Smartphone Purchasing:

Factors That Influence College Students' Decisions to Purchase Smartphones

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I. Introduction

Samsung is one of the world's leading smartphone providers and is attempting to expand its market share by attracting more college students to its Galaxy products. This report will investigate the following research question: what encourages college students to buy specific brands of smartphones? We will attempt to discover what specific factors motivate college student decision making when it comes to purchasing these electronics. By studying literature and conducting thorough research we will help Samsung understand this market segment and generate recommendations based on the acquired knowledge that Samsung can use as a commercial advantage against its competitors.

II. The Client, The Competition, The Industry.

The Client

Samsung began as a small export business in Taegu, Korea, it is now headquartered in Suwon and has since grown to be the largest South Korean multinational conglomerate company. Although Samsung focuses on digital appliances it also works in media, semiconductors, memory, and system integration. As of June 30th of 2014, Samsung Group had amassed 73 domestic affiliates, including not only Samsung Electronics (SEC), but also Samsung Heavy Industries, Samsung Card, Samsung Fine Chemicals, etc (Samsung Half Year Report, 2014).

On March 1st of 1938, Byung-Chull Lee, the founding chairman of Samsung, created the business with a mere 30,000 won (Samsung Group, “Our History”, n.d.). He decided to name the company “Samsung,” which translates to "three stars" in Korean (Samsung Group, “Our History”, n.d.). The number three was of significant importance as it represents "big, numerous and powerful" in Asian culture. Initially Samsung primarily conducted trade exports, it sold dried Korean fish, vegetables, and fruit to some parts of China (Samsung Group, “Our History”, n.d.).

On January 13th, 1969, Samsung Electronics Co., Ltd. (SEC) was established and held an Initial Public Offering on June 11, 1975 (Samsung Half Year Report, 2014). In the 1970s the company underwent a major change as it began rolling out electronic appliances, such as television sets and washing machines (Samsung Group, “Our History”, n.d.). It is now an internationally recognized electronics company .

According to Bloomberg’s report, the flagship subsidiary of the Samsung Group, SEC, generated for 70% of the group's revenue in 2012, and for 17% of South Korea’s gross domestic product (Grobart, 2013). SEC has been the world's largest information technology company by revenues since 2009 (Grobart, 2013). Samsung Electronics has assembly plants and sales

networks in 80 countries and employs around 286,000 people with annual sales of US $ 216.7 billion (Samsung press release, 2014). SEC comprises 150 subsidiaries across the world including 9 regional headquarters for the CE (Consumer Electronic) and IM (Information Technology & Mobile Communications) divisions and 5 regional headquarters for the DS (Device Solutions) division (Samsung Half Year Report, 2014). Clearly the company has grown tremendously in the past few decades.

In June of 2012, Oh-Hyun Kwon became the CEO of the company. In March 2013, SEC appointed three CEOS, executive directors Boo-Keun Yoon and Jong-Kyun Shin were newly appointed as CEO in addition to Oh-Hyun Kwon. The three divisions, Consumer Electronics (CE), Information technology & Mobile Communications (IM) and Device Solutions (DS) are independently managed. (Samsung Half Year Report, 2014).

According to the 2014 Half Year Report, our client, the IM division, focuses on the production and sales of both feature phones and smart phones, network systems and computers. With the premium brand “Galaxy” smartphone series, the company is leading innovation in the mobile phone industry with user-friendly products (Samsung Half Year Report, 2014).

SEC has been the largest global producer of mobile phones since 2011 (Albanesius, 2012). The company has been able to maintain its status as number one in terms of smartphone global market share, largely due to the success of smartphones such as its Galaxy S series and Galaxy Note. In 2013, Samsung achieved a number one ranking in worldwide smartphone market with a 31.2% market share (Samsung Electronics Annual Report, 2013), over Apple's 15.3% (Kim, 2014). By leading new marketing such as LTE and adding variety to its product line, the company strengthened market leadership (Samsung Half Year Report, 2014).

Samsung announced that the net sales of SEC for the first half of 2014 were 106, 029 billion KRW (100 billion USD), while IM reported KRW 60, 894 billion (57.33 billion USD) by division, which took 57.4% of the total net sales (Samsung Half Year Report, 2014). The mobile phone sales of IM was 588, 73.5 billion KRW (55.42 Billion USD), decreased by 13% compared with the same period of 2013 (Samsung Half Year Report, 2014).

In North and South America, the company has 26 subsidiaries each of whom conducts product manufacturing and sales. Several examples include: SEA (New Jersey), who is responsible for the sale of products in the United States, and SAT (Dallas), who manages sales of handheld phone and other communication products in the US (Samsung Half Year Report, 2014).

Samsung ranked second in the US smartphone market in Q2 2014 with 27.7% market share while Apple ranked as first with 41.4% (ComScore, 2014). Smartphones of Galaxy series make up for almost 66% of the smartphone market of Android system, according to Localytics, a global market research firm (Seitz, 2014).

In February of this year Samsung introduced its newest product: The Galaxy S5, the fifth generation of the Galaxy S series (Samsung Press Release, 2014). In May, the company's mobile head J.K. Shin reported that they already sold over 11 million units of Galaxy S5 since its formal launch in April, stronger than S4 (Kim, 2014). Samsung expects to reach a 35 million units sale worldwide by the end of the year 2014 (Lehman, 2014). With its 5.1 inch screen, contoured shape and variety of distinct colors, the Galaxy S5 also offers customers improved camera quality, state-of-the-art LTE experience, Wi-Fi capability, and even hosts a variety of fitness tools as well as device protection features so that users can stay healthy and active(Samsung Press Release, 2014). It is also generally regarded as pioneer of the phablet market, a product that toes the line between phone and tablet, with the Samsung Galaxy Note family of devices

(Samsung Half Year Report, 2014). The new Samsung Note 4 will be released in October 2014 and is highly anticipated (CNET News, 2014). With these products as well as its tablet computers, the Android-powered Samsung Galaxy Tab collection, Samsung aims to become the world's largest appliance maker by 2015 (Grobart, 2014).

Despite these impressive claims SEC has experienced adversity throughout the course of 2014. It is facing severe financial decline at the hands of international competition, both from domestic companies such as Apple Inc. as well upstart Chinese brands (Einhorn, 2014). Its third-quarter operating profit plunged nearly 60% from a year earlier to an estimated 4.1 trillion won, 3.8 billion US dollars, while the third-quarter sales were estimated at 47 trillion won, 43.5 billion US dollars, also down roughly 20% (Einhorn, 2014). In the first quarter, the company lost smartphone market share for the first time in four years, slumping to 31.2%, 1.2 % lower than a year earlier (Kim, 2014). To add to the woes in May Lee Kun Hee, the 72-year-old patriarch of Samsung Group, suffered a heart attack (Collins & Lllick, 2014).

To respond to the challenges, SEC is changing its strategy. It plan to launch more competitive products in lower prices starting in Q4, and will invest more on Research & Development to produce unique designs that consumers will desire (Einhorn, 2014).

The Competition

Despite its impressive growth in just four decades, Samsung is clearly hitting hard times, but so are some of its competitors. As Samsung and Apple have become the leading brands in smartphone market since 2011, Nokia, BlackBerry, Motorola and LG's market shares have declined dramatically. More than half of all smartphone owners now have either Samsung or Apple smartphones (Hulkower, 2014). Although Samsung ranked first in sales revenue and market share in global mobile phone market in 2013 (Samsung Electronics Annual Report, 2013),

in the United States, it's still facing fierce competitions from several major brands: Apple Inc, LG, Motorola, HTC and BlackBerry.(Hulkower, 2014)

1. Apple Inc:

Apple remains Samsung's strongest competitor in the United States, as evidenced by its earnings in the past few years. The net sales for iphone in 2013 totalled 91,279 million dollars, a 16% increase from 2012(Apple 10-K Annual Report of 2013). The unit sales for iphone in 2013 reached 150,257 thousand, a 20% increase from 2012 (Apple 10-K Annual Report of 2013). Apple accomplished 35.1 million global shipments of smartphones in Q2 of 2014, a 12.4% increase from Q2 2013 and its smartphone global market share saw a slight decrease from 13% in 2013 to 11.9% in 2014(Maxham, 2014). Clearly the company is highly successful in an industry riddled with such intense competition and has managed to become Samsung's most daunting opponent in the United States market.

One of Apple's advantages is that it has built perfect synergies among all its products such as computers, smartphones, tablets and software. Seamless integration with other Apple products offers iphone users a highly integrated and user-friendly experience(Aviram, 2010). On the other hand, Samsung has been criticized for the Galaxy's inability to integrate easily with other electronics, often forcing users to download a variety of programs and applications to synchronise(Aviram, 2010).

Apple also distinguishes itself through unique, simple, and stylish design with its iPhone. Many users even consider the iPhone as a unique status symbol (Aviram, 2010). Younger and higher-income adults are iphones' main consumer groups: more than 70% of iphone owners are among 18-34s and about 80% of iphone users' annual household income is over $100K (Hulkower, 2014). In addition, Apple enjoys a very high brand loyalty, which set a major barrier

for its rivals who want to take market share from Apple (Aviram, 2010). Part of iphone's success lies in those enthusiastic Apple fans who swarm around Apple stores awaiting new product releases. In fact, 15% of iphone owners claim that they will always want to have an iPhone (Hulkower, 2014).

2. LG

LG Electronics manufactures a wide array of smartphones, tablet devices, home and portable electronic products and is another strong competitor in the United States for Samsung. Its core strengths in technologies are in the fields of display, battery, multi-core processors, camera optics, 3D, 4G LTE and strategic partnerships with industry leaders (LG Business Domains). LG's smartphones incorporate stylish, sophisticated and ergonomic designs and intuitive features to improve the user experience. Much like Apple, LG is also dedicated to maximizing inter-device connectivity between smartphones, tablets and other electronics products. (LG Press Release, 2014)

Unlike Apple, LG is not as financially strong or impressive. The company's smartphone global market share fell slightly from 5% in Q2 2013 to 4.9% in Q2 2014 but it still remained the number 5 phone maker in global market (IDC,2014). Its shipment volume actually increased slightly from 12.1 million units in Q2 2013 to 14.5 million units in Q2 2014 (Maxham, 2014). The International Data Corporation remarked on the company's financial situation: "LG's shipments were enough to stave off multiple Chinese vendors, including Coolpad, Xiaomi, and ZTE. Driving the company's success was its emphasis on LTE-powered smartphones, including the G2, Nexus 5, and the G Flex." This research firm also found that LG's mid-range F-series and entry-level L-series devices will generate continued growth. Although it is not as significant

of a domestic competitor as Apple is, LG's market share is not easily discounted given that the company is focused on growth (IDC,2014).

3. HTC

Although HTC is a Taiwanese manufacturer, it has developed a notable presence in the domestic market. Initially, the company was an original design manufacturer but also an original equipment manufacturer for many of top telecommunications companies worldwide (Reference for Business). Although it originally developed and sold Windows Mobile smartphones, in 2009, HTC expanded its focus on Android smartphones. This strategy has proven successful as Android has become more and more popular among consumers. And HTC also released various smartphones based on Windows Phone 7 when it came out in 2010 (Aviram, 2010).

HTC distinguishes its smartphones from those of other producers by providing many different hardware configurations that suit any smartphone customer as well as unique front-ends, user interactions, and exclusive apps(Aviram, 2010). HTC's strategy in competition is to be open and collaborative, to forge strong ties with all carriers and to customize for everyone(Frier and Culpan 2011).

Although the company's product line is impressive, its smartphone market share is less so. HTC's market share in US went down from 9.4% in Q2 2013 to 6.1% Q1 2014 and its global market share was under 4% now due to the fast expansion of Samsung, Apple, LG and several Chinese brands (Sacco, 2014). Clearly HTC is suffering greatly at the hands of its competitors.

4. Motorola/Lenovo

Back in 2008, Motorola was the industry leader with 25% market penetration in U.S.(Hulkower, 2014), however since then it has fallen behind other smartphone providers. Its market share in the United States fell from 9% in Q2 2013 to 6.8% Q1 2014 (Sacco, 2014). In late 2013, Motorola launched two new smartphones, the high-end Moto X and the Motor G

(Pletz, 2014). Although this seemed promising, just a few months later Google announced it would sell Motorola Mobility to Lenovo, a chinese computer technology company, for $2.91 billion (Kastrenakes,2014). Lenovo has expressed a strong interest in entering the U.S. smartphone market, and had previously made a bid to acquire BlackBerry, but its offer was rejected by the Canadian government due to national security concerns (Chase and Erman, 2013). Now, the acquisition of Motorola will give Lenovo an influential presence in the US market (Kastrenakes,2014). "The acquisition of such an iconic brand, innovative product portfolio and incredibly talented global team will immediately make Lenovo a strong global competitor in smartphones," Lenovo's CEO Yang Yuanqing stated, "Motorola brings a strong brand, brilliant engineering, great products, and outstanding relationships with retailers"(Kastrenakes,2014). Clearly the combination of these two companies will result in a strong competition for Samsung.

5. Blackberry

Although Blackberry previously held a dominant position in the smartphone market for business and government usage, accounting for 43% U.S. market share in 2010, the company's market share has plunged since 2011 due to the taking over of market share by Android phones and Apple's iPhone (Business Insider Australia, 2013). The company's share in the U.S. smartphone market was reduced from 3% in Q2 2013 to only 2% in Q1 2014 (Sacco, 2014). Despite its weak performance in recent years, Blackberry still owns a large number of old customers, which is a strong obstacle for Samsung's further expansion.

