The Impact of Social Networking Sites on College Students' Consumption Patterns

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THE IMPACT OF SOCIAL NETWORKING SITES
ON COLLEGE STUDENTS’ CONSUMPTION PATTERNS

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In partial fulfillment of
the requirements for the degree of
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Communication Studies

by
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Approved by

Stephen D. Cooper, Ph.D., Committee Chairperson
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Marshall University
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Dedication

This thesis is dedicated to my beloved family. To my parents, Dale and Nancy, both of you have loved and supported me throughout all my endeavors. To my brother, Wesley, you are always a source of inspiration and encouragement. Family is important but the three of you continually go above and beyond.
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Abstract

This research study examines the effect of social media, particularly Facebook and Twitter, on the purchasing habits of college students by testing for correlations between recommendations on social media and consumption patterns. Moreover, the research also examines the role of gender and social media usage frequency on consumption patterns. Findings revealed that both Facebook and Twitter are being used to obtain sales information and promotions. Furthermore, gender has an impact on both social networking sites. Additionally, this study found the higher the frequency of social media usage the more likely customers are to shop at the businesses they have befriended.

Keywords: Social media, social networking, Twitter, Facebook, consumption patterns, Uses and Gratifications
Chapter 1: Introduction

Social media is a popular trend today, especially among college students. Businesses are always looking for new ways to reach customers, especially ones readying to enter the work force. This study examines the impact of social media on the buying habits of college students.

Several past research studies have focused on the effects of electronic word-of-mouth communication on consumer behavior. Hu, Liu, & Zhang (2008) discovered a positive relationship between products with good online reviews and the sales of that product. The more a reviewer was exposed to the product and the more credibility the reviewer had the more influential the individual’s feedback became. This word-of-mouth communication had an impact on potential buyers’ decisions. This study was augmented by Hennig-Thurau, Gwinner, Wlash, and Gremler’s 2004 study. Their research explored why consumers partake in electronic word-of-mouth communication. A sense of belonging, potential payment, and a desire to aid others are a few of the reasons they discovered.

Other research has focused on the role of social media. Smock, Ellison, Lampe, and Wohn (2011) analyzed the reasons people use Facebook through the uses and gratification model. Among the reasons they found were for social interaction, professional advancement, and entertainment. Further research performed by Hyllegard, Ogle, Tan and Reitz (2011) found that many social media websites are being utilized by companies to communicate with customers. Customers are able to express their opinions about a company or brand. LaDuque (2010) discovered that companies use social media sites to communicate directly with the customer, as companies are able to increase brand
loyalty, create sales leads, and increase publicity through this medium. Furthermore, social media sites are being used for marketing research by both companies and customers (Casteleyn, Mottart, and Rutten, 2009); in addition, customers obtain investigate companies and brands on social media websites (Barnes, 2008).

The purpose of this study is to analyze the impact of social media, particularly Facebook and Twitter, on students’ consumption patterns. This thesis also examines if the role of social media on consumption patterns differs between genders. For example, are males or females more likely to use promotions offered by companies they have befriended or follow? The final research question seeks to determine whether or not word-of-mouth recommendations made via social media platforms have varying impacts based on usage frequency. This research question analyzes the number of times student check their social media accounts and the frequency they use the promotions offered.
Chapter 2: Literature Review

Recent trends show that social media usage has increased. As of October 2011, one of the most well-known social media sites is Facebook (Facebook, 2011). This site currently boasts 800 million active users, and over 50% of active users log on to the site every day (Facebook, 2011). Members are able to connect with friends on the site, and the average user maintains approximately 130 friends (Facebook, 2011). Further, more than 350 million of these users access the site through a mobile device (Facebook, 2011). According to Eldon (2011), 51.2% of users are male, whereas 48.8% are female. In terms of age, 20.6% of users are between the ages of 13 and 17; 25.8% are between the ages of 18 and 25; 26.1% are between the ages of 26-34; and 27.5% are over the age of 35 (Eldon, 2011).

Many studies have supported the idea that a positive correlation exists between online product reviews and sales (Hu, Liu, & Zhang, 2008). In 2008, Hu, Liu, and Zhang tested the idea that products with favorable reviews sell better than products with unfavorable reviews. In addition, Hu et al. sought to determine whether the quality of the reviewer (reviewer appears more reliable) would influence the effectiveness of the review. By analyzing reviews found on Amazon.com’s Web Service, Hu et al. (2008) discovered statistically significant differences in sales between products that had favorable and unfavorable online reviews. Finally, the researchers found that consumers also consider reviewer quality and reviewer exposure (the frequency the name of a review is present in the community) when evaluating an online review (Hu et al., 2008). These findings are important because they show electronic word-of-mouth communications do influence consumers, though the influence may be moderated by
other factors (Hu et al., 2008). Managers who are seeking to improve electronic word-of-mouth communications would be better served by targeting the influential reviewers, as their reviews will be given greater consideration (Hu et al., 2008).

Early research on social media focused on understanding the characteristics of individuals who used this communication medium. In 2009, Ross, Orr, Sisic, Arseneault, Simmering, and Orr explored the personalities and motivations of individuals who used the social media site Facebook. To this extent, the researchers applied the Five Factor Model to Facebook usage. Ross et al. found individuals who exhibited higher levels of extroversion were more likely to belong to more Facebook groups; however, this personality trait was not associated with having a larger number of friends. The personality trait of Openness to New Experience was also found to be present in individuals who were sociable through Facebook (Ross et al.).

After understanding the characteristics associated with social media users, researchers began conducting research to determine consumers’ motivations for providing product reviews electronically. In a 2004 study, Hennig-Thurau, Gwinner, Walsh, and Gremler defined eleven motivations to explain why consumers engage in electronic word-of-mouth communication, and 2,000 consumers were surveyed to examine these motivations. Based on the results, four motivations were discovered: social benefits, economic benefits, concern for others, and self-enhancement (Hennig-Thurau et al., 2004). Social benefits refers to the idea that consumers gain a sense of belonging from participating in an online community, whereas economic factors refer to any payment a reviewer may receive (Hennig-Thurau et al., 2004). Concern for others reflects an individual’s desire to assist others in a purchase decision, and self-
enhancement refers to the desire of individuals to be seen as experts in their field (Hennig-Thurau et al., 2004).

A similar study conducted by Hyllegard, Ogle, Yan, and Reitz (2011) sought to understand students’ motivation in using Facebook and fanning, or liking, particular brands on the social networking site. The researchers found students use the site to establish personal connections with others and use the site to create affiliations with brands that define who they are and help them establish a sense of self (Hyllegard et al., 2011). Thus, these motives are similar to the “social benefits” motive discovered by Hennig-Thurau et al. (2004), the desire to display their personality discussed by Casteleyn et al. (2009), and the desire for self-expression cited by Pempek, Yermolayeva, and Calvert (2009). In addition, Hyllegard et al. (2011) found that students “fanned” companies and brands to become market mavens who could receive and disseminate information about brands. This motivation discovered by Hyllegard et al. (2004) is consistent with the “concern for others” motive and “self-enhancement” motives discovered by Hennig-Thurau et al. (2004), as students could improve their knowledge about a product (self-enhancement), and then share this information with friends (concern for others).

In 2011, Smock, Ellison, Lampe, and Wohn applied the uses and gratification approach to analyze why individuals use Facebook in general, as well as why they use certain functions on the website. The researchers found that users who update their status are motivated chiefly by a desire for expressive information sharing, whereas individuals who post comments do so for relaxing entertainment, companionship, and social interaction. However, individuals who posted on friends’ walls did so for professional
advancement, social interaction, and habitual pass time. Two motives, professional advancement and social interaction, were discovered as underlying reasons why users sent private messages. Smock et al. also found social interaction was the only significant motive discovered in the usage of Facebook’s chat feature. Finally, the usage of groups on the site was positively influenced by expressive information sharing, and negatively by social interaction.

**Consumption Patterns**

In addition, companies have also begun using social media sites as a way to better communicate with customers. According to Hyllegard, Ogle, Yan, and Reitz (2011), “between 66%-96% of consumer goods companies have adopted social media, including Facebook” (p. 601). One feature of this site is the ability of users to “fan” particular products or brands so that they receive information about these products. In addition, this feature allows customers to express satisfaction or dissatisfaction toward a company or brand. Facebook reports the average user can express interest in over 900 million objects, and the average user follows 80 such pages (Facebook, 2011).

According to LaDuque (2010), companies can also utilize social media platforms to create personalized experiences, to increase brand loyalty, to generate sales leads, and to increase exposure. For example, companies which provide entertaining videos or valuable incentives may have their offerings shared between social media users through electronic word-of-mouth communication. In addition, social networking sites may also allow companies to communicate directly with customers to improve products or address issues. Facebook allows individuals to “like” pages, meaning they will receive updates
regarding the product or brand they have “liked.” Even mutual fund firms have begun using this medium to communicate with customers, create interactive scavenger hunts, and organize contests among fans (Glazer, 2011).

Social media can also be used by both companies and customers for marketing research. In 2007, Casteleyn, Mottart, and Rutten (2009) sought to understand the behaviors of individuals who joined groups on this social networking site. These groups could be devoted toward supporting or criticizing specific products or brands and represented an early form of Facebook’s “like” function (Casteleyn et al.). According to Casteleyn et al., market researchers could gain insight into individuals’ feelings about a brand from reading wall posts. These wall posts could potentially include comments about the brand or photographs involving the brand. These researchers hypothesized researchers could better understand this consumer behavior by considering the agent (the individual posting the information), the act (what he or she posted), agency (the method used to post the information), the scene (the context of the post), and the purpose (why the information was posted). These findings are of significant importance, as Pempek et al. (2009) found that the average student belonged to 24.58 groups; however, Pempek et al. also found that active participation within these groups was rare.

Of similar interest to companies, social media platforms also allow customers to collect information about companies and brands (Barnes, 2008). Barnes found 70% of respondents used social media to investigate companies at least sometimes when considering a purchase. Though Barnes found information on social networking sites like Facebook was deemed by customers to be of little value, respondents under the age of 25 viewed information on social media sites more positively. However, the role of
online product reviews is important: 74% of respondents have chosen a product or brand based on online reviews (Barnes). Thus, positive reviews can improve sales, while negative reviews can lower sales.

Despite these potential benefits, companies must also be cautious when using Facebook. First, culture has developed on the website, and companies must be careful to adhere to the cultural norms preset on the site (Vorvoreanu, 2009). To understand how companies could effectively engage in public relations on Facebook, Vorvoreanu (2009) conducted six focus groups with 35 college students. Vorvoreanu discovered some users feel as though corporations do not belong on the site, as it was meant for friends to interact. Consistent with other research studies, many users view their profiles as a means of self-expression, and becoming fans of a company allows them to express their interests (Vorvoreanu). Respondents were also accepting of small businesses which maintained a presence on the site, though this was because they often knew the owners personally (Vorvoreanu). Although respondents were unhappy that corporations had begun maintaining a presence on Facebook, they also reported that they would be interested in receiving discounts and gifts from these organizations through the social networking site (Vorvoreanu).

In addition, social media traffic also exhibits a higher bounce-rate (85%) than search engine traffic (50%), meaning people who access sites through social media are less likely to become customers (LaDuque, 2010).
**Predictor of Sales**

Traditionally, researchers have focused on the role of word-of-mouth recommendations in shaping consumers’ opinions (Hennig-Thurau, Gwinner, Walsh, and Gremler, 2004). However, the introduction of the internet has led to an increasing focus on electronic word-of-mouth communication, and the role, if any, these communication media may have on shaping consumers’ opinions (Hennig-Thurau et al., 2004; Hu, Liu, & Zhang, 2008). Much of the research in this area focuses on how brand managers can use electronic word-of-mouth to increase brand recognition and improve sales (Hennig-Thurau et al., 2004; Hu et al., 2008).

**Gender**

In a survey of 272 undergraduate and graduate students, Budden, Anthony, Budden, and Jones (2007) found females spent more time on social networking sites Facebook and MySpace than males; however, these differences were not found to be statistically significant. At first, these findings appear to be inconsistent with those reported by Eldon (2011); however, the differences found by Eldon were not only reported and not tested; as a result, they may not be statistically significant. In addition, any differences in findings may be due to the sample or the dates on which the data were collected. Males were also found to spend significantly more time on YouTube than females (Budden et al., 2007). Budden et al. (2007) also discovered that upperclassmen spend more time accessing the internet than underclassmen and graduate students. However, the results of the study indicate many college students still utilize traditional media like television and radio (Budden et al., 2007).
The results of Budden et al. (2007) were later supported by the findings of Gerlich, Browning, and Westermann (2010). In this study, 141 undergraduate students were surveyed to determine media usage among college students. Consistent with Gerlich et al., the researchers found no statistically significant differences between males and females in the amount of time spent using the internet. In addition, no fundamental differences were discovered between females and males in terms of social media usage (Gerlich et al., 2010).

