15 times
    - 16-25 times
    - 26+ times

33. I would use social media buttons to open one of the store's social media sites in order to interact with other customers or the owner of the online store.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

34. Social media buttons enable me to form an individual impression of some products.
    - Strongly disagree
    - Somewhat disagree
    - Disagree

- Somewhat agree
- Strongly agree

35. Social media buttons are useful for assisting me when make my purchase decisions.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

36. How social media buttons are useful or not useful?

37. Social media buttons would help to make my shopping experience more enjoyable.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

38. How social media buttons help to make your shopping experience enjoyable or not enjoyable?

39. Social media buttons are time consuming to use.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

40. Why do you think social media are time consuming or not time consuming to use?

41. I do not prefer to click on them when I shop online.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree

- Strongly agree

42. Why you do not prefer to click on social media buttons when shopping online?

43. I find it easier to see or notice the social buttons if they are large. The size of social media buttons is very important for me to notice them.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

44. The design and the color of social media buttons are very important to me to notice them
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

45. The location of social media buttons in the online store is important to notice them.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

46. Where would you prefer the social media buttons be placed on the web page?
    - At the top of the page
    - At the bottom of the page
    - On the side of the page (right or left)
    - Other (specify)

47. I usually click on the social media buttons before I purchase items on the online store.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

48. Why do you click or not click on social media buttons before you purchase items on online stores?

49. I usually click on the social media buttons when I'm browsing online.
    - Strongly disagree
    - Somewhat disagree
    - Disagree
    - Somewhat agree
    - Strongly agree

50. When you noticed social media buttons on an online store, what type of online stores were you visiting (check all that apply):
    - Books
    - Movies, Music and Games
    - Clothing, Accessories and Shoes
    - Home, Gardens and Tools
    - Grocery, Health and Body
    - Furniture and Appliances
    - Toys, Kids and Babies
    - Electronics and Computers
    - Gifts
    - Jewelry
    - Children's Clothing
    - Women's/Men's Clothing stores
    - Office Supplies
    - Food
    - Other (specify)

51. When you have used (clicked) the social media buttons on an online store, what type of online store were you visiting (check all that apply)
    - Books
    - Movies, Music and Games
    - Clothing, Accessories and Shoes
    - Home, Gardens and Tools
    - Grocery, Health and Body
    - Furniture and Appliances
    - Toys, Kids and Babies
    - Electronics and Computers
    - Gifts
    - Jewelry
    - Children's Clothing
    - Women's/Men's Clothing stores
    - Office Supplies
    - Food
    - Other (specify)

52. The most common social media buttons for online stores are Pinterest, Facebook, Youtube, and Twitter, for each of type of online store please indicate, which button you clicked.

	Pinterest	Twitter	Facebook	YouTube	Other: _____
Books					
Movies, Music and Games					
Clothing, Accessories and Shoes					
Home, Gardens and Tools					
Grocery, Health and Body					
Furniture and Appliances					
Toys, Kids and Babies					
Electronics and Computers					
Gifts					
Jewelry					
Children's Clothing					
Women's/Men's Clothing stores					
Office Supplies					
Food					
Other (specify)					