Clearly Samsung is facing a number of competitors in the domestic market, from massive brands such as Apple to merging companies like Lenovo and Motorola. o,ly, more competitors are joining the domestic market competitive, such as Chinese brands Xiaomi and Huawei as well

as Goolge's own brand Nexus. Samsung's desire to increase its market share may prove a difficult goal.

The Industry

The global smartphone industry has grown at a fast pace, most notably in the past few years. During the course of 2014 the industry has already seen approximately 23% growth since the previous year, shipping almost 292 million units in Q2 of 2014 (Canalys, 2014). However although the industry is experiencing a significant surge, this environment is not proving favorable for Samsung, which is encountering stark global competition. Although Apple is able to generate hype around their smartphones, Samsung is struggling to draw American consumers to their Galaxy smartphones in similar numbers.

Internationally both Samsung and Apple are losing their grasp of the market, in the second quarter of 2013 Samsung owned approximately 32.2% of the global market and Apple 13% (Danova, 2014). Meanwhile, in the second quarter of 2014 Samsung had only 25.2% and Apple 11.9% (Danova, 2014). Both companies are facing severe competition from emerging smartphone distributors such as Xiaomi, which grew more than 200%, from 1.8% to 5.1%, in the aforementioned time period (Danova, 2014). In fact, when combined all 5 Chinese distributors (Xiaomi, Huawei, Coolpad, ZTE, and Lenovo) now own more of the international market than Samsung (Danova, 2014). This surge of China's ownership of the market is highly significant since the country is the largest market, and as of the second quarter of 2014 accounts for an approximate 37% of all smartphone shipments, which translates to 108.5 million units (Shu, 2014). Samsung is confronting serious competition from both established smartphone distributors as well as newcomers which are significantly impacting its global market share.

Domestically, Chinese providers are no prominent threat however Samsung is struggling to overcome its largest competitor Apple which, as of March 2014, was ranked as the top OEM (Original Equipment Manufacturer) of smartphones with 41.4% of the market share meanwhile, Samsung ranked second with only 27% (Comscore, 2014. While 14.4% behind its largest competitor, Samsung has made some improvements since December of 2013, at which point it controlled a mere 26.1% of the market share and Apple held 41.8% (Comscore, 2014). This 0.9% increase may appear small but when noting that 166 million Americans owned smartphones at the time this percentage refers to an approximate 1.5 million American consumers (Comscore, 2014). Clearly Samsung is not dominating the American smartphone industry as well as its largest competitor, Apple.

With regard to American college students, the consumer segment upon which our study is focused, Samsung smartphones have significantly less on campus presence than Apple's iPhones. While Samsung may be far from dominating the United States' smartphone market, the operating system it runs, Android, controls roughly 52.2% of the market share whereas Apple's IOS has approximately 41.4% (Comscore, 2014). Although most college students own Apple smartphones, a recent survey performed by Survey Monkey, which targeted 200 American consumers between the ages of 18 and 44, found that 79% of respondents found that Android was "much cooler" or "a little cooler" (Martin, 2013). Although most respondents of the survey were divided on their opinions of Apple, the largest chunk, which was 38% of those surveyed, believed that Apple was "a little less cool." (Martin, 2013) Thus, although Samsung is not the only smartphone that runs Android, the increasing coolness of this platform is promising for the company which hopes to increase its sales within this target group. While coolness is not something that is easy for Samsung to obtain, it could benefit from using well orchestrated

branding to compete against its competitors, since branding is exceedingly important in this booming industry.

The college-aged market segment is of prime importance since approximately 80% of Americans between the ages of 18 and 24 own smartphones (Webster, 2014). As seen in this graph more college aged Americans own smartphones than any other age group. Increasing market share of this particular demographic is thus vital to smartphone providers, since they are the largest group of consumers adopting the technology. Apple most likely recognized this which may explain why the company has focused on student discounts and other incentives to attract college students to their iPhones (Martin, 2013). This may be a critical time for Samsung to establish itself firmly within this demographic because although the smartphone industry has grown 23% since last year, some analysts, including the International Data Corporation, believe that this growth will slow steadily and be reduced to more than half its current annual growth as early as 2017, with an estimated 8.3% growth that year and 6.1% growth in 2018 (IDC, 2014). While the smartphone industry is in this bubble Samsung must maintain its competitive edge to prevent itself from falling behind while other companies increase their market share.

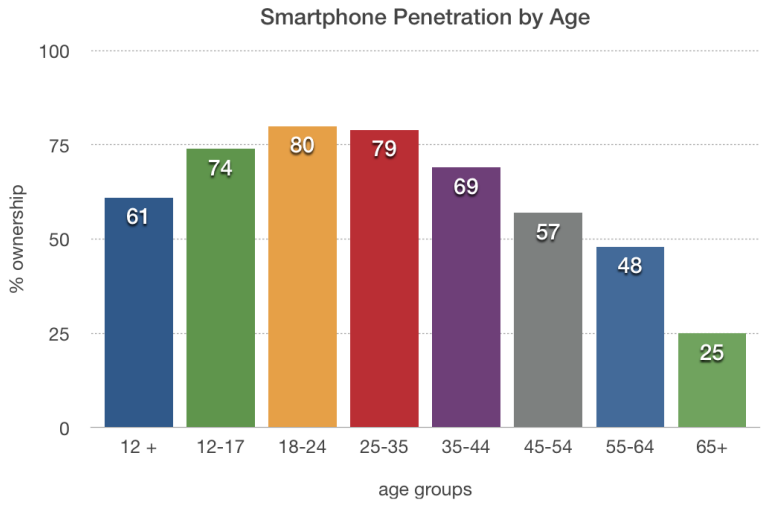

Figure 1 Note: retrieved from Webster, Tom. (2014, April 25th) Smartphone Ownership Demographics. www.edisonresearch.com/2014-smartphone-ownership-demographics/

III. Literature Review

Scholarly Journals

Since the average American spends approximately 34 hours a month on their smartphones, it seems logical that their decision-making process when choosing which phone to buy is complex (Nielsen, 2014). After analyzing past research done into this subject we discovered a wealth of factors that influenced college students' decisions when it comes to purchasing smartphones. Examples range from price consciousness, phone features, to brand perception and the influence of friends and family members. The collection of scholarly journals from around the world will explain each of these in depth to give a clearer understanding thereof.

Product price tends to be a key element that affect consumers' decision-making process . Products can be divided into two categories based on price: high-priced and low-priced brands (Swani and Yoo, 2010). The price helps to establish a certain brand image that will influence consumers' buying intention(Aaker, 1991). High-priced brands are those whose image are seen as a key factor and consumers of these products are willing to pay a premium price for their high quality and better brand image(Bolton, 1989). When it comes to the purchase of low-priced brand, consumers pay more attention to products' utilization value and perceived value for price (Swani and Yoo, 2010). Etgar and Malhotra (1981) found that most consumers will associate high-priced goods with high quality. Therefore, if the quality or feature of a product complies with its high price, which consumers perceive as fair, they will be more likely to pay a large sum of money for the better quality and higher perceived status(Monroe, 2003). According to Roy (2014), the iphone is regarded by many as a unique status symbol and turns into an extension of ego and self-image. Many Chinese consumers will pay a lot for an iPhone than other low-priced smartphones with similar features because as Josh Wolonick said,“ iPhone transcends mere

luxury becoming symbol of wealth, but also of ability and of a kind of western independence that is taking hold, along with capitalism, in the People's Republic of China. It allows China's working class to share, however minutely, in the prestige of China's new American status symbol."

A similar study by Suki (2013) surveyed 320 pre-screened university students who were smartphone users. Empirical analysis was made to exam the relationship between product price and demand for smartphones. He found that price doesn't significantly affect the demand for smartphones. Customers will buy smartphones with discount offered because they regard smartphones as high-risk products (Suki, 2013, p. 245). However, they will be willing to pay high price for the phone that will help to improve their image or status (Suki, 2013, p. 245).

Additional research was conducted into this topic by Swani and Yoo (2010), who examined how consumers' purchase intentions toward a high-priced brand and low-priced brand are affected when a price deal is offered through a two by two experiment. They found that price deals have a negative impact on purchase intentions for a high-priced brand but have a positive impact on buying intentions for a low-priced brand (Swani & Yoo, 2010, p. 148).This occurs because Consumers usually seek quality, status, self expression, and image from high-priced brand, but price deals will cause customers to lower their perception on brand quality and image (Grewal *et al.* , 1998). On the contrary, consumers attracted to low-priced brand are looking for price value, and price deals can provide higher transaction value for those customers (Swani & Yoo, 2010, p. 144) . The implication for this finding is that different marketing strategies should be employed to promote these two types of brands: high-priced brands should avoid price deals, whereas low-priced brands could benefit from price deals. Price promotion or sales for high-priced brands will reduce customers' buying intention because their purchase goal for unique

status and image can't be accomplished any more. In the opposite, price deals for low-priced brands will be successful because those price-sensitive consumers will get more value from their money (Swani and Yoo, 2010).

In this decade of rapid technological advancement consumers are constantly looking for products that will make their lives easier and allow them to effectively stay ahead of the curve. As such it seems reasonable to expect that product features should be a massive factor that affects the decision making of customers seeking to purchase a new smartphone, however only one study has been conducted to determine this and it found evidence to the contrary.

A study conducted to determine the influence of certain factors when Malaysian college students purchase smartphones tested whether features strongly affect this decision-making (Suki, 2013, p. 1). The definition of product features used was: "the attributes of a product that help to meet the satisfaction level of consumers' needs and wants through owning the product, use, and utilization of the product." (Suki, 2013, p. 2) With this definition in mind Suki scrutinized the 320 surveys administered and found that product features, surprisingly had the least influence on Malaysian consumers (Suki, 2013, p. 6-7). Interestingly brand name and social influence were much more important when it came to the decision-making process of these college students (Suki, 2013, p. 10). However since this is the only scholarly study into the topic, whether features truly have little sway over consumers' decision-making when it comes to smartphone purchasing cannot be wholly accepted until more studies are conducted into the topic.

With the global smartphone industry booming, international and domestic competition is on the rise as companies attempt to increase their market share. In 2008 approximately $650 billion were spent internationally on branding, the United States contributed to nearly half of the global budget at almost $300 billion (Conley, 2008, p.3). There is large spending on advertising

and brand image around the world, which has lead many researchers to study whether or not this is a wise investment for companies.

Many studies have pursued the influence on brand perception on consumers' likelihood to purchase. One such example is a study conducted by Massoud Moslehpour, Van Kien Pham, and Selman Yumnu, who surveyed Taiwanese college students in an attempt to measure the indirect influence of perceived brand globalness on the likelihood of purchasing HTC mobile phones. Their survey of 439 college students found that perceived brand quality and perceived brand globalness both strongly influence college students' likelihood to purchase a phone (Moslehpour, Pham, and Yumnu, 2014, p. 102). Overall the results of this study suggest that brand image carries a significant weight when it comes to consumers' decision making especially with regard to the perceived quality and globalness of the brand and its products.

Another study conducted in Taiwan by Chi, Yeh, and Yang (2009) delved into the same topic, researching whether brand awareness, quality perception, and brand loyalty positively influence consumers' purchase intention. Of the questionnaires, 267 usable results were studied allowing the researchers to conclude that while quality perception positively influenced purchase intention, brand awareness and loyalty were discovered to be the most influential when it came to consumers' decision making (Chi, Yeh, Yang, 2009, p. 141).

Apple, Samsung's most significant domestic competitor, has been praised for its adeptness and brand image creation and marketing (Chen & Liang, 2013). Resultantly it has been the subject of studies such as that of Pinsen and Brosdahl (2014). In their research into the company through a survey of 148 college students they aimed to understand to what extent brand loyalty was affected the brand's identity, its personality, and its reputation (Pinsen & Brosdahl, 2014, p.12). Of survey respondents 41% agreed and 49% strongly agreed to the statement

"People I know think highly of the Apple brand;" 40% agreed and 11% strongly agreed to the statement "Owning an Apple product enhances my own self-image" (Pinsen & Brosdahl, 2014, p.12). These two findings indicate that of the college students surveyed who owned, or had previously owned, Apple products, tended to have positive perceptions of the brand overall. Most conclusively was the response to the statement "I will continue to use the Apple brand in spite of competitors' deals" to which 46% of respondents agreed and 41% strongly agreed (Pinsen & Brosdahl, 2014, p.12). This study suggests that a consumer's perception of and loyalty to a brand can oftentimes be the deciding factors when making purchasing decisions.

Another 2012 study focused on students' brand preferences when purchasing smartphones, specifically between Apple and Samsung. 214 students at the Mälardalen Högskolan in Sweden were asked to complete questionnaires, which revealed that compared to Samsung, Apple has stronger brand equity and identity (Al Azzawi & Ezeh, 2012, p. 43). Students also revealed that loyalty and the perceived innovation of the Apple brand influenced their decision-making when purchasing smartphones (Al Azzawi & Ezeh, 2012, p. 43). Apple thus proves itself a notable competitor for Samsung, particularly when it comes to global branding (Al Azzawi & Ezeh, 2012, p. 43). If Samsung seeks to overtake this competitor a strong focus on branding could have positive effects.