In 2008, Foregger used a mixed methods approach to apply the uses and gratification theory to Facebook. For this study, Foregger sought to understand how undergraduate college students used the social networking site, as well as the gratifications they received from using it. Prior to the main study, Foregger conducted a preliminary study by listing thirteen Facebook uses and asking 185 students to rate how often they use Facebook for each of these purposes. Foregger then developed a survey instrument and distributed it to 340 undergraduate college students. Based on student responses, Foregger determined students use Facebook for nine reasons: pass time, connections, sexual attraction, utilities and upkeep, establish old ties, accumulation, social comparison, channel use, and networking. In addition, the researcher found females spend more time on the site than males, a trend which may explain why females tend to have more Facebook friends on the site than males (Pempek et al., 2009). Female freshmen, female sophomores, and female juniors spent the most time on Facebook, while male juniors and male seniors spent the least amount of time on the site (Foregger, 2008).
Social Media Usage Frequency

Pempek, Yermolayeva, and Calvert (2009) sought to understand how college students in particular used Facebook. In this study, 92 college students recorded their Facebook usage in terms of time and the functions they used on the site. Respondents were also asked why they used the site. Based on the findings of the study, respondents reportedly averaged 27.93 minutes on the site on weekdays and 28.44 minutes per day on weekends (Pempek et al.). The majority of students also used the site in the evenings as the hours of 9:00PM to 12:00AM were the mostly commonly reported log-in times (Pempek et al.). In terms of motivation, students used the site to communicate with friends (Pempek et al.). The site was more often used by underclassmen, many of whom used it to maintain contact with high school friends who attended other schools (Pempek et al.). In addition, females had a larger number of friends than males on the site (Pempek et al.). The researchers also discovered that students spend a greater amount of time receiving content than posting it because they read the content posted by friends on the site (Pempek et al.). Many respondents also reported that they used the website to express themselves (Pempek et al.).

These findings supported the earlier results of Ellison, Steinfeld, and Lampe (2007), who analyzed the relationship between Facebook and its effect on social capital. To this extent, the researchers analyzed how Facebook (and similar sites) affected three types of social capital: bridging social capital, bonding social capital, and maintained social capital (Ellison et al., 2007). In this study, 286 students were surveyed and 94% of them used Facebook. Ellison also discovered that these students spent between ten and thirty minutes per day on the site, and these findings on daily usage are consistent with those of Pempek et al. (2009). Ellison also found students use the site to maintain
existing relationships, and this finding is also consistent with the findings of Pempek et al. (2009). Ellison et al. (2007) concluded positive relationships exist between Facebook usage and all three types of social bonding.

Much research has been done on social media. Companies are using social media platforms to reach customers. Positive word-of-mouth recommendations or reviews on these sites have a positive impact on sales (Barnes, 2008). Furthermore, customers obtain information about companies and brands on social media sites. This study analyzes the effect of word-of-mouth recommendations on Facebook and Twitter. Additionally, research is inconsistent in gender usage of the Internet and social media sites. According to Budden et al. (2007), females spend more time on social networking sites than males; in addition, upperclassmen access the Internet more than underclassmen or graduate students. However, Gerlich et al. did not find any statistically significant differences between gender usages of the Internet or social media. The research in this study examines the differences, if any, between the genders and whether gender affects the impact of electronic word-of-mouth recommendations and purchasing habits. Finally, previous research has found that people use Facebook frequently and for self-expression and communication with friends. This study investigates the relationship between social media usage frequency and the influence it has on electronic word-of-mouth recommendations. The study explores whether exposure to recommendations positively or negatively influences students.
Chapter 3: Methodology

In this study, a quantitative research survey was created to analyze the effect of social media on the consumption patterns of students at collegiate institution. The survey instrument focused on Facebook and Twitter. The research study’s purpose was to discover the impact of word-of-mouth recommendations, gender, and usage frequency of Facebook and Twitter on the purchasing habits of students. Therefore, the following research questions and hypotheses were proposed:

**Q1.** Do word-of-mouth recommendations on social media websites effect consumption patterns?

**H1₀:** Word-of-mouth recommendations on social media websites have no effect on consumption patterns.

**H1₁:** Word-of-mouth recommendations on social media websites have an effect on consumption patterns.

**Q2.** Does the effectiveness of word-of-mouth recommendations on social media differ between genders?

**H2₀:** The effectiveness of word-of-mouth recommendations on social media websites does not differ between males and females.

**H2₁:** The effectiveness of word-of-mouth recommendations on social media websites differs between males and females.

**Q3.** Does the effectiveness of word-of-mouth recommendations on social media websites differ based on social media usage frequency?
**H3a:** The effectiveness of word-of-mouth recommendations on social media websites does not differ based on social media usage frequency.

**H3b:** The effectiveness of word-of-mouth recommendations on social media websites differs based on social media usage frequency.

After compiling the data, several tests were run to find relationships between the demographics as well as the theoretical variables. To analyze research question 1, Pearson tests were used to examine the strength of relationships between variables; these tests were conducted at a significance level of .05. To test research question 2, t-tests were run to test for differences between genders at a significance level of .05. Pearson correlations were also used to analyze research question 3, and the relationships between usage frequency and other dependent variables were tested at a significance level of .05. Finally, analysis of variance tests were conducted to determine whether any other independent variable relating to demographics influenced the effectiveness of electronic word-of-mouth communication. This analysis was conducted at a significance level of .05.

**Participants**

The research study was based on a convenience sample. There were 275 students from a Midwestern university who participated in this study. The population of the study was approximately 13,570 students (College Toolkit). Participants were recruited both online and in person. Several faculty members announced the study in their classes.
**Materials and Procedure**

After approval was obtained from the university’s Institutional Review Board, the electronic survey was opened. Facebook posts were published and e-mails were sent to students. Additionally, announcements were made in multiple communication courses and flyers were distributed on campus as well. Students were aware participation was voluntary.

Before beginning the survey instrument, respondents were first routed to the Informed Consent Form. Once the form had been read and their age was verified, respondents were able to access the survey instrument. No identifying information was requested on the questionnaire nor was any identifying information recorded. The survey was comprised of 28 questions (Appendix A), several of which were grouped together. The first two questions pertained to the number and type of social accounts the respondent maintains. The next eight questions asked about participants’ Facebook accounts, whereas the following eight inquired about their Twitter accounts. The subsequent two questions asked about their shopping habits; finally, the last eight questions documented demographics.

Respondents were initially asked how many social networking accounts they maintained and then were asked to identify them. If the respondent did not have any accounts, they were able to skip to the shopping preference set of questions; however, if they confirmed that they had a Facebook account, they continued. The next question inquired how frequently the respondent checked his/her Facebook account. The choices ranged from 1 to 5; 1 was never, 5 represented *multiple times a day*. The next question asked for the number of friends the respondent has on his/her account. Then, participants were asked about the number of companies/businesses they befriend/ “liked” on
Facebook, which was followed up by a question to identify these companies. The
following questions were clustered together. These four questions pertained to the
frequency respondents shop at the companies they befriended/“liked,” receive
correspondence from these companies via Facebook, obtain information about sales,
specials, or coupons from these companies, and utilize these sales, specials, or coupons.
These were measured on a scale; 1 represented never and 5 denoted very frequently.

If respondents confirmed that they had a Twitter account, they were directed to
the Twitter portion of the survey; otherwise, they were able to skip to the set of questions
on shopping habits. The first two Twitter questions pertained to the frequency the
respondents checked their accounts and how many followers they have. The next groups
of questions inquired how many companies/businesses the respondent follows and to
identify specific businesses. Then participants were asked a group of questions
pertaining to the frequency that respondents shop at the companies they follow, receive
correspondence from these companies via Twitter, obtain information about sales,
specials, or coupons from these companies, and utilize these sales, specials, or coupons.
These were measured on a scale; 1 represented never and 5 denoted very frequently.

Next, participants were asked how often they shop online, then in person. These
inquiries operated on the same scale as the previous set. Finally, demographic questions
concluded the survey.
Chapter 4: Results

The Sample

To investigate the role of social media on consumption patterns, an electronic survey was distributed at a Midwestern college. A total of 275 students took the survey. Of these students, 82 were male, 158 female, and 35 did not provide a response. Thus, of those who provided a valid response, 34.2% were male and 65.8% were female. These results can be found in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>82</td>
<td>29.8%</td>
<td>34.2%</td>
</tr>
<tr>
<td>Female</td>
<td>158</td>
<td>57.5%</td>
<td>65.8%</td>
</tr>
<tr>
<td>No response</td>
<td>35</td>
<td>12.7%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The gender demographics found in the survey are proportional with the demographics of the overall college. A 2008 survey of students at the university found that 44.8% of undergraduate students at the college were male, while 55.5% of students at the college were female (College Toolkit). Thus, the sample was comprised of more females than males, consistent with the population at the college.

In terms of class rank, a diverse selection of students was surveyed. These respondents can be found in Table 2.
As shown in Table 2, 25.5% of respondents were freshmen, while 13.8% were sophomores. In addition, 10.5% of respondents were juniors, 8.7% were seniors and 21.8% were graduate students. Notably, almost one-fifth (19.6%) of respondents did not provide a class rank for the survey. When these nonresponses are excluded, 31.7% of respondents were freshmen, 17.2% were sophomores, 13.1% were juniors, 10.9% were seniors, and 27.1% were graduate students. These statistics are consistent with the overall population at the participating university, as a 2008 survey of students found that 68.5% of students were undergraduate students, 29.3% were graduate students, and 2.04% were professional students (College Toolkit).

A wide range of age groups were also present in the study. The age demographics of respondents can be found in Table 3.

<table>
<thead>
<tr>
<th>Class rank</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>70</td>
<td>25.5%</td>
<td>31.7%</td>
</tr>
<tr>
<td>Sophomores</td>
<td>38</td>
<td>13.8%</td>
<td>17.2%</td>
</tr>
<tr>
<td>Juniors</td>
<td>29</td>
<td>10.5%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Seniors</td>
<td>24</td>
<td>8.7%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Graduate students</td>
<td>60</td>
<td>21.8%</td>
<td>27.1%</td>
</tr>
<tr>
<td>No response</td>
<td>54</td>
<td>19.6%</td>
<td>---</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>275</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
### Table 3

**Age of Sample**

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-19</td>
<td>78</td>
<td>28.4%</td>
<td>32.6%</td>
</tr>
<tr>
<td>20-21</td>
<td>41</td>
<td>14.9%</td>
<td>17.2%</td>
</tr>
<tr>
<td>22-23</td>
<td>12</td>
<td>4.4%</td>
<td>5.0%</td>
</tr>
<tr>
<td>24-25</td>
<td>18</td>
<td>6.5%</td>
<td>7.5%</td>
</tr>
<tr>
<td>26-30</td>
<td>24</td>
<td>8.7%</td>
<td>10.0%</td>
</tr>
<tr>
<td>31-40</td>
<td>34</td>
<td>12.4%</td>
<td>14.2%</td>
</tr>
<tr>
<td>41-50</td>
<td>21</td>
<td>7.6%</td>
<td>8.8%</td>
</tr>
<tr>
<td>51-60</td>
<td>5</td>
<td>1.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Over 60</td>
<td>6</td>
<td>2.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>No response</td>
<td>36</td>
<td>13.1%</td>
<td>---</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>275</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

As shown in Table 3, almost half of the respondents were between the ages of 18 and 21. This result is not surprising, as a majority of traditional college students are between these ages. In addition, 36 students (13.1%) did not provide an age in the survey.

To better understand the demographics of the sample, respondents were also asked whether they were full-time or part-time students. A large percentage of students (66.5%) were full-time students, as shown in Table 4. Of the people who responded, 83.6% of respondents were full-time. Based on this characteristic, the sample represents the population, as a 2008 survey of students at the institution found that 87.5% of undergraduate students were full-time, while 12.4% were part-time students (College Toolkit).
Table 4

**Student Status of Sample**

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>183</td>
<td>66.5%</td>
<td>83.6%</td>
</tr>
<tr>
<td>Part-time</td>
<td>36</td>
<td>13.1%</td>
<td>16.4%</td>
</tr>
<tr>
<td>No response</td>
<td>56</td>
<td>20.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>275</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Respondents were also asked about their current employment status. Participants were asked to select among three options: full-time, part-time, and no current employment. The results of this question can be found in Table 5.

Table 5

**Employment Status of Sample**

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time job</td>
<td>70</td>
<td>25.5%</td>
<td>29.3%</td>
</tr>
<tr>
<td>Part-time job</td>
<td>87</td>
<td>31.6%</td>
<td>36.4%</td>
</tr>
<tr>
<td>No current employment</td>
<td>82</td>
<td>29.8%</td>
<td>34.3%</td>
</tr>
<tr>
<td>No response</td>
<td>36</td>
<td>13.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>275</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

As shown in Table 5, the responses to this question varied. Of participants who provided a response, 29.3% held a full-time job, while 36.4% held a part-time job and 34.3% did not have a job at the time of the survey.

Respondents were also asked to report their marital status, and the results of this question can be found in Table 6.
Table 6

Marital Status of Sample

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>190</td>
<td>69.1%</td>
<td>79.5%</td>
</tr>
<tr>
<td>Married</td>
<td>49</td>
<td>17.8%</td>
<td>20.5%</td>
</tr>
<tr>
<td>No response</td>
<td>36</td>
<td>13.1%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

As shown in Table 6, a wide margin of respondents were single, as 69.1% reported being single. Conversely, 17.8% of respondents were married and 13.1% did not provide a response. When eliminating these nonresponses, 79.5% of respondents were single, whereas 20.5% were married.

The ethnicity of respondents was also asked in the survey, and responses to this question can be found in Table 7.

Table 7

Ethnicity of Sample

<table>
<thead>
<tr>
<th>Ethnic group</th>
<th>Number of respondents</th>
<th>Percentage</th>
<th>Valid Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White/Non-Hispanic</td>
<td>217</td>
<td>78.9%</td>
<td>90.8%</td>
</tr>
<tr>
<td>Hispanic-American</td>
<td>2</td>
<td>.7%</td>
<td>.8%</td>
</tr>
<tr>
<td>Native American</td>
<td>3</td>
<td>1.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Asian American</td>
<td>3</td>
<td>1.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>African American</td>
<td>12</td>
<td>4.4%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>.7%</td>
<td>.8%</td>
</tr>
<tr>
<td>No response</td>
<td>36</td>
<td>13.1%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

As shown in Table 7, the majority of respondents were white or non-Hispanic, as 78.9% of respondents were of this ethnicity. Hispanics, Native Americans, and Asian Americans had very little representation in the sample, as these three groups comprised
only 2.9% of the sample. African-Americans, meanwhile, comprised 4.4% of the sample. In addition, 13.1% of respondents chose not to report their ethnicity. When these nonresponses are eliminated from the analysis, the percentage of whites in the sample increased to 90.8%, while the number of African-Americans increased to 5.0% of the sample. Similarly, the valid percentage of Hispanic-Americans, Asian Americans, and Native Americans increased to 3.4% of the sample.

At first, this sample may seem to be skewed toward the White/Non-Hispanic category. However, the population at the university is predominantly comprised of students from this ethnic group (College Toolkit). A 2008 survey of the academic institution’s students found that 88.35% of students were Caucasian, whereas 5.66% were African-American (College Toolkit). In addition, this survey indicated that Hispanic-Americans, Asian Americans, and Native Americans comprised 2.59% of the student population at the university (College Toolkit). As a result, this sample is representative of the population in terms of ethnicity.

**Research Question #1**

The first research question sought to determine whether social media websites like Facebook and Twitter affect consumption patterns. To examine this research question, the following research question and hypotheses were established:

**Q1.** Do word-of-mouth recommendations on social media websites affect consumption patterns?

**H1o:** Word-of-mouth recommendations on social media websites have no affect on consumption patterns.
**H1a:** Word-of-mouth recommendations on social media websites have an affect on consumption patterns.

In order to analyze this research question, the relationships between several variables were explored: number of companies liked; shopping frequency at “liked” stores; frequency of correspondence; frequency of sales, specials, or coupons; and usage frequency of the sales, specials, or coupons received from these sites. This information was collected for two social networking sites: Facebook and Twitter. Because these scales represented interval-level data, Pearson correlations were used to test these relationships; furthermore, these correlations were conducted using a .05 standard of significance.

**Facebook**

The results of the Pearson correlations can be found in Table 8. Correlations with number of Facebook friends was analyzed with the number of companies “liked.” This test revealed a .140 coefficient of correlation, and this result was statistically significant at a .05 level of significance. Thus, although statistically significant, the small correlation coefficient indicates this relationship was weak; consequently, it can be argued there is only a slight relationship between the number of friends an individual has on Facebook and the number of companies they have “liked.” The relationship between the number of friends...
Table 8

*Pearson Correlations for Facebook Variables*

<table>
<thead>
<tr>
<th></th>
<th>Correlations</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>fbfriends</td>
<td>fblikes</td>
<td>fshopfrequ</td>
<td>fbcorrespondence</td>
<td>fbsalesinfo</td>
<td>fbsalesuse</td>
</tr>
<tr>
<td>fbfriends</td>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>.140*</td>
<td>.114</td>
<td>-.002</td>
<td>.078</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.029</td>
<td>.077</td>
<td>.969</td>
<td>.225</td>
<td>.079</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>253</td>
<td>245</td>
<td>240</td>
<td>241</td>
<td>241</td>
</tr>
<tr>
<td>fblikes</td>
<td>Pearson Correlation</td>
<td>.140*</td>
<td>1.000</td>
<td>.487**</td>
<td>.389**</td>
<td>.419**</td>
</tr>
<tr>
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<td>Sig. (2-tailed)</td>
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<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>245</td>
<td>246</td>
<td>240</td>
<td>241</td>
<td>241</td>
</tr>
<tr>
<td>fshopfrequ</td>
<td>Pearson Correlation</td>
<td>.114</td>
<td>.487**</td>
<td>1.000</td>
<td>.502**</td>
<td>.565**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.077</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
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<td>240</td>
<td>241</td>
<td>241</td>
<td>241</td>
</tr>
<tr>
<td>fbcorrespondence</td>
<td>Pearson Correlation</td>
<td>-.002</td>
<td>.389**</td>
<td>.502**</td>
<td>1.000</td>
<td>.713**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.969</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>241</td>
<td>241</td>
<td>241</td>
<td>242</td>
<td>242</td>
</tr>
<tr>
<td>fbsalesinfo</td>
<td>Pearson Correlation</td>
<td>.078</td>
<td>.419**</td>
<td>.565**</td>
<td>.713**</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.225</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>241</td>
<td>241</td>
<td>241</td>
<td>242</td>
<td>242</td>
</tr>
<tr>
<td>fbsalesuse</td>
<td>Pearson Correlation</td>
<td>.114</td>
<td>.444**</td>
<td>.612**</td>
<td>.556**</td>
<td>.628**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.079</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>240</td>
<td>240</td>
<td>240</td>
<td>241</td>
<td>241</td>
</tr>
</tbody>
</table>

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

*. Correlation is significant at the 0.05 level (2-tailed).
respondents have on Facebook and the frequency at which they shop at companies they have friended on Facebook was also examined. This test revealed a correlation coefficient of .114; however, this result was not significant at the .05 level.

Likewise, a Pearson correlation was used to test the relationships between number of Facebook friends and the amount of correspondence received from companies. This test revealed a non-significant correlation coefficient of -.002, which indicates there was no association between these two variables. Respondents were also asked how often they received information on sales, coupons and promotions from companies through Facebook, and a Pearson correlation was used to test the relationship between this variable and number of Facebook friends. Again a non-significant correlation coefficient of .078 was found for these two variables. Finally, the relationship between usage of these promotions and number of Facebook friends was tested using a Pearson correlation. This test revealed a correlation coefficient of .114, though it was not statistically significant.

First, correlations with the number of companies liked on Facebook and the shopping frequency at these stores was analyzed. A correlation coefficient of .487 was calculated and found to be significant at a significance level of .05. Thus, this positive relationship was found to be moderate and substantial. Individuals who like companies on Facebook are likely to shop at these stores. Next, the relationship between number of companies liked on Facebook and the amount of correspondence received from companies. A correlation coefficient of .389 was discovered. This coefficient was found to be statistically significant at .05; therefore, this positive correlation was deemed to be
definitive but small. Thus, as individuals like more companies on Facebook, they are likely to receive more correspondence from these companies.

Next, the relationship between the number of companies liked on Facebook and the amount of information received about sales and promotions was analyzed. A correlation coefficient of .419 indicated a positive, moderate relationship which suggests that as individuals like more companies on Facebook, they are more likely to receive more information on sales and promotions. Finally, the relationship between the number of companies liked and how often sales and promotions are received through this channel were analyzed. A significant correlation coefficient of .444 was found, indicating a moderate, positive relationship. Thus, individuals who like more companies on Facebook are more likely to take advantage of the sales and promotions being offered through this medium.

Correlations with shopping frequency at stores liked on Facebook was the next variable analyzed. First, the relationship between this variable and the amount of correspondence received was analyzed. A significant correlation of .502 indicates a positive, moderate relationship between these two variables. Thus, an increase in correspondence received from companies may lead to increase in shopping frequency at these stores. In addition, the relationship between shopping frequency at stores liked on Facebook and the amount of information received from companies about sales was analyzed. A statistically significant correlation coefficient of .565 revealed a positive, moderate relationship. Thus, as individuals increase their shopping at stores liked on Facebook, they are more likely to take advantage of promotional offers received on this site.
Next, correlations with the correspondence frequency of information received from companies on Facebook was analyzed in relation to the amount of sales and promotional offers and the usage of sales and promotional offers. First, a correlation between Facebook correspondence frequency and amount of sales and promotional offers revealed a statistically significant correlation coefficient of .713, meaning the relationship was moderate-to-strong and positive. Thus, the more correspondence individuals receive, the more likely this information is to include sales and other promotions. Finally, a correlation between correspondence frequency and usage of sales and promotions was computed. This test produced a statistically significant correlation coefficient of .556. This moderately strong relationship was deemed to be positive, meaning an increase in correspondence related to an increase in usage of promotional offers by customers.

Finally, the relationship between the frequency at which information on sales and promotions was received and the frequency at which these offers are taken advantage of was analyzed. A Pearson correlation coefficient of .628 was found, which was statistically significant at a .05 level of significance. This relationship was deemed to be positive and substantial, so as companies send more information on sales and promotions, these offers are more likely to be redeemed.

**Twitter**

Next, the relationships between Twitter variables were analyzed. The results of these tests can be found in Table 9.
Table 9

Pearson Correlations for Twitter Variables

<table>
<thead>
<tr>
<th></th>
<th>twitterfollowers</th>
<th>twittercompanies</th>
<th>twittershopfreq</th>
<th>twittercorrespondence</th>
<th>twittersalesinfo</th>
<th>twittersalesuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>twitterfollowers</td>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>.367**</td>
<td>.505**</td>
<td>.458**</td>
<td>.537**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>176</td>
<td>174</td>
<td>173</td>
<td>171</td>
<td>173</td>
</tr>
<tr>
<td>twittercompanies</td>
<td>Pearson Correlation</td>
<td>.367**</td>
<td>1.000</td>
<td>.523**</td>
<td>.554**</td>
<td>.582**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
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<td>206</td>
<td>208</td>
</tr>
<tr>
<td>Twittershopfreq</td>
<td>Pearson Correlation</td>
<td>.505**</td>
<td>.523**</td>
<td>1.000</td>
<td>.837**</td>
<td>.855**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
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<td>173</td>
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<td>211</td>
<td>209</td>
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</tr>
<tr>
<td>Twittercorrespondence</td>
<td>Pearson Correlation</td>
<td>.458**</td>
<td>.554**</td>
<td>.837**</td>
<td>1.000</td>
<td>.918**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
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</tr>
<tr>
<td>Twittersalesinfo</td>
<td>Pearson Correlation</td>
<td>.537**</td>
<td>.582**</td>
<td>.855**</td>
<td>.918**</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>.000</td>
<td>.000</td>
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<td></td>
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<td>173</td>
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<tr>
<td>Twittersalesuse</td>
<td>Pearson Correlation</td>
<td>.423**</td>
<td>.484**</td>
<td>.792**</td>
<td>.870**</td>
<td>.868**</td>
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<td>.000</td>
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</tr>
<tr>
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<td>N</td>
<td>171</td>
<td>206</td>
<td>209</td>
<td>207</td>
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</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
In order to test the relationships between variables for Twitter, the first relationship which was analyzed was the correlation between number of followers on Twitter and number of companies followed. Because the scales represented interval-level data, this relationship was tested using a Pearson correlation at a .05 level of significance. This test revealed a correlation of .367 between these two variables, and this correlation was statistically significant at a .05 level of significance. This positive relationship was definitive, yet small, meaning that as individuals follow more individuals they are slightly more likely to follow more companies. The relationship between the number of followers that respondents have on Twitter and the frequency at which they shop at companies they have followed on Twitter was also tested using a Pearson correlation at a .05 level of significance. This test revealed a correlation coefficient of .505, and this result was found to be significant at the .05 significance level. This moderate correlation indicates individuals who are more active on Twitter (as based on the number of followers they have) are somewhat more likely to shop at companies they have followed.