The influence of specific types of advertising on brand preference has also been reviewed by some scholars. The impact of generic advertising on general product sales was analyzed through experiments by Chakravarti and Janiszewski in 2004. Their results demonstrated that focusing on differentiating factors increased the appeal of premium brands while decreasing the appeal of non-premium brands. (Chakravarti & Janiszewski, 2004). Additionally generic ads often reduced information sought by consumers about non-advertised features, for instance ads mentioning taste decreased interest in nutrition and vice versa (Chakravarti & Janiszewski, 2004). Generic advertising and brand advertising

were found to have starkly different effects on consumers, since brand advertising, unlike generic advertising, strongly influence performance perception and formed strong brand beliefs, which made the consumer less price-conscious than generic product advertising (Chakravarti & Janiszewski, 2004). Thus advertising can have positive or negative results depending on the approach taken to introducing new products and whether companies focus more on brand image than product sales.

The above literature, each of which proved the notion that good branding significantly influences consumers' purchasing intentions and habits, seem to justify the large amounts companies spend annually on advertising since brand image can be vital to sales.

Simply put, social influence means the change in an individual's thoughts, feelings, attitudes, or behaviors that lead from interaction with another individual or a group, intentionally or unintentionally (Rashotte, 2007). According to Rashotte (2007), society has a great influence on an individual, especially when an individual aligns their thoughts, attitudes, feelings or behavior with their community. In a study about user acceptance of information technology, Venkatesh and other researchers defined social influence as: "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003, pp. 451).

Venkatesh, Morris, and Davis (2003) suggested that the role of social influence in technology acceptance decisions was complex. They analyzed the problem with technology acceptance model (TAM) (Venkatesh, et al,. 2003), which designed to predict information technology acceptance and usage. Social influence has a direct effect on people's purchase intention of technology products. Particularly, social influence appears to be more important in the early stages of individual experience with the technology, with its role eroding over time and eventually becoming non-significant with sustained usage (Venkatesh, et al,. 2003, pp. 452). They also found that women tended to be more sensitive to others' opinions and therefore find

social influence to be more salient when forming an intention to use new technology (Venkatesh, et al,. 2003, pp. 453).

Clearly social influence is a complex subject to study due to extreme variation across consumers.

People's decision making processes of course varied depending on the types of products they bought. The Consumer Behaviorism model suggested that consumer's purchase behavior generally passes through 5 stages, before and after the actual purchase, include needs recognition, information search, and evaluation of alternatives, purchase decision and post-purchase behavior (Kotler and Keller, 2012). Kotler and Keller (2012) categorized decision making process into three different types, nominal decision making, limited decision making and extended decision making.

In 2011, Furaiji and his research team studied factors influencing consumer behavior in the electric appliances market in Iraq. The major findings of the study indicated that social factors, such as communication with friends,family members and related professionals are strongly were as-sociated with the Iraqi consum-ers' buying behaviors of electronic appliances (Furaiji, et al., 2012). When they are purchasing unfamiliar, expensive or infrequently purchased products (e.g., a com -puter, television, smartphone or car), people tend to choose the most complex type of buying behavior, the "extended decision-making process," which typically takes more time to spend more time researching their options. (Furaiji, et al., 2012). Such process are considered to reduce perceived risk.

"Individuals' thoughts and behaviors are positively related to the perceived opinions of peers, parents, and the media (TV, radio, movies, online)" (Nelson and McLeod, 2005, p. 516). Indeed this claim is supported by many studies. Consumers might listen to the suggestion from

different social groups, such as peers, friends, family members or perhaps those who are more professional in certain fields (Lim, et al., 2013).

A few studies have examined influence of peers and friends on people's consumption behavior. The term, "peer influence," is commonly used to designate interpersonal influence among adolescents and youths. Many studies have found that the behaviors of people of this age are easily and significantly influenced by their close friends (e.g., Garnier and Stein, 2002; Maxwell, 2002; Thornberry and Krohn, 1997; Barry and Wentzel, 2006). These studies are not specific to cell phone or smartphone purchases, but general purchase behavior. Because our study's focus is on college students' behavior, we reviewed a great deal of literature about peer influence on the behaviors of adolescents and youths. In addition, many researches have found friends can influence people's purchase preference for smartphone (e.g., Lim, et al., 2013; Suki, 2013) but these cell phone related studies didn't discuss peer influence in detail. In a survey of teenager, both male and female reported that they always seek for advice and opinions of their friends and tend to purchase the clothes of similar brand that their friends wear (Nelson and McLeod, 2005, p. 571). Meanwhile, the number of friends who exhibit the same behavior has also been identified as an important factor that influences an adolescent's behavior (Chow, et al., 2012). Generally speaking, peers proved to be the most salient influence, followed by friends and family, according to Nelson and McLeod's research (2005) in Madison, Wisconsin. Some users are concerned about whether the smartphone will help them to fit into their social group and they will consequently choose the most popular smartphone brand among peers (Suki, 2013).

Another study suggests that consumers are likely to imitate the brand preferences of people they interact with, ranging from close friends to strangers in the same aisle at the grocery store (Roman & Medvedev, 2011, p. 164).College students spend most of their time with peers,

relative to non-students and other adults, thus, they are more likely to be influenced more by peers and to rate the behavior of others as more conforming than their own (Roman & Medvedev, 2011, p. 164). Consequently, they are more likely to attribute the purchase of a popular brand-name item to conformity in peers, though they themselves are more likely to attribute their purchases to logical reasons, such as fit and comfort (Roman & Medvedev, 2011, pp. 164).

A few studies have also looked at the effects of familial influence on a young person's consumption behavior. For instance, Childers and Rao (1992) studied the influences of family members on student's consumption behavior depending on various types of products in Thailand and the US. They found that students are more susceptible to familial influence when choosing privately-used goods (Childers and Rao, 1992, p. 205). Moreover, they claimed that students, from high school to college, are more likely to be vulnerable to familial influence on their consumption decisions because they are primarily dependent on financial support of their parents (Childers and Rao, 1992, p. 206).

The arguments mentioned above are consistent with some other studies examined social influence on a college student's consumption behavior, especially their purchasing behavior of smartphones.

Lee's study in 2014 examined the factors that influence the adoption behavior of smartphone early adopters by looking at smartphone adoption behavior of college students in Korea. Their findings shows that the college students who adopted a smartphone earlier than other students tend to have more friends having smartphone, to be more susceptive to normative peer influence, and have more family members who possess smartphones (Lee, 2014, p. 316). Chun, Lee, and, Kim (2012) also demonstrated the impact of social factors, such as affiliation

and popularity, on smartphones purchasing. The findings indicate that Korean college student perceive smartphones as a tool for identifying members and thus a symbolic product that enhances one's status within a group (Chun, Lee, & Kim, 2012, p. 476).

A team of Malaysian university faculties (2013) explored the factors affecting smartphone purchase decision among Malaysians. They collected data through self-administered questionnaire from Klang Valley, Malaysia (Lim, et al., 2013, p. 2426). Among all the 125 participants, 43.2% agreed that almost all of their friends and family members use Smartphone, 29.6% of the respondents were neutral for being influenced by friends and family members, and 32% of the respondents are neutral for being stimulated by people around to buy Smartphone (Lim, et al., 2013, p. 2434). The study ultimately concludes that social influence concerns is compellingly associated with customer purchase decision (Lim, et al., 2013, p. 2434).

From the aforementioned literature, it is plain that when individuals consider adopting new technologies, they are influenced by other individuals, particularly, those who are close to them, such as peers and family. If the influencers have a positive view towards using a smartphone, then individuals could probably adopt and use a smartphone. Suki's research (2013) described that strong social influence from friends and family members affected the positive demand for smartphones among Malaysian students. The result signifies students' buying decision making and use rates of smartphone are mostly influenced by people around them (Suki, 2013).

Osman's research team concluded similar results (2012). According to their research, 35.6% of 1814 respondents feels that the trend in community is one of the important criteria that influence smartphone purchase decision, higher than needs (34.4%), software (33.1%), cost (28.8%) and hardware (17.6%) (Osman, et al., 2012, p. 280.). The overall results demonstrate that trend in the community is a more influential factor rather than the actual needs, which

implies that other people's choices effectively shape the purchase decision or intention of the consumers (Osman, et al., 2012, p. 280).

Another recent study (Choudrie, et al., 2014) questioned differences regarding the adoption and use of smartphones between UK's younger and older adults. When asked about the source of information, those who over 50 years old answered with word of mouth from friends and family, media, online social networks, high street stores, professional technology review websites; the respondents younger than 50 years old answered with word of mouth, media, etc. (Choudrie, et al., 2014, p. 9). According to the research, both of the groups considered seriously with word of mouth from friends and family, while the online social being most popular replies among youths (Choudrie, et al., 2014, p.9).

Moreover, a study towards Malaysian young adult of age 19 to 25 shows that celebrities have higher influence than parents (Ernest et al., 2010).

Some researchers analyzed how the convenience of using smartphone and people's dependency on smartphone could influence people's purchasing decision. .

Recently smart phone ownership among college students has been increasing at a rapid rate (Paterson & Low, 2011). This phenomenon was also noted by Wong (2011), who stated in his research that people were rapidly switching from the ordinary feature cell phone to smartphone due to the mobile revolution, in both developed and developing countries. One reason for this shift may be because consumers have a high demand of convenience, which smartphones supply (Ting et al., 2011). Convenience refers to a situation where works are simplified, easy and can be done with less effort, without discomfort or difficulty (Suki, 2013).

The smartphone allows users to do things that were previously thought impossible without office computers or PCs, such as: online shopping, checking into flights, and social networking

on the go (Peterson& Low, 2011). In addition, information can be generated automatically and promptly in real time with the help of smartphones (Suki, 2013). Wong (2011) found that customers preferred to use mobile technologies to access different type of information. By means of smartphones, consumers can manage their daily work with substantially greater levels of convenience, flexibility, efficiency and personalization (Suki & Suki, 2012).

Studies by Ding et al. (2011) as well as Norazah Mohd Suki and Norbayah Mohd Suki (2012) had found that there is a significant relationship between convenience and college students' dependency on smartphone as well as their purchase behavior. This significant result is analogous with Lim's study in 2013. However, in 2013, Norazah Mohd Suki published an article discussing the same topic of university students' dependency on smartphone and found conflicting results. Suki (2013) collected 200 completed and usable questionnaires from the respondents who were students from a public university in the Federal Territory of Labuan, Malaysia, and found that convenience was insignificant to students' dependence on smart phones and their buying decision.

Nonetheless the convenience which smartphones offers to its consumers makes them more dependent on their smartphones (Arif & Aslam, 2014). This dependency can be defined as: "the condition that consumers are inseparable from their smartphone and when they have high constant use and are unwilling to be apart from them" (Tian, et al., 2009; Ding et al., 2011). Suki and Suki's research (2012) implied that students would feel insecure when smartphone were not with them, again demonstrating they were strongly attached to their smartphones. Smartphones are no longer a phone for just calling and texting; instead, it has evolved into an integrated tool, which people can use handle almost any task, from as photographing or music listening, to taking notes and checking bank statements (Lim, et al., 2013). Genova (2010) demonstrated that

consumers have become more dependent on smartphones than ever before, especially to retrieve useful information, which is coherent with Wong's finding (2011). Lim's team (2013) also found that the younger generation in East Asian countries such as Malaysia, China, South Korea and India even use smartphones for educational purposes (online education or E-learning). Hence, youths today become much dependent on smartphone: they are unable to do their work without their smartphones (Lim, et al., 2013).

Customers' dependency have a positive and meaningful association with their purchase of smartphones (Suki, 2013). Former research detected that customers' past experience will affect their expectation for buying new products (Kuhlmeier and Knight, 2005). A few past studies also support this hypothesis. High dependency upon smartphones and also former experience are able to influence student's decision about their purchase behavior (Ting et. al., 2011).

It is worth mentioning that Suki (2013) developed a structural model to explore the dependency on smartphones and its influence on smartphone purchasing, which was later accepted by Arif and Aslam (2014) and Vahabzadeh, Duneghe and Khachoei (2014). The model first texts whether social needs, social influence and convenience are associated with customers' dependency on smartphone. Suki provided factor items for each concerns (Suki, 2013, p. 52). Then the relationship between dependency and people's purchase behavior is explored (Suki, 2013, p. 52).

Vahabzadeh and his teammates (2014) randomly chose 291 students of a private university in Tehran, Iran and collected data from them. They found a meaningful and positive relation between convenience and dependency on smartphones and smartphone purchasing. Arif and Aslam (2014) also studied the students' dependence on smartphone and its effect on purchase behavior in Pakistan. According to their research, convenience of smartphones is considered as a

factor that motivates university students to buy smartphone and increase their smartphone usage (Arif & Aslam, 2014). Consequently, they suggested smartphone manufacturers emphasize the convenience of their products when promoting smartphones to students (Arif & Aslam, 2014). They also claimed that in order to gain more customers, smartphone makers may further increase the convenience by providing greater memory space, user friendly interface, and high speed internet connection, option for connecting input and output devices and ability to write, edit and view documents, images, and presentations (Arif & Aslam, 2014).