Next, the relationship between number of followers that respondents have on Twitter and the frequency with which respondents receive correspondence from companies was tested. A Pearson correlation at a significance level of .05 revealed a substantial correlation coefficient of .458 which was statistically significant. A Pearson correlation test was also used to measure the relationship between number of Twitter followers and the frequency at which respondents receive information on sales, specials, or coupons. This test revealed a statistically significant correlation coefficient of .537, which was a positive, moderate relationship. Thus, individuals who have more followers are more likely to receive information from companies about special deals. Finally, the
relationship between number of followers and the frequency at which respondents take advantage of deals and specials from this medium was tested. A Pearson correlation test at a significance level of .05 revealed a statistically-significant correlation of .423. Thus, individuals who have more followers are slightly more likely to use the sales offered through Twitter.

Next, the relationship between the number of companies followed on Twitter and other variables were tested. First, a Pearson correlation at a significance level of .05 was used to test the relationship between number of companies followed on Twitter and how often individuals shop at these companies they have followed. A correlation coefficient of .523 was calculated, and this coefficient was found to be statistically significant. Thus, there is a moderate, substantial relationship between these two variables: individuals who follow more companies on Twitter are only slightly more likely to shop at these stores.

Next, the relationship between number of companies respondents follow on Twitter and the frequency at which they shop at these establishments was calculated. To test this relationship, a Pearson correlation was used with an established significance level of .05. The test revealed a statistically-significant correlation coefficient of .554, meaning the relationship was positive and substantial. Thus, individuals who follow more companies are only slightly more likely to receive more correspondence from these firms. These results seem to suggest that some companies may not be using Twitter to correspond with their customers and thus are not using this channel to its fullest extent. This theory is further supported by the next test which was conducted. In this test, the relationship between the number of companies followed on Twitter and the frequency with which customers received sales or promotional offers from these companies was
examined. Because the scale was interval-level, a Pearson correlation was used at a significance level of .05. A coefficient of .582 was discovered, meaning the positive relationship was moderate and substantial. As a result, as individuals follow more companies, they are only slightly more likely to receive more correspondence from these firms.

Finally, the relationship between the number of companies respondents followed on Twitter and the frequency with which respondents used the sales information was examined. This relationship was also tested using a Pearson correlation at a significance level of .05. A .484 correlation coefficient was discovered, meaning the positive relationship was substantial and moderate. Thus, individuals who follow more companies on Twitter are only slightly more likely to take advantage of the offers received through this social media channel.

Next, the relationships between shopping frequency at companies that have been followed and the other variables were examined. First, the relationship between how often respondents shopped at companies they have followed and how often they received correspondence from these companies was examined. A Pearson correlation test at a .05 level of significance revealed a statistically-significant correlation coefficient of .837. This positive, highly dependable relationship indicates that individuals who receive correspondence from companies are more likely to shop at these stores. A Pearson correlation at a .05 level of significance was also used to test the relationship between how often respondents shop at stores they have followed on Twitter and how often they receive information on sales from these locations. This test revealed a positive, dependable correlation coefficient of .855 which was also statistically significant. Thus,
individuals who receive sales information from these stores on Twitter are more likely to shop at these locations.

Last, the relationship between how often respondents shopped at companies they have followed on Twitter and how often they used sales information received through this medium was explored. A Pearson correlation at a significance level of .05 was used to test this relationship, and a .792 coefficient was calculated. Thus, the relationship was deemed to be positive and marked. Individuals who often shop at stores they have followed on Twitter are more likely to take advantage of sales they find on this site.

Next, the relationships between how often respondents received correspondence from companies on Twitter and other variables was examined. First, a Pearson correlation was used to test the relationship between how often respondents received correspondence from companies on Twitter and how often they receive information on sales or promotions. This relationship was tested using a Pearson correlation at a significance level of .05. A statistically significant correlation coefficient of .918 was calculated, thus demonstrating a highly-correlated relationship between these variables. This correlation indicates that individuals who receive a great deal of correspondence from companies are more likely to receive information on sales and coupons. This result is logical as much of the correspondence received from companies is likely about sales.

Next, the relationship between how often respondents receive correspondence from companies they follow and how often they take advantage of sales was examined. A Pearson correlation test was used at a significance level of .05, and a correlation coefficient of .870 was discovered. This coefficient represents a dependable and positive
relationship between the two variables. Thus, individuals who receive more correspondence from companies on Twitter are more likely to take advantage of sales.

Last, the relationship between how often individuals receive sales information on Twitter and how often they take advantage of these sales was examined. A Pearson correlation was used to test the relationship between these two variables at a significance level of .05. A statistically-significant correlation of .868 was discovered, meaning a strong, dependable relationship exists between the two variables. Thus, individuals who receive more information on sales through Twitter are more likely to take advantage of these sales.

*Research Question #2*

The second research question sought to determine whether the effectiveness of word-of-mouth recommendations on social media differed between genders. To this extent, the following research question and hypotheses were established:

**Q2.** Does the effectiveness of word-of-mouth recommendations on social media differ between genders?

**H2_0:** The effectiveness of word-of-mouth recommendations on social media websites does not differ between males and females.

**H2_a:** The effectiveness of word-of-mouth recommendations on social media websites differs between males and females.

To test this research question and these hypotheses, the mean responses for both genders on questions Facebook friends (3 through 4), Facebook correspondence (6 through 10), Twitter followers (11 through 12), and Twitter correspondence (14 through
were calculated; subsequently, t-tests for independent samples were utilized to determine whether the differences in means were statistically significant at a significance level of .05. Table 10 shows the mean response scores for females and males for each variable; Table 11 shows the results for the independent t-tests.
Table 10

*Group Statistics*

| gender | fbcheck | | fbfriends | | fblikes | | fbshopfrequ | | fbcorrespondence | | fbsalesinfo | | fbsalesuse | | twittercheck | | twitterfollowers | | twittercompanies | | twittershopfreq | | twittercorrespondence | | twittersalesinfo | | twittersalesuse |
|--------|---------|---|--------|---|--------|---|--------|---|--------|---|--------|---|--------|---|--------|---|--------|---|--------|---|
|        | N   | Mean | Std. Deviation | Std. Error Mean | N   | Mean | Std. Deviation | Std. Error Mean | N   | Mean | Std. Deviation | Std. Error Mean | N   | Mean | Std. Deviation | Std. Error Mean | N   | Mean | Std. Deviation | Std. Error Mean | N   | Mean | Std. Deviation | Std. Error Mean |
|        |     |      |               |                |     |      |               |                |     |      |               |                |     |      |               |                |     |      |               |                |     |      |               |                |
| Male   | 77  | 4.31 | 1.115         | .127           | 77  | 4.22 | 1.804         | .206           | 76  | 1.96 | 1.836         | .211           | 75  | 2.40 | 1.230         | .142           | 76  | 2.28 | 1.218         | .140           | 76  | 2.46 | 1.259         | .144           |
| Female | 142 | 4.51 | .920          | .077           | 146 | 4.42 | 1.673         | .138           | 147 | 2.14 | 1.875         | .155           | 145 | 2.61 | 1.238         | .103           | 145 | 2.46 | 1.269         | .105           | 145 | 2.88 | 1.364         | .113           |
| Male   | 75  | 2.40 | 1.230         | .142           | 75  | 2.28 | 1.607         | .186           | 62  | 2.00 | 1.355         | .172           | 69  | 1.41 | 1.092         | .095           | 70  | 1.49 | .959          | .115           |
| Female | 145 | 2.61 | 1.238         | .103           | 138 | 2.34 | 1.619         | .138           | 104 | 1.99 | 1.347         | .132           | 132 | .58  | 1.092         | .095           | 130 | 1.48 | .990          | .087           |
| Male   | 69  | 1.41 | .929          | .112           | 69  | 1.41 | .851          | .075           | 69  | 1.43 | .894          | .107           | 70  | 1.51 | 1.021         | .090           | 70  | 1.39 | .889          | .106           |
| Female | 132 | .58  | 1.092         | .095           | 130 | 1.48 | .990          | .087           | 130 | 1.41 | .851          | .075           | 130 | 1.51 | 1.021         | .090           | 128 | 1.41 | .927          | .082           |
### Table 11

**Independent T-test Results**

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>fbcheck</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>6.214</td>
<td>.013</td>
<td>-1.440</td>
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<tr>
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<td></td>
<td>-1.361</td>
</tr>
<tr>
<td>fbfriends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
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<td>.122</td>
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<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td>- .823</td>
</tr>
<tr>
<td>fblikes</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>.547</td>
<td>-.667</td>
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<tr>
<td>Equal variances not assumed</td>
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<td></td>
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</tr>
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<td>-----------------------------</td>
<td>-------</td>
<td>-------</td>
</tr>
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<td>fbsalesuse</td>
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<td>.723</td>
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<td></td>
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<td>twitterfollowers</td>
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<td>.930</td>
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<td></td>
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<td>twittershopfreq</td>
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<td>.864</td>
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<td>twittersalesuse</td>
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<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-.211</td>
<td>147.075</td>
</tr>
</tbody>
</table>
Facebook

The first set of comparisons between females’ and males’ responses tested differences in how often females and males checked their Facebook accounts. This relationship is an important component because students who check their Facebook accounts more often are more likely to be exposed to more word-of-mouth recommendations from their peers. As shown in Table 11, the first unit of output represented a Levene’s Test for Equality of Variance, which tested whether the two groups (in this case, genders) displayed equal variance on the dependent variable (the frequency at which they check their Facebook accounts). Because this output was .013, and this statistic was less than the stated significance level of .05, one can assume the variances are not equal. As a result, the bottom line of the output was used in this analysis, and thus the calculated $p$-value was .176. Because the calculated $p$-value (.176) was greater than the desired significance level of .05, the differences between genders on this variable were not statistically significant.

The second variable which was tested related to the average number of friends students have on the social networking site Facebook. As students have larger numbers of friends on this site, the more likely they are to receive word-of-mouth recommendations from these peers. The results of this test can be found in Table 11. The Levene’s Test for Equality of Variance determined a calculated $p$-value of .122. Because this was larger than the desired significance level of .05, the variances were equal between the two means, and thus the top row of output was used in the analysis. Consequently, the calculated $p$-value (.401) was larger than the desired level of
significance (.05); thus, the differences between genders on this variable were not
deemed to be statistically significant.

The third variable which was tested related to the average number of companies
males and females “like” on Facebook, and the results of this analysis are shown in Table
11. The Levene’s Test for Equality of Variance determined a calculated p-value of .547.
Because this was larger than the desired significance level of .05, the variances between
the two means were deemed to be equal. The calculated p-value (.505) was larger than
the desired level of significance (.05), and so the differences between genders in terms of
number of companies they have liked on Facebook were not statistically significant.

Next, the frequency with which students shop at stores they have liked on
Facebook was analyzed. As shown in Table 11, the Levene’s Test for Equality of
Variance found a calculated p-value of .818, which was much larger than the desired
level of significance of .05. As a result, the variances between the two means were
determined to be equal. The corresponding calculated p-value of .240 was larger than
.05; consequently, no statistically significant differences were found between males and
females in regard to how often they shop at stores they have “liked” on Facebook.

The next column in Table 11 shows the results of a t-test for independent samples
on how often individuals receive correspondence from companies on Facebook. A
Levene’s Test for Equality of Variance showed the variances were equal, as the
calculated p-value of .377 was larger than the desired significance level of .05. As a
result, the output on the top level was used, and the calculated p-value of .296 was larger
than the desired significance level of .05. Thus, differences in how often males and
females receive correspondence from companies on Facebook was found to not be statistically significant.

Respondents were next asked how often they receive information on sales from the companies they have “liked” on Facebook. As shown in Table 11, a Levene’s Test for Equality of Variance revealed a calculated $p$-value of .356, thus determining the variances were equal. Based on this analysis, the calculated $p$-value was .028. Because this $p$-value was less than the desired significance level of .05, the differences between males and females were found to be statistically significant, as females receive more information from these companies regarding sales and discounts.

Next, respondents were asked how often they use the sales and promotions disseminated through Facebook, and the results of the t-test for independent samples which tested for differences between genders on this variable can also be found in Table 11. The Levene’s Test for Equality found a calculated $p$-value of .002, which meant the variances were not equal. The t-test revealed a calculated $p$-value of .001, which was less than the desired significance level of .05. As a result, the differences between genders were found to be statistically significant, as women take advantage of these promotions more often than men.

**Twitter**

The same process was repeated to determine whether differences between genders were evident through the usage of social media network Twitter. The first question focused on how often individuals checked their accounts on these sites, and t-tests for independent samples were again used to examine differences between genders. As shown in Table 11, a Levene’s Test for Equality of Variance was again employed first,
and a calculated $p$-value of .723 was discovered. As a result, the variances were determined to be equal, and the top row of t-test output was used in the analysis. The calculated $p$-value was .794, which was larger than the desired significance level of .05. As a result, no statistically significant differences in Twitter usage were discovered between males and females.

Next, the relationship between genders and number of Twitter followers was tested using a t-test for independent samples. The results of this test can be found in Table 11. When testing for equality of variance, a calculated $p$-value of .930 was discovered; as a result, the variances were determined to be equal. The subsequent t-test revealed a calculated $p$-value of .965. Because this $p$-value was larger than the desired significance level of .05, the differences between males and females in terms of number of Twitter followers were not found to be statistically significant.

The third Twitter variable which was tested was the number of companies that males and females follow on this social networking site. A t-test for independent samples was again employed to test for differences, and the results of this test can be found in Table 11. The initial Levene’s Test for Equality of Variance found a calculated $p$-value of .483, meaning the variances were equal. Consequently, the t-test found a $p$-value of .226. Because this is larger than .05 (the desired level of significance), no statistically significant differences were found between males and females in terms of the number of companies they follow on Twitter.

Respondents were also asked how often they shop with the companies they follow on Twitter, and a t-test for independent samples was used to test for differences between genders on this variable. The Levene’s Test for Equality of Variance found a calculated
A $p$-value of .864, which indicated the variances were equal. Consequently, the calculated
$p$-value in the t-test was determined to be .994. Because this value was greater than the
desired significance level of .05, the differences in means between males and females
were not found to be statistically significant.

The next variable that was tested for gender differences was how often
respondents received correspondence from companies they followed on Twitter, and
these results can be found in Table 11. The initial Levene’s Test for Equality of Variance
revealed the variances were equal, as the calculated $p$-value of .912 was larger than .05.
For the t-test, the calculated significance level was found to be .988, which was larger
than the desired level of .05. As a result, the frequency of which individuals receive
correspondence from companies they follow on Twitter does not vary by gender.

The next variable which was tested for differences between genders was how
often respondents receive sales information from companies they follow on Twitter. The
results of this analysis can be found in Table 11. A Levene’s Test for Equality of
Variance revealed a $p$-value of .195, which was larger than .05. As a result, the variances
between the two groups were determined to be equal. A $p$-value of .586 was calculated
for the t-test of independent samples, and this value was larger than the desired
significance level of .05. Consequently, unlike Facebook, no statistically significant
differences were found between genders in terms of how often they receive sales
information from companies on Twitter.

The last variable which was tested was how often individuals use the discounts
and promotions disseminated to them through Twitter. This variable was then tested for
differences between genders. The results of this test can be found in Table 11. A
Levene’s Test for Equality found a $p$-value of .655, meaning the variances between the two groups were assumed to be equal. The t-test between the two means revealed a calculated $p$-value of .835. Because this figure was larger than the desired .05, the differences in means between the two groups were not found to be statistically significant. As a result, unlike Facebook, where females use the promotions more often, males and females use promotional items on Twitter at the same rate.

**Research Question #3**

Research Question 3 related to whether the effectiveness of word-of-mouth recommendations on social networking sites differs based on social media usage frequency. To investigate this, the following research question and hypotheses were established:

**Q3.** Does the effectiveness of word-of-mouth recommendations on social media websites differ based on social media usage frequency?

**H3₀:** The effectiveness of word-of-mouth recommendations on social media websites does not differ based on social media usage frequency.

**H3ₐ:** The effectiveness of word-of-mouth recommendations on social media websites differs based on social media usage frequency.

This question was analyzed by calculating the strength of the relationship between usage frequency of social media sites and four separate factors: (1) how often individuals shop at companies they have befriended on these sites, (2) how often individuals receive general correspondence, (3) how often individuals receive sales information from companies on these sites, and (4) how often they use sales information received on these sites. Because the scales used to measure these frequencies were interval-level, Pearson
correlations were used to test the strength of these relationships. These correlations were tested at a significance level of .05. The results of these tests for variables relating to Facebook can be found in Table 12, while the results of these tests relating to variables for Twitter can be found in Table 13.

**Facebook**

To first test this research question, respondents’ Facebook usage frequency (survey question three) was related to how many companies they have liked on Facebook (survey question five). The results of this test can be found in Table 12.

Table 12

*Pearson Correlations for Facebook Usage*

<table>
<thead>
<tr>
<th></th>
<th>Fb check</th>
<th>Fb friends</th>
<th>Fb likes</th>
<th>Fb shopfreq</th>
<th>Fb correspondence</th>
<th>Fb salesinfo</th>
<th>Fb salesuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fb check</td>
<td>1.000</td>
<td>.122</td>
<td>.278**</td>
<td>.207**</td>
<td>.262**</td>
<td>.272**</td>
<td>.137*</td>
</tr>
<tr>
<td>Pearson Correlation</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
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<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.036</td>
</tr>
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<td>N</td>
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<td>248</td>
<td>241</td>
<td>236</td>
<td>237</td>
<td>237</td>
<td>236</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.

As shown in Table 12, a Pearson correlation at a significance level of .05 revealed a correlation of .278. This correlation was found to be statistically significant, though it was found to be weak. Based on these results, individuals who more frequently use Facebook are slightly more likely to befriend companies on this site.

To test the third research question, the respondents’ Facebook usage frequency (survey question three) was related to how often individuals shop at companies they have “liked” on this website (survey question seven). A Pearson correlation revealed a correlation of .207, and this correlation was found to be significant at a .05 level of
significance. Thus, the relationship between respondents’ Facebook usage frequency and how often they shop at companies they have befriended was found to be weak. Thus, individuals who check Facebook frequently are slightly more likely to shop at stores they have networked with on the site.

Next, respondents’ Facebook usage (survey question three) was related to how often they receive correspondence from these companies they have befriended on the site (survey question eight). A Pearson correlation revealed a correlation of .262, which was significant at a .05 level of significance. Additionally, this relationship was found to be definite, but small. Thus, individuals who frequently use Facebook are not more likely to receive correspondence from companies on the site.

Respondents’ Facebook usage (survey question three) was also related to how often they receive information about sales, specials, or coupons from companies on this social network (survey question nine). A Pearson correlation was conducted at a .05 level of significance, and a correlation coefficient of .272 was discovered. While this result was statistically significant at a .05 level of significance, it represented a lowly-correlated relationship. Thus, respondents who use Facebook more frequently are not more likely to receive information about sales, specials, or coupons.

Finally, respondents’ Facebook usage (survey question three) was related to how often they utilize the sales and specials provided from companies they had befriended on the site (survey question ten). A Pearson correlation indicated a correlation coefficient of .137, and this relationship was found to be statistically significant at a .05 level of significance.
Twitter

In order to gauge the role of Twitter usage frequency on the effectiveness of word-of-mouth communication, Pearson correlations were conducted to test the strength of relationships between usage frequency and several other variables. These results can be found in Table 13.

Table 13

Pearson Correlations for Twitter Usage

<table>
<thead>
<tr>
<th></th>
<th>Correlations</th>
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</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Pearson Correlation</td>
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</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>226</td>
</tr>
</tbody>
</table>

**, Correlation is significant at the 0.01 level.
*, Correlation is significant at the 0.05 level.

First, the relationship between Twitter usage frequency (survey question 11) and the number of companies that individuals followed on Twitter (survey question 13) was examined. Because the scales were interval, a Pearson correlation was used at a significance level of .05. A correlation coefficient of .379 was calculated, and this was statistically significant at a .05 significance level. However, this positive relationship is definite, but small. Thus, individuals who use Twitter more often are not more likely to follow companies on this social networking site.

Next, the relationship between respondents’ Twitter usage (survey question 11) and shopping frequency at stores they were following (survey question 15) was tested. A Pearson correlation revealed a correlation coefficient of .465, and this figure was statistically significant at a .05 level of significance. This relationship was classified as
substantial, meaning individuals who frequently use Twitter may be more likely to shop at stores they are following on this site.

A Pearson correlation was also used to evaluate the relationship between Twitter usage frequency (survey question 11) and how often individuals receive general correspondence from these companies (survey question 16). This test indicated a correlation coefficient of .461, which was statistically significant at a level of .05. This test showed a moderately-correlated relationship, meaning individuals who frequently use Twitter may be more likely to receive information from companies through the networking site.

Next, the relationship between how often individuals use Twitter (survey question 11) and how often they receive information about sales, specials, or coupons through the site (survey question 17) was examined. Because these scales were interval, a Pearson correlation at a significance level of .05 was used to analyze this relationship. The Pearson test indicated a correlation coefficient of .479, which was statistically significant at a significance level of .05. Therefore, individuals who use Twitter more frequently may be more likely to receive additional information on sales, specials, or coupons.

Finally, the relationship between how often respondents use Twitter (survey question 11) and how often they utilize sales, coupons or promotions from the site (survey question 18) was evaluated using a Pearson correlation at a significance level of .05. This analysis revealed a correlation coefficient of .444 which was statistically significant. However, this relationship was still classified as moderate. Thus, individuals who use Twitter more frequently are not more likely to take advantage of the sales information they may receive through this medium.
At first glance, these results may seem inconsistent; however, further analysis explains these results. The first correlations for each social networking site showed that heavy Facebook and Twitter users were not more likely to befriend companies; conversely, these respondents may be using these sites to network with other individuals rather than companies. Because these heavy Facebook and Twitter users are not necessarily befriend ing companies, they were less likely to shop at companies they connected with on these sites, receive general correspondence, and obtain information on sales. Based on this analysis, companies should not segment their markets based on usage patterns; rather, they should target the users who are more likely to disseminate information.

**Regression**

In order to further research the effects of the independent factors analyzed in the study on the dependent variable of sales usage frequency, multiple regression analyses were conducted. The results of these analyses can be found in Tables 14 through 19. Tables 14, 15, 16 relate to the effects of the independent variables on sales usage frequency of deals provided on Facebook, while Tables 17, 18, and 19 relate to the effects if the independent variables on sales usage frequency of deals provided through Twitter. Each of these analyses was conducted at a significance level of .05.
Table 14

*Model Summary for Multiple Regression Analysis of Variables on Sales Usage*

*Frequency of Deals on Facebook*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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</thead>
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<td>1</td>
<td>.759a</td>
<td>.577</td>
<td>.546</td>
<td>.787</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), ethnicgroup, fbsalesinfo, fbfriends, studenttype, gender, fbcheck, maritalstatus, workstatus, fblikes, fbshopfrequ, classrank, fbcorrespondence, age

To gain a better understanding of which variables influenced the frequency at which individuals used sales provided to them through Facebook, the following independent variables were analyzed: gender, class rank, student type, work status, marital status, frequency of checking Facebook, number of Facebook friends, number of companies liked on Facebook, frequency of shopping at companies liked on Facebook, frequency of correspondence received from companies on Facebook, frequency of information on promotions received from companies on Facebook, age, and ethnic group.