A satisfied smartphones user's dependency on smartphones will not only lead to users' future purchase of his/ her own, but also increase the positive word-of-mouth communication to others (Ting et al., 2011). "Consumers who rely on positive word-of-mouth opinions of members of the social group might start their usage by either transforming them into beliefs, or through a process of imitation" (Ting et al., 2011).

Based on the research results discussed above, social influence has a significant correlation with buying decision and university students have a fair chance to purchase smartphones of a particular brand if their important individuals recommend to them (Lim, et al. 2013).

Newspapers and Magazines

The mix of innovative technology and lower price contribute to the rapid growth of sales for smartphones worldwide. Manufacturers in price-conscious markets like china, India and Indonesia are striving to make cheaper but more powerful smartphones (The Business Times Singapore, 2014).

The average selling prices of smartphones continue to decrease due to fierce competition, more advanced technologies, a wide variety of operating system and reduced cost (Cherrayil, 2013). According to IDC, global smartphone average selling price went down from $387 in 2012 to $337 in 2013 (Cherrayil, 2013). IDC also forecasts that smartphone ASPs（average selling prices) will drop to $265 by 2017 (Cherrayil, 2013). Lower prices will become a crucial driving force in increasing volume of smartphones in the years to come. (Saleem, n.d.). “As smartphones become more and more mass marketed, the prices will come down and that is the trend. The smartphone boom was fuelled by the premium models but now as connectivity of data becomes more prevalent," said Nadeem Khanzadah, head of retail at Jumbo Electronics. "Everyone wants a cheaper smartphone right now. In Africa, there are many local brands which are selling smartphones for $100 [Dh 367] and sell more phones than Samsung and Nokia. The prices are expected to fall drastically," said Hamza Saleem, senior research analyst at IDC. Clearly pricing is an issue of global concern.

To deal with the trend, some handset makers such as LG, Nokia, and Samsung have taken active measures to bring down their prices: In India, LG lowered the entry price for its smartphones to Rs 12,000 in 2010 and would continue to lower it to Rs 7,500 in 2011; Nokia is seeking to launch a wider portfolio of smartphones within the price range $50-500; Samsung also plans to introduce some lower-priced models to drive its sales (Mukherjee and Aulakh, 2010). “Brands are looking at the category through new and aggressive launches. More than price drop, there will be introduction of more affordable price points to grow the segment," says Ranjit Yadav, country head (mobile & IT) of Samsung India.

In addition to product price, American carriers and retailers also play an active role in driving the sales of smartphones. According to the 2013 U.S. Wireless Smartphone Satisfaction

Study conducted by J.D. Power, among the four wireless service providers in U.S., iphone owners are most satisfied with Verizon Wireless, while Samsung phone users are most satisfied with Sprint. The study also found that the major incentives to buy a smartphone differ by carriers(Youngs, 2013). When selecting new phones, Sprint customers value more about phone features and T-mobile customers will pay more attention to the price (Youngs, 2013). Because certain brands of phones are more aligned with certain carriers than others, consumers are suggested to match the phone they want to buy with the carrier to make their phone have the best performance (Youngs, 2013).

Furthermore, according to Kantar Worldpanel ComTech's recent study (2014), 25% of consumers did pre-purchase research by visiting carriers' websites when they planned to buy new phones. This study also showed that 64% of American customers went to retail stores to buy their phones and 63% of customers were recommended a Samsung phone by the sales stuff instead of other brands, which was more than double the rate for iPhone and 10 times more than Nokia (Milanesi, 2014). The important part is, 59% of the buyers who received recommendations accepted the suggestion and bought a Samsung phone, while only 6% of those who were recommended Samsung ultimately chose an iPhone (Milanesi, 2014). The rate of in-store brand recommendation for Samsung, Apple, HTC, LG, Motorola and Nokia were 63%, 30%, 25%, 24%, 15% and 7% respectively (Kantar Worldpanel ComTech, 2014). This indicated that in retail store purchase, sales people play an important role in customers' decision making (Niu, 2014). Several reasons can help to explain this phenomenon: First, carriers need to pay $110 more subsidies to iPhones than to Samsung phones on average (Niu, 2014). Second, Samsung invested much more in sales promotion than iPhone and sales assistants are likely to get greater commissions from selling Samsung products (Niu, 2014).

Although according to previously discussed studies features may not be the most important factor when consumers decide which smartphones to purchase, the software and hardware design of emerging phones tend to be the primary topic of discussion for many tech sites and news outlets. Wired, a print and online magazine focusing on emerging technologies discussed the importance of features in emerging smartphones in an article focusing on the stark competition between Apple's iPhones and Samsung's Galaxies. It claimed that Apple's record-breaking sales on the app store, which totaled $10 billion in 2013 alone, was one of many reasons Samsung is struggling domestically. (Merithew, 2014) Apple's ability to draw in its existing customers through a convenient store, which synchronizes programs and contents across Apple platforms, is proving to be a highly successful strategy. (Merithew, 2014) While Samsung is focusing on innovation in other areas, such as bendable and curved smartphones and televisions, the tech site doubts this research and development project will be more lucrative than expanding its own app stores. (Merithew, 2014) Meanwhile Samsung recently boasted record download speeds of 7.5 Gbps on 5G, which is almost 30 times faster than current 4G LTE speeds, it is still lagging behind its largest domestic competitor. (Samsung Tomorrow, 2014) This issue has plagued Samsung's smartphones for years, even though they claim to be leaders in innovation, Apple has focused on creating a user-friendly convenience. For a society that is increasingly dependent on a combination of devices, and resultant inter-device compatibility, Apple's approach may prove more effective with regard to long-term mass appeal. Wired supports this analysis when discussing the massive profits the Apple Store managed to amass in a year: "the sales figure [...] shows just how good Apple is at locking users into its world" (Merithew, 2014).

In 2012 Samsung spent $4.3 billion globally on advertising, a quadruple of the $1 billion Apple spent globally the same year (Mick, 2013). However the company is still lagging domestically behind its biggest competitor Apple. Whereas the latter was ranked by Forbes as the number one most valuable brand of 2013 at $104.3 Billion, Samsung came in 9th with a mere $29.5 Billion (Mick, 2013). Samsung is clearly struggling to overcome the international technological powerhouse Apple has become in the past decade.

Apple currently dominates college campuses in the United States, largely through previously mentioned factors such as marketing and brand loyalty; in fact, it has even created an Apple Campus Rep program, to which students can apply and represent the company on campuses through a physical presence (Apple in Education). In seeking to increase its market share of college students Samsung may want to explore new marketing and branding options to overtake Apple as the staple smartphone on campus. Apple had clever ideas about getting students “hooked early and buying bigger later.” Apple worked over the years in order to create a gateway-drug effect with its technology (Martin& Kenneth, 2013). In such a way, Apple built its “coolness” among youth. "Coolness is a function of having the coolest products in the market," says Allen Adamson, of branding firm Landor Associates (Martin & Rosen, 2013). Every time Apple launched a new gadget, students rushed to buy it, since their friends all had one, if you didn’t have, you were considered “out of date”. But this seems not work well now. A survey by USA Today of nearly 200 U.S. consumers revealed that 79% of respondents’ opinions about Android products were “much cooler” or “a little cooler.” Adamson mentioned that everyone’s phone looks like an iPhone, which was a challenge for Apple and an opportunity for Android companies (Martin& Kenneth, 2013).

Smartphone use among college students since 2009 surged by 51% points to 89% while feature phone use fell to 12% from 62% (Ransford, 2014). There are several reasons for this sudden change. Zdeb indicated in 2011 that new college students put smartphone on their must-have list, with laptop and tablet, because their peers had one. The Times of India reported in 2012 that the high-tech smartphone with a number of applications that connects with many and keeps the buyer entertained and updated has caught a fancy of the young brigade (Uppal, 2013).

In fact, smartphones have become an integral part of social interaction for many consumers, high school and college students shared smartphone apps as frequently as they share gossip, with smartphones becoming everyday items (Wettig & Weiss, 2013). High school and college campuses are crawling with tech users who are dying to share their favorite new, weird app obsessions. Many students said they would try an app with friends' recommendation, also to keep up with the current popular apps (Wettig & Weiss, 2013). Clearly smartphones have managed to integrate themselves into the everyday lives of the target market into which Samsung is trying to expand. This smartphone dependency should be a focus of our studies as well.

Conversely college students are not embracing tablets as many experts had expected, says a new report from Ball State University (Ransford, 2014). The report said that more students were addicted to smartphone because smartphones allowed them to share their lives instantly through social media sites. Laptops or PCs used to be the major devices college students accessed social media sites. But recently, smartphones have made social media increasingly popular (Ransford, 2014).

A study titled "The Truth about Smartphone Addiction" was published in the national College Student Journal (Bollywood Country, 2014). Researchers from the Alabama State University found that roughly 75% of the college students in the US are dependent on

smartphones, while 86% said they sleep with their phone within an arm's reach, 81% replied that they would panic if they could not find their phone (Bollywood Country, 2014). USA Today also reported that psychologists were worried about the growing obsession among people who would much rather interact with their smartphones than with other human beings.While smartphones made life easier for some, an addiction of smartphone appeared (Gibson, 2011).

Uppal (2013) reported on the craze for smartphone in India. Multiple gadget functions in one phone and enabling user finish work in less time are the major reason for people buying smartphone and also the reason for people becoming addicted to it (Uppal, 2013). Smartphone makes customers' life easier by providing many applications relating to business, entertainment, education, social networking, travel, news, media, health and fitness and many such fields (Uppal, 2013).“The applications are attracting people towards smartphone and this is the best way to socially connect with a large number of people,” an interviewee said in this report (Uppal, 2013).

Increasing college academic and daily service are provided on the mobile devices. Fischman's report in 2011 showed that higher education struggled to figure out how best to make use of mobile platforms. Mobile devices were used within and without classes for teaching, reading texts, student affairs, contacting alumni and recruiting prospective students (Fischman, 2011). Smartphone would play an increasing important role in college students' school life if they found the right application, for instance, multimedia study guides, with the screens showing animated versions of flash cards, campus maps and real-time bus and transit schedules (Young, 2011).

Industry and Trade Publications

According to recent surveys, price is not always a significant consideration for smartphone purchase. One survey of 1,693 respondents conducted by Mintel examined the use of price limits in smartphone purchase (Hulkower, 2014). The data shows that 69% of buyers will consider phones at all price levels and only 31% of buyers only consider phones below a certain price when they make smartphone purchasing decisions (Hulkower, 2014). Another survey with 1,890 respondents studied the incidence of buying the cheapest phones for needs (Hulkower, 2014). It found that about 25% of smartphone users picked the cheapest phones that suited their needs, which indicated that about 75% buyers were willing to pay more to get the phone they wanted (Hulkower, 2014). A third survey with 1,723 respondents examined the incidence of picking cheapest phone for needs by when phone was purchased. The result showed that the more recent buyers were less likely to have chosen the cheapest phone that was acceptable than previous buyers (Hulkower, 2014). This is partly because recently more buyers have realized that it's worthwhile to buy a high-end phone that lasts a long time rather than save a little money by picking a mid- or low-end phone (Hulkower, 2014). However, according to Lieberman (2014), while price may not strongly affect purchasing decisions, it accounts for a great deal of online conversations and discussions, which indicates that consumers are not only concerned with features, brands or quality but also to a certain extent with price. "Following the announcement of the iPhone 5, online discussions related to price showed a slight increase, based on the brand's different phone models, which at one end marketed the young, budget-conscious and at the other the more affluent consumer influenced by a metallic, more powerful model," explained Lieberman (2014).

Price clearly is a necessary concern for buyers, and at the same time, carriers also influence people's purchase behavior in U.S. because many consumers buy their phone on

contract. Mintel's Mobile Network Providers, UK –March 2014 report found that 72% of adult smartphone owners are on contracts (Segal, 2014).

Carrier subsidies play a key role in driving the sales of smartphones because all phones are virtually available within $200 when purchased with a two-year contract (Hulkower, 2014). The contact system for smartphones gives a strong boost to the sales of high-end phones by largely reducing the upfront cost(Hollower, 2014). In addition, consumers can also benefit from the trade-in programs that offer as much as $300 for used phones (Hulkower, 2014). Contract plan also has an effect on the length of time for upgrading phones: the buyers on a contract plan usually on keep their current phone an average of 22 months, while the buyers on prepaid and pay-as-you-go plans usually own their phones for longer period of time (Hulkower, 2014). The conclusion was that a decrease in the use of contract plans dramatically damages the sales of high-end phones and changes on carrier plans will also cast a negative effect on the sales, such as extending the time required before an upgrade is allowed at a discount (Hulkower, 2014). Several carriers, such as T-Mobile Jump and AT&T Next, have designed new upgrade programs that enable subscribers to upgrade their phones sooner than the standard two-year length of time (Hulkower, 2014).

As an additional effort to enhance phone sales, retailers will periodically provide some beneficial services beyond the regular carrier subsidies. For example: in November of 2013, AT&T offered the HTC One and the Samsung Galaxy S4 (both flagship models typically sold for $199) for just $99 (Hulkower, 2014).

Another way to lift new handset sales is the trade-in program, currently available at Sony, Best Buy, AT&T, Target, Verizon and other vendors. Trade-in programs have been facilitated by rising interest in second-hand phones, which itself is being driven by the trend toward no-

contract plans (Hulkower, 2014). Most services set a quote based on different models. For example, Verizon guarantees $100-300 per iPhone varying by the model, given that it is in good condition (Hulkower, 2014).