As shown in Table 14, the R Square value was .577, meaning that 57.7% of the variation in sales usage can be explained by the variables analyzed in this analysis. The Adjusted R-Square, which accounts for the large number of variables in the analysis, was .546.
Table 15

**ANOVA Results for Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Facebook**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>148.713</td>
<td>13</td>
<td>11.439</td>
<td>18.455</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>109.098</td>
<td>176</td>
<td>.620</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>257.811</td>
<td>189</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), ethnicgroup, fbsalesinfo, fbfriends, studenttype, gender, fbcheck, maritalstatus, workstatus, fblikes, fbshopfrequ, classrank, fbcorrespondence, age

b. Dependent Variable: fbsalesuse

Table 16

**Significance Tests for Coefficients Analyzed in Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Facebook**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-.206</td>
<td>.536</td>
<td>-.384</td>
</tr>
<tr>
<td></td>
<td>gender</td>
<td>.223</td>
<td>.124</td>
<td>.091</td>
</tr>
<tr>
<td></td>
<td>classrank</td>
<td>.027</td>
<td>.058</td>
<td>.037</td>
</tr>
<tr>
<td></td>
<td>studenttype</td>
<td>-.075</td>
<td>.188</td>
<td>-.024</td>
</tr>
<tr>
<td></td>
<td>workstatus</td>
<td>.021</td>
<td>.093</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>maritalstatus</td>
<td>.063</td>
<td>.195</td>
<td>.020</td>
</tr>
<tr>
<td></td>
<td>fbcheck</td>
<td>-.132</td>
<td>.063</td>
<td>-.110</td>
</tr>
<tr>
<td></td>
<td>fbfriends</td>
<td>.041</td>
<td>.037</td>
<td>.059</td>
</tr>
<tr>
<td></td>
<td>fblikes</td>
<td>.082</td>
<td>.039</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td>fbshopfrequ</td>
<td>.254</td>
<td>.061</td>
<td>.269</td>
</tr>
<tr>
<td></td>
<td>fbcorrespondence</td>
<td>.080</td>
<td>.069</td>
<td>.087</td>
</tr>
<tr>
<td></td>
<td>fbsalesinfo</td>
<td>.327</td>
<td>.066</td>
<td>.381</td>
</tr>
<tr>
<td></td>
<td>age</td>
<td>.061</td>
<td>.049</td>
<td>.116</td>
</tr>
<tr>
<td></td>
<td>ethnicgroup</td>
<td>.069</td>
<td>.055</td>
<td>.063</td>
</tr>
</tbody>
</table>

a. Dependent Variable: fbsalesuse

Table 15 shows the results of the analysis of variance (ANOVA) test,
\( F(13, 176)=18.46, p < .000. \) Because the calculated significance level (.000) was less than the desired level of significance (.05), this relationship was deemed to be linear. The results found in Table 16 indicate which coefficients were significant. To understand which were significant, the calculated levels of significance for each variable were considered; if these levels of significance were less than the desired significance level of .05, then the coefficient was deemed to be significant. In this case, the coefficients of frequency of checking Facebook (\( p < .038 \)), number of companies liked on Facebook (\( p < .035 \)), shopping frequency at companies liked on Facebook (\( p < .000 \)), and frequency at which information on sales is received from companies on Facebook (\( p < .000 \)) were all deemed to be significant. Thus, as individuals “like” more companies on Facebook, shop more frequently at these companies, and receive more sales information, they are more likely to take advantage of these promotional offers. Interestingly, this analysis also seems to indicate that as individuals check their Facebook accounts more often, they are less likely to take advantage of the sales and promotional offers they receive through this medium.

Next, the same test was conducted to determine which variables influenced the frequency at which individuals used sales provided to them through Twitter. To this extent, the following independent variables were analyzed: gender, class rank, student type, work status, marital status, frequency of checking Twitter, number of Twitter followers, number of companies followed on Twitter, frequency of shopping at companies followed on Twitter, frequency of correspondence received from companies on Twitter, frequency of information on promotions received from companies on Twitter,
age, and ethnic group. An analysis of variance (ANOVA) test was used, and the model summary results of this test can be found in Table 17.

Table 17

*Model Summary for Multiple Regression Analysis of Variables on Sales Usage*

*Frequency of Deals on Twitter*

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>R</td>
</tr>
<tr>
<td>1</td>
<td>.877(^a)</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), twittersalesinfo, age, gender, ethnicgroup, twittercheck, studenttype, maritalstatus, workstatus, twittercompanies, twitterfollowers, classrank, twittershopfreq, twittercorrespondence

As shown in Table 17, the R Square value was .768, meaning that 76.8% of variance in the dependent variable (sales usage frequency of deals on twitter) was explained by the independent variables which were tested in the analysis.

Table 18

*ANOVA Results for Multiple Regression Analysis of Variables on Sales Usage*

*Frequency of Deals on Twitter*

<table>
<thead>
<tr>
<th>ANOVA(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Regression</td>
</tr>
<tr>
<td>Residual</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), twittersalesinfo, age, gender, ethnicgroup, twittercheck, studenttype, maritalstatus, workstatus, twittercompanies, twitterfollowers, classrank, twittershopfreq, twittercorrespondence

\(^b\) Dependent Variable: twittersalesuse
Table 19

*Significance Tests for Coefficients Analyzed in Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Twitter*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.215</td>
<td>.345</td>
<td>.624</td>
</tr>
<tr>
<td></td>
<td>gender</td>
<td>-.026</td>
<td>.090</td>
<td>-.013</td>
</tr>
<tr>
<td></td>
<td>classrank</td>
<td>.021</td>
<td>.043</td>
<td>.033</td>
</tr>
<tr>
<td></td>
<td>studenttype</td>
<td>.191</td>
<td>.149</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>workstatus</td>
<td>-.104</td>
<td>.069</td>
<td>-.080</td>
</tr>
<tr>
<td></td>
<td>maritalstatus</td>
<td>-.124</td>
<td>.158</td>
<td>-.040</td>
</tr>
<tr>
<td></td>
<td>age</td>
<td>-.019</td>
<td>.038</td>
<td>-.038</td>
</tr>
<tr>
<td></td>
<td>ethnicgroup</td>
<td>.046</td>
<td>.043</td>
<td>.048</td>
</tr>
<tr>
<td></td>
<td>twittercheck</td>
<td>.036</td>
<td>.031</td>
<td>.059</td>
</tr>
<tr>
<td></td>
<td>twitterfollowers</td>
<td>-.031</td>
<td>.041</td>
<td>-.042</td>
</tr>
<tr>
<td></td>
<td>twittercompanies</td>
<td>-.091</td>
<td>.044</td>
<td>-.115</td>
</tr>
<tr>
<td></td>
<td>twittershopfreq</td>
<td>.111</td>
<td>.079</td>
<td>.118</td>
</tr>
<tr>
<td></td>
<td>twittercorrespondence</td>
<td>.446</td>
<td>.111</td>
<td>.433</td>
</tr>
<tr>
<td></td>
<td>twittersalesinfo</td>
<td>.369</td>
<td>.112</td>
<td>.397</td>
</tr>
</tbody>
</table>

a. Dependent Variable: twittersalesuse

Table 18 shows the results of the subsequent analysis of variance (ANOVA) test, which was $F(13, 129)=32.94, p<.000$. As shown in this table, the calculated significance level ($p<.000$) was less than the desired level of significance ($p<.05$); therefore, this relationship was deemed to be linear. The results found in Table 19 indicate which coefficients were significant. Again, the calculated significance level for each coefficient was compared to the desired level of significance of .05. If the calculated level of significance was lower than .05, then that variable was deemed to be significant. In this analysis, number of companies followed on Twitter ($p<.039$), frequency at which correspondence was received from companies on Twitter ($p<.000$), and frequency at which information on sales is received from companies on Twitter ($p<.001$) were deemed
to be significant. Based on this analysis, individuals who receive more correspondence and sales information are more likely to take advantage of these sales. Surprisingly, as individuals follow more companies on Twitter, they are less likely to take advantage of sales offers. At first, this may seem counter-intuitive; however, individuals who follow a large number of companies may reach information overload and may not be able to take advantage of the sales.
Chapter 5: Discussion

Though this study focused on only on college students, the results of this study are consistent with previous studies on the role of social media on consumption patterns. In this section, the results of the study will be discussed and will be analyzed in relation to previous research.

Research Question #1

The first research question sought to determine whether social media websites like Facebook and Twitter affect consumption patterns. To examine this research question, the following research question and hypotheses were established:

Q1. Do word-of-mouth recommendations on social media websites affect consumption patterns?

H1₀: Word-of-mouth recommendations on social media websites have no affect on consumption patterns.

H1ₐ: Word-of-mouth recommendations on social media websites have an affect on consumption patterns.

To analyze this research question, the relationships between several variables were explored: number of companies liked; shopping frequency at “liked” stores; frequency of correspondence; frequency of sales, specials, or coupons; and usage frequency of the sales, specials, or coupons received from these sites. For each variable, two sets of data were collected: one for Facebook and one for Twitter. The relationships between variables were then tested using Pearson correlations at a significance level of .05.
Number of Friends or Followers

The first variable which was analyzed was number of Facebook friends, and this variable was found to be related significantly to one other variable: number of companies liked on Facebook (.140). This statistic indicates that individuals who have more friends on this social networking site are more likely to like companies; however, this relationship is very weak and almost negligible. This relationship was found to be slightly stronger on Twitter, as the correlation coefficient was calculated to be .367. Thus, individuals who follow a larger number of other individuals are more likely to follow more companies.

Although no other statistically significant correlations were present between number of Facebook friends and other variables, several substantial relationships were found between number of individuals followed on Twitter and other variables. For example, the relationship between number of individuals followed and shopping frequency at stores followed on Twitter was found to be .505, meaning individuals who build larger social networks on the site are more likely to shop at stores they have connected to on Twitter. Likewise, individuals with larger social networks are more likely to receive correspondence from companies (.458), receive sales information (.537), and utilize sales information from the site (.423).

The results summarized above suggest that individuals may be using Twitter as a way of remaining connected with other entities, including companies. It is important to note that this variable related to the number of *individuals* that respondents were following, rather than *companies*. Given these moderate relationships and the low
correlation between number of individuals and companies liked, it is possible that respondents do not discriminate between companies and individuals on the site.

**Number of Companies Friended or Followed**

When analyzing the relationships between the number of companies friended or followed on these sites, several more statistically significant relationships were discovered. First, a substantial relationship (.487) was found between the variables of liking a company on Facebook and shopping at the company; additionally, this relationship was even stronger on Twitter (.523). These results indicate individuals are likely to shop at companies they have followed on social media sites, as well as connect to their favorite stores through social networking sites.

The findings of the study also found individuals who follow or friend a larger number of companies are more likely to receive correspondence from these companies, as the correlations for these two variables were .389 for Facebook and .554 for Twitter. These results indicate that some companies are already using these social networking sites as a communication channel with customers. Similarly, respondents who connected with larger numbers of companies on these sites were likely to receive more sales information than individuals who did not follow a larger number of companies. Again, this correlation was stronger on Twitter (.582) than it was for Facebook (.419). These results seem to show that many companies are already adopting Twitter as a communication channel with customers. As shown by Hyllegard, Ogle, Yan, and Reitz (2011), customers may gain additional benefits from receiving this information through social media: having information about companies or sales may make them market mavens who can share this information with others. These motivations then relate to the
motivations of “self-enhancement” and “concern for others” developed by Hennig-Thurau, Gwinner, Walsh, and Gremler (2004).

Finally, a substantial correlation was found between the number of companies followed on social media sites and the usage of sales information (the correlation was .444 on Facebook and .484 on Twitter). Thus, individuals who are seeking out companies on social media networks are then leveraging the information they receive to gain additional benefits from the relationship. These findings are consistent with Foregger (2008), who applied the uses and gratifications model to Facebook. Foregger (2008) found one of the reasons individuals used Facebook was for “Accumulation,” where individuals could buy products.

**Shopping Frequency**

The third variable which was analyzed was how frequently individuals shopped at companies they had liked or followed on social networking sites. The results of Pearson correlations on this variable indicated moderate to high correlations between the other variables. For instance, individuals who shopped more often at companies they had friended on Facebook or followed on Twitter were more likely to also receive information from these companies. These results indicate one of two options: (1) individuals are seeking out these companies online and are connecting with them to receive information or (2) individuals are receiving information from companies on social media sites and this information is motivating them to shop more at these stores. Either result is good news for companies that are seeking new channels of communication with customers. These results were consistent when analyzing the relationship between shopping frequency and sales information. A correlation of .565 for
Facebook and .855 on Twitter indicates that companies are using these social media sites to disseminate information about sales and special offers. Because Pearson correlations do not show causal effects, either individuals who visit the stores are more likely to receive sales information, or they visit stores because they receive sales information.

Even stronger relationships were discovered between shopping frequency and redemption of sales offers. The correlations between these two variables were moderate (.612 for Facebook) to strong (.792 for Twitter), thus indicating a relationship between the two variables. Consequently, these social media strategies are having the desired effect: individuals are visiting the stores to take advantage of the offers provided through these social media sites.

**Frequency of Correspondence**

Analyzing the correlation between frequency of correspondence and frequency of sales information provides a better understanding of what kinds of information companies are sharing through social media. As shown by Barnes (2008), many individuals prefer to research companies and products through social media prior to making a purchase. With marked relationships on both Facebook (a correlation of .713) and Twitter (a correlation of .918), it appears much of the correspondence which is being sent is dedicated to informing customers about sales and special offers. In addition, general correspondence appears to be effective: individuals who receive greater amounts of correspondence from companies are more likely to redeem offers from these companies on both Facebook (a correlation of .556) and Twitter (a correlation of .870).
Frequency of Sales Information

Finally, respondents were asked how often they receive the sales promotions provided through social media. The results of this variable were correlated with responses to how often respondents redeem sales offers. In both cases, the correlations were significant, as the correlation between these variables for Facebook was .628 and the correlation between these two variables for Twitter was .868. These findings show the growing significance of social media and electronic word-of-mouth communication. College students who receive greater amounts of information on sales offers are more likely to redeem these sales. In such instances, all parties benefit. Companies increase their market penetration through higher sales, while more effectively targeting only interested customers and reducing wasted coverage. Customers, meanwhile, receive only relevant marketing materials from these firms, and they can “opt-out” at any time by no longer friending or following the companies. These findings are consistent with the findings of Hu, Liu, and Zhang (2008), who showed that, though influence may be moderated by other factors, electronic word-of-mouth communication does influence consumers.

Research Question #2

The second research question sought to determine whether the effectiveness of word-of-mouth recommendations on social media differed between genders. To this extent, the following research question and hypotheses were established:
Q2. Does the effectiveness of word-of-mouth recommendations on social media differ between genders?

H2₀: The effectiveness of word-of-mouth recommendations on social media websites does not differ between males and females.

H2ₐ: The effectiveness of word-of-mouth recommendations on social media websites differs between males and females.

To determine the answer to this research question, independent t-tests were conducted to compare the mean ratings between males and females on 14 different variables: usage frequency of Facebook, number of Facebook friends, number of companies “friended” on Facebook, shopping frequency at stores liked on Facebook, how often correspondence was received from companies liked on Facebook, how often sales information was received from companies liked on Facebook, how often sales promotions received through Facebook were used, usage frequency of Twitter, number of Twitter followers, number of companies followed on Twitter, shopping frequency at stores followed on Twitter, how often correspondence was received from companies followed on Twitter, how often sales information was received from companies followed on Twitter, and how often sales promotions received through Twitter were used.

The first variable which was analyzed was the usage frequency of social media sites Facebook and Twitter. Independent t-tests revealed no statistically significant differences between males and females in terms of usage frequency of Facebook and Twitter. These results are consistent with past research studies conducted by Budden, Anthony, Budden, and Jones (2007) and Gerlich, Browning, and Westermann (2010), who found that statistically significant differences did not exist between genders in terms
of social media usage. However, the results of the present study are inconsistent with the findings of Pempek, Yermolayeva, and Calvert (2009), who found that females spent more time on social media sites. As a result, companies can effectively reach members of both genders by creating promotional strategies based around social media sites like Facebook and Twitter.

The second variable which was analyzed involved the number of friends/followers on Facebook and Twitter. Again, the independent t-tests did not reveal statistically significant differences between males and females in terms of the number or friends of followers on these social networking sites. These results are inconsistent with the findings of Pempek, et al. (2009), who found that females were likely to have more Facebook friends than males. These differences may exist for several reasons. First, the sample in the present study was taken from only one campus, and social media behaviors at this campus may differ from those present elsewhere. In addition, the study conducted by Pempek et al. was conducted three years ago, and male social networking behaviors may have evolved since that time.

The third variable which was analyzed was the number of companies that were friended or followed on Facebook and Twitter. Again, no statistically significant differences were discovered through independent t-tests. These results are thus similar to the results found when comparing the number of friends or followers on these sites, and they seem to indicate that businesses may be able to reach males and females equally through these social media platforms.

Next, shopping frequency trends were analyzed, in order to determine whether males or females were more likely to shop at stores they had connected with through
social media. Independent t-tests revealed that no significant differences existed between genders; thus, males and females were both equally likely to shop at stores they had decided to friend or follow in social media sites.

Next, tests were conducted to determine whether differences existed between males and females in terms of the amount of correspondence they received from corporations on social media sites. Independent t-tests revealed that statistically significant differences did not exist between genders. This result is not surprising; if no differences exist between the number of companies followed by males and females, then both genders should receive the same amount of correspondence from companies. No previous studies could be located which compared gender on this variable.

Despite the lack of differences on these variables, differences were discovered between gender and social media outlets when analyzing sales information. Independent t-tests were conducted to test whether males and females received different amounts of sales information from companies through social media. Females were found to receive a statistically significant higher amount of sales information than males on Facebook; however, no statistically significant differences were discovered on Twitter. Females receiving more sales information than males on Facebook can be explained in two ways. First, since no statistical differences existed between males and females in terms of companies friended or liked, companies may be targeting females through social media; consequently, these companies are sending more sales information to this segment. Alternatively, females may be more attune to these deals and thus may be more apt to notice when companies are providing these offers. The fact that no statistically significant differences exist between males and females in terms of sales information
received on Twitter might be due to the newness of this social media site relative to Facebook.

The last variable which was analyzed was the usage of sales information between genders. Independent t-tests found that females were more likely to redeem sales offers provided through Facebook than males; however, no differences existed between males and females on this variable regarding Twitter. These results are logical based on other findings in the present study: if women receive sales information more often (as they do on Facebook), then the odds are greater that they will take advantage of these deals. However, if both genders receive the same amount of sales information (as they do on Twitter), then they are equally likely to redeem these deals. The study also revealed that some individuals are taking advantage of these sales offers and deals, thus supporting the findings of Hennig-Thurau et al. (2004) and Hu, Liu, and Zhang (2008) who found that electronic word-of-mouth media like social networks can be used to shape opinions and improve sales.

**Research Question #3**

Research Question 3 asked whether the effectiveness of word-of-mouth recommendations on social networking sites differs based on social media usage frequency. To investigate this research question, the following research question and hypotheses were established:

**Q3.** Does the effectiveness of word-of-mouth recommendations on social media websites differ based on social media usage frequency?
**H3a**: The effectiveness of word-of-mouth recommendations on social media websites does not differ based on social media usage frequency.

**H3b**: The effectiveness of word-of-mouth recommendations on social media websites differs based on social media usage frequency.

This question was analyzed by calculating the strength of the relationship between usage frequency of social media sites and four separate factors: how often individuals shop at companies they have befriended on these sites, how often individuals receive general correspondence, how often individuals receive sales information from companies on these sites, and how often they use sales information received on these sites. Because the scales used on the survey instrument were interval-level, Pearson correlations were conducted at a significance level of .05.

The first relationship which was examined was between usage frequency and frequency of shopping at companies friended or followed on these sites. A Pearson correlation conducted on these two variables for Facebook resulted in a .207 correlation coefficient, while a Pearson correlation for these two variables for Twitter resulted in a .465 correlation coefficient. Both of these coefficients were found to be statistically significant, though the Facebook correlation was deemed to be definite but small and the Twitter correlation was substantial. These results indicate that individuals who use social media more often tend to shop more often at companies they have friended on the sites.

The second relationship which was analyzed was between the variables of usage frequency and correspondence frequency. Pearson correlation tests conducted on the two Facebook variables indicated a .262 correlation coefficient, while the Pearson correlation for the two Twitter variables showed a .461 correlation coefficient. Thus, the relationship
between these two variables for Facebook was deemed low and small, while the relationship between these two variables for Twitter was deemed moderate and substantial. As a result, individuals who use social media more often are likely to receive more correspondence from companies.

Next, the relationship between how often individuals use social media and how often they receive sales information from companies on these sites was analyzed using Pearson correlations. These tests indicated a small .272 correlation coefficient for these variables for Facebook, while a Pearson correlation for these two variables for Twitter resulted in a substantial .479 correlation coefficient. Thus, individuals who use social media more frequently are more likely to receive promotional material from companies they have followed.

Finally, the relationship between how often individuals use social media and how often they redeem sales and offers was analyzed. A Pearson correlation conducted on these two variables for Facebook resulted in a negligible .137 correlation coefficient, while a Pearson correlation for these two variables for Twitter resulted in a substantial .444 correlation coefficient. These results indicate that individuals who use social media more often are more likely to take advantage of sales offers; however, this relationship is more prevalent with Twitter and almost non-existent on Facebook.

These last two results are consistent with the findings of Foregger (2008), who applied the uses and gratifications model to Facebook. In that study, Foregger (2008) found nine factors which influenced Facebook usage: pass time, connection, sexual attraction, utilities and upkeep, establish/maintain old ties, accumulation, social comparison, channel use, and networking. The results of the present study relate to
Foregger’s (2008) accumulation factor, which relates to the use of the social networking site to buy and sell items. Foregger’s (2008) results indicate that the ability to buy products from the site was a factor in the usage of this social networking site, and the results of the present study indicate that individuals who use social media more often are more likely to receive and redeem sales promotions from companies.

Summary

Businesses are already using social networking websites to reach customers. The results of this study indicate that students receive and use the promotions they receive through social media sites Facebook and Twitter. However, it was beyond the scope of the study to determine whether befriending or following businesses encourages students to use promotions or if the students befriend or follow businesses to receive promotions. Regardless, the arrangement is beneficial to all parties. Businesses that use social media could use both Facebook and Twitter. Moreover, because no statistically significant differences were discovered between genders in terms of social media usage, companies are able to utilize both Facebook and Twitter to reach all customers. Nevertheless, females receive or notice more correspondence on Facebook; therefore, businesses that emphasize their female clientele should consider Facebook rather than Twitter. Overall, college students who use social media more frequently receive more correspondence from companies, and these students then use the promotions. Therefore, businesses should use Facebook and Twitter to obtain the patronage of students.
Limitations

Several limitations were present in the study. First, the data were collected via convenience sample. Although convenience samples provide time advantages, they may be biased and may not represent the entire population. Also, the survey relied on self-reporting. Based on the respondents’ perceptions, they may not have accurately reported their behavior. Additionally, students may have taken the survey multiple times. Because the IP addresses were not recorded, there is not a way to check this information. Furthermore, almost half of the respondents (49.8%) were 18-21 years old. Because they are younger, they may be more apt to check their social media accounts, whereas other ages may have other responsibilities, such as full-time employment and families. In addition, the study was conducted at a single institution; although these results may not seem generalizable beyond this college, the institution has indicators that it is not different from other collegiate establishments.

Heuristics

Based on the findings of the study, several additional studies could be developed. First, the study could be replicated at several different institutions to determine whether the results at the present testing site were typical or were atypical of the general population of college students. Though it was beyond the scope of this study, further analysis could be performed to test for differences between demographics. For example, a future study could be conducted to determine the effects of electronic word-of-mouth communications on the consumption patterns of students of different class ranks.
Similarly, the effects of electronic word-of-mouth communications on the consumption patterns of students from different majors, ages, or ethnic groups could also be tested.

Future research could also seek to determine whether the effectiveness of word-of-mouth communications varies based on the industry of the sender. For example, would electronic word-of-mouth communications from an electronics firm be more or less effective than similar communications from a clothing store? As technology continues to advance and new social networking platforms are adopted, the present study could be expanded to include these additional channels, while also tracking the general effectiveness of present communication channels over time. For example, a study conducted in the future could determine whether electronic word-of-mouth communication on Facebook has maintained the same level of effectiveness or whether the site’s effectiveness has lessened.
Appendixes
Appendix A:

Questionnaire

How many types of social networking accounts do you maintain?
___ I do not have any social networking accounts.
___ 1
___ 2
___ 3
___ 4
___ 5
___ 6 or more

What accounts do you have? (Check all that apply.)
___ Facebook
___ Twitter
___ MySpace
___ LinkedIn
___ FourSquare
___ Photo Bucket
___ Other (Please specify.) ________________________
___ Other (Please specify.) ________________________

Let me ask you a few questions about Facebook.

On average, how often do you check your Facebook account?
Never 1 2 3 4 5

How many friends do you have on Facebook?
___ More than 500
___ 401-500
___ 301-400
___ 201-300
___ 101-200
___ 1-100
___ I do not have a Facebook account.

How many companies/businesses have you befriended/"liked" on Facebook?
___ None
___ 1-5
___ 6-10
___ 11-15
___ 16-20
___ More than 20
Please list the companies you have befriended/"like" on Facebook.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

How often do you shop at the stores you have befriended/"liked" on Facebook? (Circle)
Never 1 2 3 4 Very frequently 5

How often do you receive correspondence from the companies you befriended/"liked" on Facebook? (Circle)
Never 1 2 3 4 Very frequently 5

How often do you receive information about sales, specials or coupons from the companies you befriended/"liked" on Facebook? (Circle)
Never 1 2 3 4 Very frequently 5

How often do you utilize the sales, specials or coupons from the companies you befriended/"liked" on Facebook? (Circle)
Never 1 2 3 4 Very frequently 5

Now let me ask you questions about Twitter.

On average, how often do you check your Twitter account?
Never 1 2 3 4 Multiple times a day 5
How many followers do you have on Twitter?
___ More than 200
___ 150-199
___ 100-149
___ 50-99
___ 1-49
___ I do not have a Twitter.