Although advertised features may not strongly influence purchasing, they become vital once consumers use a product. A study of smartphone users revealed that the features that are used most often are Email, web surfing, games, apps, and GPS (Hulkhower, 2014, p. 3). Similarly, when surveyed 41% of survey respondents in the United Kingdom claimed that 4G capability was the most important qualification when purchasing a smartphone. (Gee, 2014) When discussing camera quality, 34% of survey respondents stated that was the most important feature for a smartphone. (Gee, 2014) The perception of operating systems of smartphone users was also studied in a survey of 2,000 correspondents who linked concepts such as "cutting-edge," "cool," "stylish," and "feature rich" were most closely to Apple's IOS operating system (Mintel, 2014, p.5). Meanwhile Android and Windows operating systems were associated with terms like "efficient," "reliable," and "useful" (Mintel, 2014, p.5). Clearly the functions of smartphones already have become related to the operating systems on which they run in consumers' minds. Targeting customers through advertisements may require reinforcing existing associations or creating new ones. While Samsung currently benefits from the notion that consumers think the Android system is reliable and efficient, it may want to attempt to make concepts such as cool and stylish related to its products rather than allowing Apple to hoard them. Similarly, product design seems to have some sway over purchase likelihood, with 47% of respondents in the United Kingdom selecting a large screen (of over 5 inches) was the most important factor when purchasing phones (Mintel, 2014).

Many studies have concluded that branding is a key element in consumers' purchasing intentions and their loyalty. Brand loyalty in the United Kingdom was discovered to be the highest among Apple users, which is unsurprising given aforementioned studies into its marketing prowess. An estimated 80% of iPhone owners who purchased new phones in 2013 bought a new Apple iPhone, while only approximately 40% of Samsung owners stuck with their brand (Gee, 2014, p. 3). Encouraging loyalty to the brand is clearly an obstacle Samsung needs to conquer to keep pace with its fierce competition.

An overview published by Mintel delves into the brand influence on mobile phone sales in the United States. Since many users interact with brands through social media, they surveyed consumers who bought an iPhone and found that 61% of them had interacted with Apple through social media, similarly 59% of HTC owners, 56% of Blackberry owners, and 47% of Samsung owners also reached out to their respective brands through social sites (Mintel, 2014). This suggests that brand image maintenance through interactive sites is vital to the upkeep of consumer relationships and loyalty. Since Samsung is seeking to expand its market share among college students it needs to focus on this since an approximate 74% of college students use social media on a regular basis (O'Donnel, 2011). Since technology is rapidly changing the environment in which marketers operate it is imperative that they remain up to date in these social changes and how they can be used to a company's advantage.

The perception of brands has also been studied thoroughly, for instance a survey of 2,000 smartphone owners determining the perceived personality of brands deduced that Apple is viewed as "ethical," "engaging," and "vibrant;" Android phones are considered "fun," and "accessible;" while Blackberry phones are seen as "tired," and "boring." (Mintel, 2014, p.4)

While Android is not associated with negative terms like Blackberry is, it still lacks the appeal Apple manages to create for its brand.

Mintel published a report in January 2014, displaying the influential factors which affected students and their parents' back to school (BTS) shopping decision. The report showed that more than 20% of interviewees between 18 to 34 years old would ask friends and family for advice about where to shop. When it comes to "attitudes toward social media engagement in BTS shopping," 36% of the participants agreed with the statement "using Social media sites is a good way to find out where to shop for back-to-school items;" 37% of them took the social media sites as a great way to get ideas for back-to-school shopping (Erwina, 2014). Social media is a great tool for targeting college students as 80% of students say that Facebook and Twitter is the most effective way to reach them (SheerID, 2014). The online influence is an important aspect of social influence. Mintel's report compared the online social influence between major smartphone brands. The Apple iPhone, the most popular smartphone in American Market, also leaded all reviewed mobile phone brands online. Since Apple does not have any official accounts, its loyal customer base (so call Apple Fans) are serving as both promoter and defender of the brand online (Lieberman, 2014). Samsung listed on the second with 38% SOV (Lieberman, 2014). The social video marketing company Unruly Media named Samsung as the most-shared brand of 2013, to reward its diverse and active social media offering (Lieberman, 2014). In 2013, Samsung created content and campaigns that drive people to engage with the content online, and gained more than 7.3 million shares from content posted on Twitter, Facebook, YouTube, and Vine (Lieberman, 2014). By the end of 2013, the company generated more than 26 million likes on Facebook, while 18-24 are the most popular age group; 5 million followers on Twitter, 158 million views on YouTube. The launch of the Galaxy S4 in March 2013 was an example for

Samsung's online campaign. Samsung live-streamed the event on it official YouTube page, while simultaneously broadcast in Times Square. It also encouraged its fans to help increase excitement around the launch by using the #Unpacked hashtag on Twitter (Lieberman, 2014). Samsung's aggressive online marketing push referred that Samsung took social influence online an important part of their strategic in gaining brand recognition and in going head to head against Apple. Similarly social networks can be an effective strategy for online word-of-mouth marketing, one report took students as brand ambassadors and found that if they like something they are going to share it with everyone they know (SheerID, 2014). About 86% of the interviewed students said they would network to their friends about student discounts they had received (SheerID, 2014).

According to a Mintel report, 78% of young adults from 18-24 and 25-34 own smartphones, much higher than the older age group (Hulkower, 2014). Smartphones have become the staple of everyday life and the on-the-go tool of choice for consumers looking to catch up on emails, or tap their social networks (Nielsen, 2014). As stated in the report by Pew (Rainie & Poushter, 2014), a large portion of the early adopters of smartphones are aged 18-29 years-old, in other words, university going age, which means younger people tend to adopt a smartphone earlier than older people. Because of the high adopt rate of smartphones among the age group, the average spend on mobile phones was highest among younger age groups (Hulkower, 2014). Individuals between 18 and 24 spent an average amount of $165 per 9 month on their smartphones, while people between 25 and 34 spent 159, both much more than the older age group (Hulkower, 2014). Smartphones are beginning to transform how we engage in our everyday lives. The marketing research agency Nielsen published a reported in February, 2014, indicating that the growth in smartphone usage around the globe was driven by consumer's

constant connection to entertainment and media apps. The report pointed out that consumers were spending more time using smartphones. The time spent on smartphones has already exceeded the time of web surfing on laptops and PCs in the U.S., U.K. and Italy. For instance, Americans spent 34 hours using smartphone apps and accessing to mobile web in December 2013, compared with 28 hours in December 2012. Customers also increasingly accessed their smartphones multiple times a day. Apps make up the time spent using smartphones, while people spent most of their time for entertainment and media. The majority of Americans' time with apps is spent playing games (18%), accessing entertainment (15%), or using social media (29%) (Nielsen, 2014). Dean explored the college students' dependence on smartphone in 2011 and reported that most students use smartphones while multitasking. They use smartphones when doing another task such as watching TV (82%), listening to music (85%), shopping (75%), or walking (84%). The report also showed that students use their smartphones in many other situations, such as 92% use it during unproductive time at work or school, roughly 80% use it for school-related tasks; and 77% use it when they first wake up in the morning, while 72% use it before they go to sleep (Dean, 2011).

In sum, people are becoming more addicted to their smartphones, due to the convenience smartphones bring to us. Such convenience and dependency can influence people's buying decision when they are looking for a new phone.

IV. Proposed Predictors

Carriers and retailers

The influence of carrier's contract plans and programs (Hulkhower, 2014)

Price and Quality Consciousness

Perceptions of price and self-image relationship. (Suki, 2013)

Price consciousness (Cherrayil, 2013; Monroe, 2003)

Perceptions of price-quality relationship (Etgar & Malhotra, 1981)

Perceived price-quality relationship of the current smartphones (Swani & Yoo, 2010)

Influence from Sales Persons

The influence of sales staff's recommendations (Swani & Yoo, 2010)

Accessibility

Satisfaction of customer service (Rompas, E.P., Tumewu, F.J., 2014)

Advertising

The impact of generic advertising (Chakravarti & Janiszewski, 2004)

Branding

Brand awareness (Chi, Yeh, Yang, 2009)

Brand loyalty (Chi, Yeh, Yang, 2009; Gee, 2014)

Perceptions of positive brand personality (Pinsen & Brosdahl, 2014; Mintel 2014)

Product Features

Consumer desire for innovative features (Suki, 2013)

Consumer desire for operating system perceptions (Mintel, 2014)

Consumer desire for accessibility to app store (Merithew, 2014; Chow, et al., 2012)

Consumer desire for fast 3G/4G speed (Chow, et al., 2012; Price, 2012)

Consumer desire for compatibility with other electronics (LoMonaco, 2014)

Importance of a music player feature (Osman, et al., 2012)

Importance of screen size (Mintel, 2014)

Customer's desire for high camera quality (LoMonaco, 2014; Chun, et al., 2012, Osman, et al., 2012)

Perceived ease of use (LoMonaco, 2014; Chun, et al., 2012)

Social influence

Perceived peer influence (Lim, et al., 2013; Suki, 2013; Chew, 2012; Nelson & McLeod, 2005)

Perceived familial influence (Lim, et al., 2013; Chew, 2012; Childers & Rao, 1992)

Perceived social group fitness (Whether smartphones help customers to fit in with their social group better) (Suki, 2013; Roman & Medvedev, 2011)

Perceived influence of early adopters (Lee, 2013; Lim, et al, 2013)

Dependency

Customer's dependency on his/her smartphone. (Mintel, 2014; Nielsen, 2014)

Additional Variables

Customer demographic variables (Lim et al, 2012; Venkatesh et al., 2003; Alfawareh & Jusoh, 2014)

V. Measures

The aforementioned list of variables was narrowed down from this extensive list to the 25 variables that appeared to be the most relevant to our study. The predictors we selected range from a variety of topics, each of which target college students' intention to purchase smartphones. These topics are: carriers and retailers, price, advertising, branding, software, hardware, social influence, accessibility, and dependency. Scales regarding these predictors were derived both from our literature review as well as from the Marketing Scales Handbook.

The dependent variable we are investigating in our report is college students' purchase intentions when choosing which smartphone to buy. Purchase intention refers to a prior plan to buy certain good or service in future (Chew, et al, 2012). In other words, it can be defined as what the customers think and will buy in their mind (Blackwell, Miniard, & Engel, 2001). Purchase intention directly influence consumers' probability to lead to buying behavior, which means consumers are more likely to purchase a certain product or service, when their purchase intention is stronger (Schiffman & Kanuk, 2000). Therefore, companies and marketers are interested in purchase intention. It can help them in the process of decision making (Chew, et al, 2012).

The Influence of Carrier's Contract Plans and Programs was found to be an important predictor for consumers' smartphone purchase decision (Hulkower, 2014). This construct was described as the extent to which different contract plans and programs affect a customer' smartphone purchase decision. It was measured by a scale composed of three, five-point Likert-type items:

- I would rather buy a smartphone on a contract plan than on a no-contract plan.
- Trade-in programs make me want to buy a new smartphone.
- Short intervals between upgrades make me to change my phone more often

The construct, **Perceptions of Price and Self-image Relationship**, is intended to measure " A consumer's belief that buying more expensive brands is a positive experience because that will improve his\her social status or self-image and impress others." Four, five-point Likert-type terms are derived from the study of Lichtenstein, Ridgway and Netemeyer and were adjusted to include smartphones (1993). The individual measures are:

- I pay attention to the price-level of the brands other people use.
- Buying a high-priced brand makes me feel good about myself.
- Buying expensive brands of products makes me feel classy.
- Buying an expensive smartphone makes me feel confident.

The **Price Consciousness** construct attempts to measure the degree to which a consumer engages in competitive shopping and focuses on sales, trying to get the "best-price". A scale composed of seven, five-point Likert-type statements was drawn from the studies conducted by Darden and Perreault (1976), and Wells and Tigert(1971) and was adapted to discuss smartphones where relevant. The measures are as follows:

- Discounts make products appealing to me.
- I'm always looking discounts and sales.
- I pay attention to information about sales and discounts.
- The lowest priced products are my first choice.
- Price is a very important when I buy a smartphone.
- I compare smartphone prices before I buy one.
- Discounts make me want to buy a smartphone more.

The construct, **Perceptions of Price-Quality Relationship**, was defined by Darke and Chung(2005) as "A consumer's perception that the price of a particular product provides an accurate indication of its quality." A five-point Likert-type scale derived from this study was reworded to match our topic and included the following measures:

- I believe the old saying "you get what you pay for" is generally true.
- I think it is a necessary to pay a bit more for a better quality.
- Price is a good indicator of a product's quality.
- A cheap smartphone probably has a low quality.
- I will not give up high quality for a lower price.
- It is important for me to buy high-quality products.
- I wouldn't mind paying a higher price for a smartphone with a higher quality.

Perceptions of Price-Quality Relationship were tested for **current smartphones** owned by respondents to understand their opinions of their current smartphones. A five-point Likert-type scale included the following measures to measure whether customers thought that their smartphone provide a good value in terms of its price:

- My current smartphone provides value for money in terms of quality.
- The price of my current smartphone reflects its quality.

The construct, **The Influence of Sale Staff's Recommendations**, was derived from the research done by Milanesi(2014) and reworded to discuss the topic of smartphones. The four, five-point Likert-type statements were used to measure the extent to which a salesperson's recommendation affects a consumer's purchase. This construct's individual measures are:

- I am more likely to buy a product that a salesperson recommends to me.
- I don't trust the salesperson's advice and recommendations when I buy a new product. (Reverse-coded measure)
- A salesperson can give me valuable advice when I buy a smartphone.
- I often seek out and rely on salesperson's advice to make tough choices when buying smartphones.

Rompas and Tumewu (2014) defined the service after customer purchase a product as "customer service", such as service interactions, repair and maintenance, call centers, service

recovery and complaints handling. A service center or after sale service is an important feature which can affect the customer's buying decisions. The study of Lim, et al. (2013) indicated that better customer service and after-sales service should be provided in order to prevent dissatisfaction and negative word of mouth. According to Marketing Scales Handbook (p. 548), the variable **Satisfaction of Customer Service** is defined as "the degree to which a customer of a service provider is satisfied with a service that has been experienced or received, with the emphasis on a problem solving or repair –type service." Three questions derived from the study of Brady, et al (2005), Voss, et al (1998) and Hui (2007) asked respondents to evaluate their satisfaction with customer service, which we reworded to relate to our topic, respondents selected answers on a 5-point Likert scale for each statement:

- The customer service of my current smartphone meets my need very well.
- It's easy to reach the customer service when I need any help with my smartphone.
- I am satisfied with the customer service of my smartphone brand.

Generic advertising was also studied in our literature review and was defined by Chakravarti and Janiszewski as "designed to enhance category beliefs, increase across category differentiation, and reduce the advertised category's price elasticity." Scales used to measure advertising's impact were adapted from the Marketing Scales Handbook by scrutinizing the attitude towards specific advertisements, the attitude towards smartphone advertising were questioned on a 5-point likert scale which ask respondents to what extent they agree or disagree with the following statements:

- Apple's advertisements, such as those featuring silhouetted dancers, make me want to buy their products

- Samsung's recent advertisements, such as those with Kristen Bell, make me want to buy their products.

Brand awareness also played a major role in previous studies of College students' purchasing habits. This concept is defined by the Marketing Scale Handbook as "the degree to which a person is aware and knowledgeable of a brand." A scale consisting of three questions was provided by Zou, Yang, and Hui (2010) which we reworded to fit our topic and measured on a 5-point Likert scale the extent to which respondents agree with the following statements:

- I have seen a lot of Apple ads
- I have seen a lot of Samsung ads
- I am very familiar with Apple
- I know a lot about Samsung
- I always see people discuss or share news about Samsung on social media

The brands whose awareness we measured were Samsung and its principal US competitor: Apple.

Brand loyalty was found to influence purchase intentions in previous studies as well. Pinsen and Brosdahl (2014) use the following definition of brand loyalty: "A deeply held commitment to rebuy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." A scale found in the Marketing Scales Handbook was derived from Sen, Gurhan-Canli, and Morowitz (2001) regarding brand loyalty. Three questions were asked to scrutinize brand loyalty, which we reworded to relate to smartphones, respondents selected answers on a 5-point Likert scale for each question:

- I enjoy repeatedly buying products from the same brand
- I am loyal to my smartphone brand
- I would recommend my smartphone brand to my friends
- I might switch to another brand when purchasing a new smartphone (reverse-coded measure)
- I would choose my current smartphone brand even if the other brands' smartphones were very similar to mine

According to our literature review, consumers often display sensitivity to **perceiving a brand's personality**, when this personality was appealing it was demonstrated as capable of influencing purchasing decisions. Aaker (1997) used the following definition for an exciting brand personality: "the degree to which a consumer views a brand as having personality-like characteristics typified by the following facets: daring, spirited, imaginative, and up-to-date." In order to gage the consumers' perception of brand personality, Aaker listed the following terms for respondents to agree or disagree to (on a 5-point Likert scale) when discussing a brand's personality:

- trendy
- exciting
- unique
- fashionable

A variety of software variables were also demonstrated as being highly important to college students when making smartphone purchasing decisions. The predictors on which we will be focusing are: operating system, innovative features, satisfactory app store, 3G/4G speed, compatibility with other electronics, and whether it has a music player or not. Lo Monaco (2014)

questioned the importance of most of those attribute by asking respondents the following question: “When purchasing a smartphone how important are the following attributes in your decision making process?” She then used a 7-point Likert scale and asked survey respondents to rank the importance of many software variables. We used a 5-point Likert scale instead and ask them to rate the importance of the aforementioned software features from ‘not important at all’ to ‘very important.’ “Please rank the importance of the following features when purchasing a smartphone:”

- Operating System
- Innovative functions other smartphones don’t have
- Design of smartphone
- Variety of App Store
- Price of App Store
- 3G/4G Speed
- Compatibility with other electronics (PC, Mac, Speakers, etc.)
- Music Player
- Screen Size
- Quality of Camera

The most important aspect of software, according to our literature review, was **Perceived Ease of Use**, which is defined by Meuter et al. (2005) as follows: “the degree to which a consumer believes that a good or service is free from effort when being used.” The scale items used by the group were adapted to fit our study:

- My smartphone is easy to use without directions
- The use of a smartphone does not require extra effort

- My smartphone fits into my lifestyle and working style very well
- My smartphone meets my expectations

According to the literature review, social influence is considered as a factor which has a direct effect on consumers' purchase intention of smartphones (Vahabzadeh, et al, 2014). Social influence means the change in an individual's thoughts, feelings, attitudes, or behaviors that lead from interaction with another individual or a group, intentionally or unintentionally (Rashotte, 2007). In a study about user acceptance of information technology, social influence is defined as: "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003, p. 451).

Peers and family members are two important factors to motivate a higher intention to purchase smartphones (Vahabzadeh, et al, 2014).

Peer refers to a group of people who on a level of equality and share particular social characteristics, such as class and education. The term, "peer influence" is commonly used to designate interpersonal influence among adolescents and youths. Many studies have found that the behaviors of people of this age are easily and significantly influenced by their close friends and other people around them in the nearly age group (e.g.,Chew, 2012; Childers and Rao, 1992). It is important to examine the influence that peers have over college students' sartorial purchasing choices (Roman & Medvedev, 2011). The variable **Perceived Peer Influence** (Chew, 2012; Nelson & McLeod, 2005) refers to the extent to which a consumer's purchasing decisions are influenced by peer and friends. In order to gage the peer influence, Suki (2012), Chew and et al (2012), Chow (2012), Lee (2014), and Kim, Chun and Lee (2014), listed several sets of items for respondents to agree or disagree to (on a 5-point Likert scale). We selected six of them, which fit best to our research question:

- Friends are very helpful to me when I'm deciding what to buy.
- I ask for my friends' opinions when buying a new product.
- I buy the same products my friends buy.
- Friends give me valuable advice when I buy a smartphone.
- I trust my friends about their opinions of and advice about smartphones.
- I am more likely to buy a smartphone when my friends recommend it.

The effect of the family in the socialization of younger generations, also named as "intergenerational influence," includes an impact on the individual's norms attitude, believes and values (Childers and Rao, 1992). Several studies claimed that adolescents and youths are likely to be susceptible to familial influence on their consumption decisions (Childers and Rao, 1992; Lim, et al, 2013). The variable **Perceived Familial Influence** (Chew, 2012; Childers & Rao, 1992) checks to which extent that intra-family communication in particular can influence college students' purchase intention of smartphones. Previous researches, such as Suki (2012), Chew and et al (2012), Chow (2012), Lee (2014), and Kim, Chun and Lee (2014), provide several of measures of this variables. From these researches, we choose a scale of 5 consisting question to measure on a 5-point Likert scale the extent to which respondents agree with the following statements:

- Family members are very helpful to me in making purchasing decisions of new products.
- I ask my parents and family for their opinions when buying a new product.
- Family and parents give me valuable advice when I buy a smartphone.
- I trust my parents about their opinions of and advice about smartphones.
- I am more likely to buy a smartphone when my family recommends it.

Some researchers' findings indicate that people perceive smartphones as a tool for identifying members and thus a symbolic product that enhances one's status within a group (Suki, 2013). The **Perceived Social Group Fitness** examines to which extent customers feel smartphones can help customers to fit in their social group better (Chun, Lee, & Kim, 2012). Four questions picked from previous research (Suki, 2012; Chew, et al, 2012; Chow, 2012; Lee, 2014; and Kim, Chun and Lee, 2014) were asked to scrutinize brand loyalty, which we reworded to relate to our topic, respondents selected answers on a 5-point scale for each question:

- Using the same smartphone as my friends helps me fit in with my social group better.
- It is important that my friends like the brand of smartphone I'm using.
- I pay attention to the brand of smartphone other people use.
- Some smartphones make better impressions on my friends than others.

Some researchers also studied the **Perceived Influence of Early Adopters** on potential adopters' decisions about whether or not to adopt a product. Lee (2014) defined earlier adopters as those who adopted a product earlier than others in their community. He announced that early adopters had the highest degree of opinion leadership and help trigger a critical mass (Lee, 2014). We selected two items to measure this variable:

- I seek out information about the product before I buy it.
- I read other people's reviews about a product before I buy it.

Sense of dependence reflects that as smartphones have become more involved in people's lives. For instance, some users always carry their smartphones with them or some people might feel "lost" when they leave their smartphone at home. This attitude is defined in Tian, Shi and Yang's research (2008), as "a sense of dependence, wherein one perceives dependence on a mobile phone, viewing it as a necessity and being unwilling to part from it." **Customer's sense**

of dependency on his/her smartphone measures the extent of consumer's feeling about their dependency on their smartphone. The variable is first gauged by moderate dependence, with the question:

- I spend _____ hours per day on my smartphone.

However, moderate dependence does not constitute a mentality and does not impair mental and social functioning. The attitude was also measured by a scale composed of four, five-point Likert-type items (Tian, Shi and Yang, 2008; Suki, 2012; Park, et al, 2013):

- I always use smartphone to help me with my job or school work.
- I feel insecure when my smartphone is not with me.
- The first thing I do when I wake up is check my smartphone.
- In my daily life, I often use my smartphone when I am doing other things, such as waiting in line or on public transportation.

Finally we wanted to measure the respondents' likelihood to purchase specific smartphone brands so we posed the question: "If you were to buy a smartphone tomorrow, how likely would you be to buy from the following brands?" We then listed Samsung and some of its most notable competitors and asked respondents to rank their purchase likelihood on a 5-point Likert scale:

- Samsung
- Apple
- LG
- HTC
- Motorola
- Lenovo

- Blackberry
- Sony
- Other brand (Please write the brand's name here _____)

Finally, we posed four questions to discover the demographics of our survey respondents which were age (respondents could fill in the blank), gender (respondents could check either male or female), academic level (for which options ranged from Freshman to PhD), and monthly expenditure excluding tuition and rent (0-199; 200-39; 400-599; 600-799; 800-999; more than 1000)

Table 1A Constructs and Measures:

Carriers and Retailers

For each of the following statements, please tell us how well it describes you.					
The influence of carrier's contract plans and programs: The extent to which different contract plans and programs affect a customer' smartphone purchase decision.	Does not describe me at all	Doesn't really describe me	Can't really tell	Some-times describes me	Definite ly describe s me
I would rather buy a smartphone on a contract plan than on a no-contract plan.					
Trade-in programs make me want to buy a new smartphone.					
Short intervals between upgrades make me to change my phone more often.					

Price and Product Quality Related

To what extent do you agree or disagree with the following statements?					
Perceptions of Price and self-image relationship: A consumer's belief that buying more expensive brands is a positive experience because that will improve his\her social status or self-image and impress others.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I pay attention to the price-level of the brands other people use.					
Buying a high-priced brand makes me feel good about myself.					
Buying expensive brands of products makes me feel classy.					
Buying an expensive smartphone makes me feel confident.					

To what extent do you agree or disagree with the following statements?					
Perceived Product Quality: The degree to which a consumer is intent on buying high quality products.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I'm satisfied with my smartphone's quality.					
The quality of my smartphone is good.					
My smartphone is reliable					

For each of the following statements, please tell us how well it describes you.					
Price consciousness: The degree to which a consumer engages in competitive shopping and focuses on sales, trying to get the "best-price"	Does not describe me at all	Doesn't really describe me	Can't really tell	Some-times describes me	Definitely describes me
Discounts make products appealing to me.					
I pay attention to information about sales and discounts.					
The lowest priced products are my first choice.					
Price is a very important when I buy a smartphone.					
I compare smartphone prices before I buy one.					
Discounts make me want to buy a smartphone more.					

To what extent do you agree or disagree with the following statements?					
Perceptions of price-quality relationship: A consumer's perception that the price of a particular product provides an accurate indication of its quality.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I believe the old saying "you get what you pay for" is generally true.					
I think it is a necessary to pay a bit more for a better quality.					
Price is a good indicator of a product's quality.					
I will not give up high quality for a lower price.					
It is important for me to buy high-quality products.					
I wouldn't mind paying a higher price for a smartphone with a higher quality.					
A cheap smartphone probably has a low quality.					

To what extent do you agree or disagree with the following statements?					
Perceived price-quality relationship of the current owned smartphone: The extent to which a customer is think that smartphone he/she current owns is worth its price.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My current smartphone provides value for money in terms of quality.					
The price of my current smartphone reflects its quality.					