How many companies/businesses do you follow?
___ None
___ 1-5
___ 6-10
___ 11-15
___ 16-20
___ More than 20

Please list the companies you follow on Twitter.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

How often do you shop at the stores you follow on Twitter? (Circle)
Never 1 2 3 4 5
Very frequently

How often do you receive correspondence from the companies you follow on Twitter? (Circle)
Never 1 2 3 4 5
Very frequently

How often do you receive information about sales, specials or coupons from the companies you follow on Twitter? (Circle)
Never 1 2 3 4 5
Very frequently

How often do you utilized the sales, specials or coupons from the companies you follow on Twitter? (Circle)
Never 1 2 3 4 5
Very frequently
How often do you shop online? (Circle)
   Never   1  2  3  4  Very frequently  5

How often do you shop in person? (Circle)
   Never   1  2  3  4  Very frequently  5

Now, we would like to know a little about you.

Are you…
   ___ Male
   ___ Female

What is your class rank?
   ___ Freshman
   ___ Sophomore
   ___ Junior
   ___ Senior
   ___ Graduate student

What is your major? ________________________________

How old are you?
   ___ 18-19
   ___ 20-21
   ___ 22-23
   ___ 24-25
   ___ 26-30
   ___ 31-40
   ___ 41-50
   ___ 51-60
   ___ over 60

What type of student are you?
   ___ Full time student
   ___ Part time student

Do you work a…
   ___ Full time job
   ___ Part time job
   ___ I am not currently employed

Marital status:
   _____ Single    _____ Married/Partner
Which cultural or ethnic group(s) do you identify with?

- [ ] White/Non-Hispanic
- [ ] Hispanic American
- [ ] Native American
- [ ] Asian American
- [ ] African American

Other: _______________
Appendix B:

Thesis Defense Executive Summary

Purpose
Communication has always been vital to companies, as they must be able to share information with customers and accurately gauge customer responses. Recent advancements in technology have opened new communication channels where customers and businesses can openly engage one another. Social media is one such channel, and this channel includes websites like Facebook and Twitter. The purpose of this research study was to better understand the impact of social networking sites like these on college students’ consumption patterns.

Research Questions
To understand the effects of these websites on the consumption patterns of college students, the following three research questions were established:

Q1. Do word-of-mouth recommendations on social media websites affect consumption patterns?

Q2. Does the effectiveness of word-of-mouth recommendations on social media differ between genders?

Q3. Does the effectiveness of word-of-mouth recommendations on social media websites differ based on social media usage frequency?

Survey Instrument
To answer these questions, a survey was created and distributed electronically through the website SurveyMonkey. Depending on student responses, the survey instrument contained between 10 and 28 questions. First, respondents were asked how many social networking accounts they maintained. Next, respondents were given a list of common social networking sites, and were asked to identify which of these they used. Using skip logic technology, students who confirmed they owned Facebook accounts were asked a series of questions regarding their usage of this social networking site. First, respondents were asked to indicate their frequency of usage on a 5-point Likert-type scale. Next, respondents were asked how many “friends” they had on the site, as well as how many businesses they had “liked” on the site. Respondents were also encouraged to list the businesses they had liked. Finally, students were asked to indicate, using a 5-point, Likert-type scale how often the shopped at “friended” stores, how often they received correspondence from these stores, how often they received special sales offers from these stores, and how often they redeemed these special offers. This process was repeated for students who indicated they had maintained a Twitter account.

Finally, basic demographic information was collected from the students. To this extent, they were asked to report their gender, class rank, major, age, student status, employment status, marital status, and ethnic group. This survey was then approved by the committee and school’s IRB before being distributed to students on campus.

Methodology
The electronic survey was completed by 275 students at a small Midwestern college. Participants were chosen via a convenience sample, as they were provided with
the survey’s web address and asked to visit the site to complete the survey. This survey was distributed for approximately one month, from mid-February until mid-March 2012.

Results

In order to analyze this research question, the relationships between several variables were explored for both Facebook and Twitter: number of companies liked; shopping frequency at “liked” stores; frequency of correspondence; frequency of sales, specials or coupons; and usage frequency of the sales, specials or coupons received from these sites. Because the scales used represented interval-level data, Pearson correlations were used at a significance level of .05. The tests found that students who like more companies on Facebook receive more correspondence from these companies as well as are likely to utilize the promotions while shopping there. Furthermore, when students follow companies on Twitter, they receive information from the company but only slightly more correspondence than those who do not follow the business. However, those individuals who receive correspondence from companies are more likely to shop there as well as receive special deals.

The second research question relating to differences between genders was examined using t-tests for independent samples to determine whether the differences in means were statistically significant at a significance level of .05. These tests revealed that women are more likely to receive information about sales and promotions from companies on Facebook, and they are more likely to take advantage of these offers. However, no statistically significant differences were discovered between males and females in terms of the role of Twitter in shaping their consumption patterns.

The third research question was tested by examining the relationship between usage frequency was tested against six other variables: number of friends, number of companies liked/followed, how often respondents shopped at liked/followed companies, how often respondents received correspondence from stores liked/followed, how often respondents received sales or promotions from companies liked/followed, and how often respondents used these offers. These relationships were tested using Pearson correlations at a significance level of .05. Individuals who frequently use Facebook are not more likely to receive correspondence from a company that has been befriended; however, people are more likely to shop at stores they have networked with on the site. Similar results were found with Twitter with one difference: individuals who use Twitter more frequently are more likely to receive additional information on sales and promotions. However, the more companies a person likes/follows and the more correspondence received, the less likely the individual is to utilize the promotions.

Further analysis between variables was conducted using analysis of variance tests (ANOVAs) at a significance level of .05.

Limitations

Three major limitations existed in the current study:

- Data was collected via a convenience sample.
- Data was collected at a single institution.
- Data relied on self-reporting.
Heuristics
Several areas of future research could be explored, based on the findings of this study:

- Replicating the study at another institution.
- Further analysis could be performed to test for differences between demographics, such as class rank, major, ages, or ethnic groups.
- The effectiveness of social media promotions across several different industries could be examined.
- Over time, the effectiveness of new social media sites could be tested relative to the enduring strength of current social media sites.

Conclusion
Businesses are already using social networking websites to reach customers. The results of this study indicate that students receive and use the promotions they receive through social media sites Facebook and Twitter. The arrangement is beneficial to all parties. Moreover, because no statistically significant differences were discovered between genders in terms of social media usage, companies are able to utilize both Facebook and Twitter to reach all customers. Nevertheless, females receive or notice more correspondence on Facebook; therefore, businesses that emphasize their female clientele should consider Facebook rather than Twitter. Overall, college students who use social media more frequently receive more correspondence from companies, and these students then use the promotions. Therefore, businesses should use Facebook and Twitter to obtain the patronage of students but be wary of overloading them with too much information.
Appendix C:

Thesis Defense PowerPoint

The Impact of Social Networking Sites on College Students’ Consumption Patterns

Whitney S. Thoene
A Thesis Presented in Partial Fulfillment of the Requirements for the Degree of Master of Arts

Outline

- Problem and Purpose of the Study
- Theoretical Framework
- Research Questions
- Research Method and Design
- Population and Sample
- Data Collection
- Results
- Limitations
- Implications & Conclusions
- Recommendations for Future Research
- Questions
The Problem and Purpose

- The increasing use of social media to promote sales
  - Positive correlation between online product reviews and sales (Hu, Liu, & Zhang, 2008)
  - Reasons customers provide product reviews (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004)
- Understanding the uses of Facebook
  - Students’ motivations in using Facebook (Hyllegard, Ogle, Yan, & Reitz, 2011)
- The purpose is to determine if social media, particularly Facebook and Twitter, have an impact on college students’ consumption patterns.

Theoretical Framework

- Hyllegard, Ogle, Yan, & Reitz (2011)
- Pempek, Yermolayeva, & Calvert (2009)
- Smock, Ellison, Lampe, & Wohn (2011)
- Ladue (2010)
- Castelein, Mottart, & Rutten (2009)
- Barnes (2008)
- Vorvoreanu (2009)
- Budden, Anthony, Budden, & Jones (2007)
- Gerlich, Browning, & Westermann (2010)
- Foregger (2008)
Research Questions

- Do word-of-mouth recommendations on social media websites affect consumption patterns?
- Does the effectiveness of word-of-mouth recommendations on social media differ between genders?
- Does the effectiveness of word-of-mouth recommendations on social media websites differ based on social media usage frequency?

Research Method and Design

- Quantitative study
- Electronic survey
- Survey Instrument:
  - Social media accounts
  - Questions about Facebook
  - Questions about Twitter
  - Shopping habits
  - Demographics
- Skip logic technology
Population and Sample

- Midwestern university
- 275 completed surveys
- Convenience sample
- Classroom announcements, Facebook postings, e-mails, and flyers
- Mid-February through mid-March

Data Collection Method

- Permission from the Institutional Review Board (IRB)
- Create and open survey on Survey Monkey
- Informed Consent obtained
- Data entry into Statistical Package for the Social Sciences (SPSS)
- Statistical tests
  - Pearson test
  - T-tests
  - Levene’s Test for Equality
  - Analysis of variance tests
Demographic Data

Gender

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Class rank

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Results

Pearson Correlations on Facebook

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<td>.241</td>
<td>.240</td>
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<td>.241</td>
</tr>
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<td>.427**</td>
<td>.100</td>
<td>.502**</td>
<td>.565**</td>
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* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Results

Independent T-test Results

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<th>Est. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
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<td>.555</td>
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Results

Pearson Correlations for Facebook Usage

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<td>PO friends</td>
<td>.491</td>
<td>.000</td>
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<tr>
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<td>.000</td>
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Pearson Correlations for Twitter Usage

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* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.
Results

Model Summary for Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Facebook

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<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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<td>1</td>
<td>.769</td>
<td>.593</td>
<td>.545</td>
<td>.187</td>
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ANOVA Results for Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Facebook

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<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
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<td>11.438</td>
<td>18.425</td>
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<td>Residual</td>
<td>129.598</td>
<td>176</td>
<td>.720</td>
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<tr>
<td>Total</td>
<td>257.51</td>
<td>189</td>
<td>.139</td>
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Results

Significance Tests for Coefficients Analyzed in Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Facebook

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<td>1.169</td>
</tr>
<tr>
<td>on Facebook</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>age</td>
<td>0.06</td>
<td>0.049</td>
<td>0.11</td>
<td>1.245</td>
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<td>ethinigrou</td>
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<td>0.035</td>
<td>0.063</td>
<td>1.243</td>
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</table>

a. Dependent Variable: facebook
### Results

**Model Summary for Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Twitter**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.874</td>
<td>.756</td>
<td>.743</td>
<td>.504</td>
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</tbody>
</table>

- Predictors: (Constant), twittersalesinfo, age, gender, ethngroup, tittercheck, studenttype, maritalstatus, workstatus, twittercompanies, twitterfollowers, classrank, twittershopsfreq, twittercorrespondence

**ANOVA Results for Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Twitter**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>Regression</td>
<td>108,929</td>
<td>13</td>
<td>8,379</td>
<td>32,935</td>
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<tr>
<td>Residual</td>
<td>32,822</td>
<td>129</td>
<td>254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141,745</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

- Predictors: (Constant), twittersalesinfo, age, gender, ethngroup, tittercheck, studenttype, maritalstatus, workstatus, twittercompanies, twitterfollowers, classrank, twittershopsfreq, twittercorrespondence
- Dependent Variable: twittersalesinfo

### Results

**Significance Tests for Coefficients Analyzed in Multiple Regression Analysis of Variables on Sales Usage Frequency of Deals on Twitter**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
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<td></td>
<td></td>
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<tr>
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<td>(Constant)</td>
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<td>.149</td>
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<tr>
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<td>.433</td>
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<td>.000</td>
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<td>.396</td>
<td>.112</td>
<td>.397</td>
<td>3.39</td>
<td>.001</td>
</tr>
</tbody>
</table>

- Dependent Variable: twittersalesinfo
Implications and Conclusions

- Consumption Patterns
  - Facebook and Twitter influence the buying habits of students

- Gender
  - Women are more likely to receive correspondence on Facebook
  - No statistical difference between genders on Twitter

- Usage Frequency
  - Students who frequently check their accounts are more likely to use the promotions

Limitations

- Use of convenience sample
- Relyed on self-reporting
- Possibility of students taking survey multiple times
- Use of one institution
Recommendations for Future Research

- Replicate the study at different institutions
- Analyze the role of various demographics
  - Class rank
  - Age
  - Ethnicity
- Examine the impact of different industries
- Study the level of effectiveness of the communication channel over time

References


References


References


References


Questions?
Works Cited