Salesperson

For each of the following statements, please tell us how well it describes you.					
The influence of sale staff's recommendations: The extent to which a salesperson's recommendation affects a consumer's purchase	Does not describe me at all	Doesn't really describe me	Can't really tell	Some-times describes me	Definitely describes me
I am more likely to buy a product that a salesperson recommends to me.					
I don't trust the salesperson's advice and recommendations when I buy a new product.					
A salesperson can give me valuable advice when I buy a smartphone.					
I often seek out and rely on salesperson's advice to make tough choices when buying smartphones.					

Accessibility

To what extent do you agree or disagree with the following statements?					
Satisfaction of Customer Service: Customer's satisfaction with a service recently received with the emphasis on a problem solving or repair –type service of smartphone.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am satisfied with the customer service of my smartphone brand.					
The customer service of my current smartphone meets my need very well.					
It's easy to reach the customer service when I need any help with my smartphone.					

Advertising and Branding

To what extent do you agree or disagree with the following statements?					
Response to generic advertising: Measures the degree to which generic advertising can enhance category beliefs, increase across category differentiation, and encourage consumption.	Strongly disagree	Slightly disagree	Neutral	Agree	Strongly agree
Apple's advertisements, such as those featuring silhouetted dancers, make me want to buy their products.					
Samsung's recent advertisements, such as those with Kristen Bell, make me want to buy their products.					

To what extent do you agree or disagree with the following statements?					
Brand Awareness Measures the degree to which a person is aware and knowledgeable of a brand.	Strongly disagree	Slightly disagree	Neutral	Agree	Strongly agree
Brand Awareness of Apple					
I have seen a lot of Apple ads.					
I am very familiar with Apple.					
Brand Awareness of Samsung					
I know a lot about Samsung.					
I always see people discuss or share news about Samsung on social networks.					
I have seen a lot of Samsung ads.					

For each of the following statements, please tell us how well it describes you.					
Brand Loyalty Measures the degree to which a deeply held commitment encourages consumers to rebuy or re-patronize a preferred product/service consistently in the future.	Does not describe me at all	Doesn't really describe me	Can't really tell	Some-times describes me	Definitely describes me
I enjoy repeatedly buying products from the same brand.					
I am loyal to my smartphone brand.					
I would recommend my smartphone brand to my friends.					
I might switch to another brand when purchasing a new smartphone.					
I would choose my current smartphone brand even if the other brands' smartphones were very similar to mine.					

To what extent do you agree or disagree with the following statements regarding the smartphone you currently own?					
Positive Brand Personality: Measures the degree to which a consumer views a brand as having personality-like characteristics typified by the following facets: daring, spirited, imaginative, and up-to-date.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My current smartphone brand is "fashionable."					
The brand of my current smartphone is "trendy."					

The brand of my current smartphone is “exciting.”					
The brand of my current smartphone is “unique.”					

Smartphone Features and Ease of Use

Please rank the importance of the following features when purchasing a smartphone					
Perceived importance of Phone features: Measures smartphone feature preferences.	Not important at all	Not very important	Neutral	Slightly important	Very important
Operating System					
Innovative functions which other smartphones don’t have.					
Design of Smart Phone					
The variety of App Store					
The price of App Store					
3G/4G Speed					
Compatibility with other electronics (PC, Mac, Speakers, etc.)					
Music Player					
Screen Size					
Quality of camera					

To what extent do you agree or disagree with the following statements?					
Perceived Ease of Use: the degree to which a consumer believes that a good or service is free from effort when being used.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My smart phone is easy to use without directions.					
The use of a smartphone does not require extra effort.					
My smartphone fits into my lifestyle and working style very well.					
My smartphone meets my expectations.					

Social Influence

To what extent do you agree or disagree with the following statements?					
Peer Influence: The extent to which a customer feel that his/her purchase decision of is influenced by his/her friends.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Friends are very helpful to me when I'm deciding what to buy.					
I ask for my friends' opinions when buying a new product.					
I buy the same products my friends buy.					
Friends give me valuable advice when I buy a smartphone.					
I trust my friends about their opinions of and advice about smartphones.					
I am more likely to buy a smartphone when my friends recommend it.					

To what extent do you agree or disagree with the following statements?					
Peer Influence: The extent to which a customer feel that his/her purchase decision of is influenced by his/her friends.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Friends are very helpful to me when I'm deciding what to buy.					
I ask for my friends' opinions when buying a new product.					
I buy the same products my friends buy.					
Friends give me valuable advice when I buy a smartphone.					
I trust my friends about their opinions of and advice about smartphones.					
I am more likely to buy a smartphone when my friends recommend it.					

Perceived Influence of Earlier Adopters' Feedback: The extent to which a customer think his/her purchase intention is influenced by earlier adopters' feedback.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I seek out information about the product before I buy it.					
I read other people's reviews about a product before I buy it.					

To what extent do you agree or disagree with the following statements?					
Perceived Social Group Fitness: The extent to which customers feel smartphones will help them to fit in their social group better.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Using the same smartphone as my friends helps me fit in with my social group better.					
It is important that my friends like the brand of smartphone I'm using.					
I pay attention to the brand of smartphone other people use.					
Some smartphones make better impressions on my friends than others.					

Dependency

To what extent do you agree or disagree with the following statements?					
Perceived Dependency on Smartphone : The extent to which a consumer depends on their smartphone.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel insecure when my smartphone is not with me.					
I always use smartphone to help me with my job or school work.					
The first thing I do when I wake up is check my smartphone.					
In my daily life, I often use my smartphone when I am doing other things, such as waiting in line or on public transportation.					
I spend _____ hours per day on my smartphone.					

VI. Instrument

Student Opinion Survey

We are conducting this study to learn about students' opinions concerning a variety of current topics.
The survey is for a graduate research class.
Thank you for completing this survey, please remember that your responses are anonymous.

1. Our first questions are about shopping. For each of the following statements, please tell us how well it describes you by checking the box corresponding with your choice *(check only one)*.

	Does not describe me at all	Doesn't really describe me	Can't really tell	Some-times describes me	Definitely describes me
I seek out information about the product before I buy it.					
I enjoy repeatedly buying products from the same brand.					
I will not give up high quality for a lower price.					
I pay attention to the price-level of the brands other people use.					
I read other people's reviews about a product before I buy it.					
Family members are very helpful to me in making purchasing decisions of new products.					
I ask for my friends' opinions when buying a new product.					
Buying expensive brands of products makes me feel classy.					
The lowest priced products are my first choice.					
Friends are very helpful to me when I'm deciding what to buy.					
Price is a good indicator of a product's quality.					
Discounts make products appealing to me.					
It is important for me to buy high-quality products.					
I don't trust the salesperson's advice and recommendations when I buy a new product.					
I pay attention to information about sales and discounts.					
I buy the same products my friends buy.					
Buying a high-priced brand makes me feel good about myself.					
I believe the old saying "you get what you pay for" is generally true.					
I ask my parents and family for their opinions when buying a new product.					
I think it is a necessary to pay a bit more for a better quality.					
I am more likely to buy a product that a salesperson recommends to me.					

Continue to next page

2. This next section focuses on smartphone features, for each statement provided please rank the importance of each feature by checking the box corresponding to your choice *(Check only one).*

	Not important at all	Not very important	Neutral	Slightly important	Very important
Operating System Innovative functions which other smartphones don't have. Design of Smart Phone					
The variety of App Store					
The price of App Store					
3G/4G Speed					
Compatibility with other electronics (PC, Mac, Speakers, etc.)					
Music Player					
Screen Size					
Quality of camera					

3. Now we'd like you to think about your smartphone purchasing. For each of the following statements, please tell us how well it describes you by checking the box corresponding with your choice *(check only one).*

	Does not describe me at all	Doesn't really describe me	Can't really tell	Some-times describes me	Definitely describes me
I wouldn't mind paying a higher price for a smartphone with a higher quality.					
I pay attention to the brand of smartphone other people use.					
I would rather buy a smartphone on a contract plan than on a no-contract plan.					
I often seek out and rely on salesperson's advice to make tough choices when buying smartphones.					
I am more likely to buy a smartphone when my friends recommend it.					
I compare smartphone prices before I buy one.					
I trust my friends about their opinions of and advice about smartphones.					
I trust my parents about their opinions of and advice about smartphones.					
Discounts make me want to buy a smartphone more.					

4. Thinking about your experiences when you buy a smartphone, please tell us how much you agree or disagree with each of the following statements by checking the box corresponding with your choice *(check only one)*.

	Strongly Disagree	Disagree	Feel Neutral	Agree	Strongly Agree
It is important that my friends like the brand of smartphone I'm using.					
Trade-in programs make me want to buy a new smartphone.					
Using the same smartphone as my friends helps me fit in with my social group better.					
Buying an expensive smartphone makes me feel confident.					
A salesperson can give me valuable advice when I buy a smartphone.					
Some smartphones make better impressions on my friends than others.					
I am more likely to buy a smartphone when my family recommends it.					
Price is a very important when I buy a smartphone.					
Short intervals between upgrades make me to change my phone more often.					
A cheap smartphone probably has a low quality.					
Friends give me valuable advice when I buy a smartphone.					
Family and parents give me valuable advice when I buy a smartphone.					

5. This next section focuses on smartphone brands, for each statement provided please tell us how much you agree or disagree with the stated opinion by checking the box corresponding to your choice *(Check only one).*

	Strongly Disagree	Disagree	Feel Neutral	Agree	Strongly Agree
I always see people discuss or share news about Samsung on social networks.					
I have seen a lot of Samsung ads.					
I am very familiar with Apple.					
Apple's advertisements, such as those featuring silhouetted dancers, make me want to buy their products.					
I know a lot about Samsung.					
Samsung's recent advertisements, such as those with Kristen Bell, make me want to buy their products.					
I have seen a lot of Apple ads.					

6. Which Smartphone brand do you currently own?

Apple Samsung HTC Blackberry LG
Sony Motorola Lenovo Other brand: _____

7. The next questions are about your current smartphone and smartphone usage. For each of the following statements, please tell us how much you agree or disagree with each of the following statements by checking the box corresponding with your choice *(check only one).*

	Strongly Disagree	Disagree	Feel Neutral	Agree	Strongly Agree
The quality of my smartphone is good.					
I am loyal to my smartphone brand.					
I would recommend my smartphone brand to my friends.					
I would choose my current smartphone brand even if the other brands' smartphones were very similar to mine.					
My current smartphone brand is "fashionable."					
The customer service of my current smartphone meets my need very well.					
It's easy to reach the customer service when I need any help with my smartphone.					
The brand of my current smartphone is "exciting."					
My smartphone fits into my lifestyle and working style very well.					
The brand of my current smartphone is "trendy."					
I'm satisfied with my smartphone's quality.					
I am satisfied with the customer service of my smartphone brand.					
I feel insecure when my smartphone is not with me.					
I always use smartphone to help me with my job or school work.					
My smartphone meets my expectations.					
I might switch to another brand when I buy new smartphone.					
My smartphone is reliable.					
The price of my current smartphone reflects its quality.					
My current smartphone provides value for money in terms of quality.					

	Strongly Disagree	Disagree	Feel Neutral	Agree	Strongly Agree
In my daily life, I often use my smartphone when I am doing other things, such as waiting in line or on public transportation.					
The brand of my current smartphone is "unique."					
The use of a smartphone does not require extra effort.					
The first thing I do when I wake up is check my smartphone.					
My smart phone is easy to use without directions.					

8. How many hours do you spend per day on your smartphone?

I spend _____ hours per day on my smartphone.

9. If you were to buy a smartphone tomorrow, how likely would you be to buy from the following brands?

	Not likely at all	Some-what unlikely	Neutral	Some-what likely	Very likely
Samsung					
Apple					
LG					
HTC					
Motorola					
Lenovo					
Blackberry					
Sony					
Other brand (Please write the brand's name here_____)					

Continue to last page

11. How old are you? _____

12. Are you male or female? Male Female

10. Which of the following describes your current academic level:

Freshman Sophomore Junior Senior
Master's PhD

13. **Excluding tuition and rent,** how much money (USD) approximately do you spend per month?

0-199 200-399 400-599
600-799 800-999 more than 1000

That concludes our survey. Thank you for your time.

VII. Methodology

This section discusses the introductory overview of our research methodology. It includes research design, methods of data collection, sampling process, pilot testing, data processing and methods of data analysis.

In order to thoroughly understand the issue Samsung is facing our team began this study with a thorough literature review. From reading these previously conducted surveys we were able to create a list of 25 proposed predictors that we assumed might influence college students' decision making when purchasing smartphones. These predictors were then transformed into measures which were drawn from both the literature we studied as well as *The Marketing Scales Handbook*, some were adapted to more closely relate to our study.

We defined the constructs and items based on definitions found in the aforementioned sources. These were then rearranged into a survey which ultimately consisted of 98 measures.

The next step was sampling. From its definition, sampling is the process of selecting a smaller group of people who basically have the same characteristics and preferences as the total group from which it is drawn is called sampling (Chew, et al, 2012). Due to the limitation of time and budget, a researcher need not select every item in a population because the results of a good sample should have the same characteristic as the population as a whole (Chew, et al, 2012). A larger sample may provide more accurate answers.

Pilot test is also a good way to see whether a questionnaire is working as expected. Pilot tests were conducted for the survey in order to fully gain insights on whether the respondents will able to answer for all the questions and whether there have any grammatical error exist (Chew, et al, 2013). We sent 6 questionnaires for pilot test purpose before the actual test was conducted. From pilot test, we found some typos and poorly phrased sentences. In addition, some

of the testers forgot to finish the questions on the last page. We thus added the signal "Continue to next page" at the end of each page of questionnaire. At first, we put the "exclude tuition and rent" at the end of the mostly spend question, which was hardly noticed by testers. We then corrected the problem by put this condition at the beginning of the question in bold.

The first step in sampling process involves target population. The target population in this research is undergraduate and graduate students from Boston University. The reason why we targeted this population was that BU students came from different states in the US and even all over the world. Thus, we could receive a good overview of college students' purchase intentions of smartphones. The second step in the sampling process was sampling location. Sampling location is a place or area being selected for collects the data. During the sampling process, we randomly selected 116 Boston University students to respond to our student opinion survey in George Sherman Boston University Union. 100 of these surveys were administered on November 2nd between 11am and 3pm, however after reading the responses we discovered that some surveys were unusable and resultantly a second set of 16 surveys was collected on November 3rd between 7pm and 9pm. We distributed the questionnaire directly for respondent and interact through face-to-face. In order to provide an incentive for students to complete our lengthy survey we offered them candies and chocolates. Sample size refers to the number of elements to be included in the study (Malhotra, 1996). In our research, sample size was 100 due to the limited time and budget.

Of the 100 randomly sampled Boston University students 61 were female, 37 were male, and 2 did not indicate their gender. The age of the respondents was between 18 and 29, with 11 being freshman, 18 sophomores, 21 juniors, 22 seniors, 25 masters, 2 Phd students, and 1 not indicated. As such our team managed to obtain a data from a variety of college students.

Corresponding to literature that stated Apple's iPhones were dominant on campus the majority of the students who took our survey owned iPhones, 76 to be precise. Only 12 owned Samsung, and the remaining 12 owned other brands. Our team did not disclose our affiliation with Samsung.

After collecting all the data every set of questionnaires was checked twice to make sure respondents took the survey seriously. We spent six hours coding the responses to our questionnaire into SPSS. Coding scales were assigned to fill-in-the-blank information, and numerical values were then entered into SPSS. We then cleaned our data and finally reverse coded where necessary.

Data analysis begins after the data had been collected and processed. In data analysis, we used Statistical Package for the Social Sciences (SPSS) to calculate mean, median, mode percentage distribution, frequency distribution, and so forth. Additionally, we also used Pearson Correlation Coefficient to analyze the relationship between independent variables and dependent variables.

Firstly, we tested the reliability of the remaining constructs through Cronbach's Alpha on SPSS and began analyzing them, only those with a reliability of .60 or more were considered good were considered good and those with a score between .50-.60 were seen as acceptable.

We then went over the constructs with low Cronbach's alpha to check whether there was any measures that were unreliable, and thus decreased Cronbach's alpha. But we did not find any. For those low reliability constructs, removing one or two items wouldn't improve it much. For instance, we checked the reliability statistics of the construct "The influence of carrier's contract plans and programs," and found the Cronbach's alpha is .45, which was not acceptable. But if we removed any item, the construct remained unchanged with an unreliable Cronbach's alpha or even lower. The construct "brand awareness of Apple" was in the same situation. After this we read over our

constructs and changed those we judged inferior, due to issues such as lack of overlap which will be discussed in the following section, into single item measures.

The rest of our measures were reliable. We then used the remaining, reliable measures to calculate the composites. Once we calculated the composites, we found their averages. We then ran frequency tests of these averages in order to extract the percentage of students who displayed certain qualities. We examined the individual percentages for all responses. We also calculated the frequency of responses to our single item questions as well as means, medians, and modes. We used the aforementioned data to gain a better understanding of college students' purchasing smartphone habits.

Next we began testing the correlations between the dependent variable and independent variable, we used SPSS to calculate this through the Pearson Coefficient (r) to understand the strength and direction of these correlations and how they applied to college students' purchasing habits. We also calculated the sampling error and confidence intervals using the standard 95% confidence. Ultimately, after completing all of these calculations we thoroughly analyzed our results, discussed the conclusions we reached, and generated recommendations as well as recommendations for further study.

VIII. Results

Analysis of Measures

We tested the reliability of each construct and range of frequencies after we collected, cleaned, entered, and reverse-coded our survey data.

When testing reliability, we realized there were some faults with the construct the *influence of carrier's contract plans and program*s, which includes three five-point Likert-type measures. Its Cronbach's Alpha reliability is only 0.450, which is considered unacceptable. We found it was because there was a significant lack of overlap among its measures. Therefore, we decided to keep the three separate statements as single item measures.

The *perceptions of price and self-image relationship* construct consists of four five-point Likert type questions. Cronbach's Alpha reliability for these items is 0.732, indicating a very good internal consistency. The next construct, *price consciousness*, consists of seven five-point Likert type questions, with a very good Cronbach's Alpha reliability of 0.700. We also measured *perceived product quality* through three items that used a five-point Likert scale, which yielded a Cronbach's Alpha of 0.840, which is excellent. The construct, *perceptions of price-quality relationship*, consists of seven five-point Likert type questions. It has a Cronbach's Alpha reliability of 0.712, which indicates it is very good. Our next construct, *perceived price-quality relationship of current phone* contains two five point Likert-type questions. It has a very good Cronbach's Alpha reliability is 0.754.

The four five-point Likert type questions measuring the *influence of sale staff's recommendations* yielded a Cronbach's Alpha reliability of 0.590, which is considered acceptable.

Our next composite, *satisfaction of customer service*, contains three five point Likert-type questions. Cronbach's alpha reliability is 0.862.

We also tested the reliability for the sections pertaining to brands. The five questions measuring *brand loyalty* were all five-point Likert-type, yielded a Cronbach's Alpha of .795, as such this is considered very good and is just .005 short of excellent. We also measured the importance of a *positive brand personality* through four items that used a five-point Likert scale, which yielded a Cronbach's Alpha of .655. However when we removed one item from this construct, namely the question "the brand of my current smartphone is unique," the reliability increased to .828, which is excellent. We came to understand why this changed so drastically after removing one measure when we studied the frequencies of responses given by Apple owners to the statement "the brand of my current smartphone is unique." The mode of Apple owners' response to this statement was 2, thus the vast majority of them felt that their brand was not unique. We realized that some of our aforementioned constructs had significant faults, two such constructs were brand awareness and response to generic advertising. The former, *brand awareness*, was found to have a significant lack of overlap among the measures, as such all 5 separate statements became single item measures. The measures in response to generic advertising were judged to be phrased poorly since they directly asked survey respondents for their opinion about the relationship between the independent and dependent variables. For this reason we cannot analyze these two questions.

The *perceived ease of use of smartphone* has a Cronbach's alpha reliability of 0.748, which is very good. But we reviewed all the four items in this construct and found that though the construct had a high Cronbach's alpha score, the two of them "My smartphone fits into my lifestyle and working style very well" and "My smartphone meets my expectations" are not

measuring the variable, meaning the construct lacks validity. Subsequently, we removed these two items. The remaining two items got a Cronbach's alpha reliability of 0.740, which was very good.

The construct *perceived peer influence* consists of six five-scale question. The reliability of the construct is 0.771, which is very good. Our next construct, *perceived familial influence*, is also testing the social influence to people's purchase decisions. This construct contains five questions and all of them are five-point Likert type. Its reliability is excellent, with a 0.850 Cronbach's alpha. The next four five-point Likert type questions that make up the *perceived social group fitness* have a Cronbach's alpha reliability of 0.745. The construct Perceived Influence of Earlier Adopters' Feedback is made up by two questions. The reliability is 0.550, which is acceptable. Since there were only two items, we could not move any of them to get a better reliability.

The construct *perceived dependency on smartphone* is made up by five questions, when four of them are five-point Likert type questions. We then tested the reliability of these four question and got a 0.572 Cronbach's alpha, which was acceptable. The left question asked the respondents "how many hours do they spend on their smartphone per day," which is a ratio question. Since it isn't a Likert type question, we didn't test its reliability with other questions. Instead, we used this question to describe people's dependency on smartphone by itself.

Table 2A: Reliability of Predictors

Predictor	Cronbach's Alpha	Number of Items left	Items removed
The influence of carrier's contract plans	0.45 (unacceptable)	0	3 Trade-in programs make me want to buy a new smartphone. I would rather buy a smartphone on a contract plan than on a no-contract plan. Short intervals between upgrades make me to change my phone more often.
Perceptions of price and self-image relationship	0.732 (very good)	4	None
Price consciousness	0.700 (very good)	6	None
Perceived Product Quality	0.840 (excellent)	3	None
Perceptions of price-quality relationship	0.712 (very good)	7	None
Perceived price-quality relationship of the current smartphones	0.754 (very good)	2	None
Influence of Sales Persons	0.590 (mediocre)	4	None
Perceived satisfaction of customer service	0.862 (excellent)	3	None
Brand awareness of Apple	0.498 (unacceptable)	0	2 I am very familiar with Apple. I have seen a lot of Apple ads.
Brand awareness of Samsung	0.675 (good)	0	3 (for validity reasons rather than reliability) I know a lot about Samsung. I have seen a lot of Samsung ads. I always see people discuss or share news about Samsung on social networks.
Brand loyalty	0.795 (very good)	5	None

(continued next page)

Table 2A (continued): Reliability of Predictors

Predictor	Cronbach's Alpha	Number of Items left	Items removed
Perceptions of positive brand personality	0.655 (good)	4	None
Perceived ease of use	0.740 (very good)	2	2 (for validity reasons rather than reliability) My smartphone fits into my lifestyle and working style very well. My smartphone meets my expectations.
Perceived peer influence	0.771 (very good)	6	None
Perceived familial influence	0.850 (excellent)	5	None
Perceived social group fitness	0.745 (very good)	4	None
Perceived influence of earlier adopters	0.550 (mediocre)	2	None
Perceived dependency on smartphone	0.572 (mediocre)	4	None

Analysis of Variation of Measures

Our research team compiled 25 predictors comprised of multiple measures, however some were reduced to single item measures.

The construct **carrier's contract plans and programs** was simplified into the following three single-item measures.

The single-item measure **Trade-in programs make me want to buy a new smartphone** had 100 valid responses. The 5-point Likert-type scale ranged from " Trade-in programs don't make me want to buy a new smartphone at all" (valued at 1) to "Trade-in programs definitely

make me want to buy a new smartphone" (valued at 5).The mean score was 3.05. The median was 3.00. And the mode was 3 for Can't really tell if the trade-in programs make me want to buy a new smartphone. This predictor didn't show any particular preference for negative, neutral or positive responses. The percentages for these three were relatively even. 31(31%) respondents gave negative responses(1 and 2). 34 respondents (34%) answered Neutral. 35 respondents(35%) gave positive responses(4 and 5). No clear pattern is seen for this predictor, so no valid conclusion can be drawn.

Another single-item measure **Short intervals between upgrades make me want to change my phone more often** had 100 valid responses. The 5-point Likert-type scale ranged from Doesn't describe me at all (valued at 1), which means that respondents think short intervals between upgrades don't make them change their phone more often at all, to Definitely describe me (valued at 5), which means that they think short intervals between upgrades definitely make them want to change their phone more often. The mean score was 2.84. The median was 3.00. And the mode was 3 for Can't really tell if short intervals between upgrades make them change their phone more often. This predictor showed a tendency toward negative responses (1 and 2): 17 respondents (17%) answered that short intervals between upgrades don't make them change their phone more often at all; 23 respondents (23%) stated that short intervals between upgrades were not likely to make them change their phone more often. 28 respondents (28%) chose Can't really tell if short intervals between upgrades make them change their phone more often. The number of respondents who think short intervals between upgrades sometimes (23%) or definitely (9%) make them change their phone more often totaled 32 responses. For negative responses of 1 and 2 (40 % of the valid sample), standard error (95% confidence interval) was ±9.602 %, inferring a range of 30.40%–49.60% in the population. The Can't really tell response

(scored at 3) was 28% of the valid sample.Standard error (95% confidence interval) was ± 8.800%, inferring a range of 19.2%–36.8% in the population. As indicated in these results, the short intervals between upgrades are not likely to make the majority of students change their phones more often.

The single-item measure **I would rather buy a smartphone on a contract plan than on a no-contract plan** had 99 valid responses. The 5-point Likert-type scale ranged from "I will never buy a smartphone on a contract plan" (valued at 1), to " I will always buy a smartphone on a contract plan"(valued at 5).The mean score was 3.48. The median was 4.00. And the mode was 4 for "Sometimes I would rather buy a smartphone on a contract plan than on a no-contract plan". This predictor showed a tendency toward positive responses (4 and 5). 12 respondents (12.1%) answered that they would never buy a smartphone on a contract plan; 8 respondents (8.1%) stated that they were not very likely to buy a smartphone on a contract plan. 23 respondents(23.2%) chose Can't really tell if they would rather buy a smartphone on a contract plan than on a no-contract plan. The number of respondents who sometimes(32.3%) or definitely(24.2%) buy a smartphone on a contract plan totaled 56 responses. For positive responses of 4 and 5 (56.5% of the valid sample), standard error (95% confidence interval) was ± 9.766%, inferring a range of 46.73%–66.27% in the population. This result shows that about half of the students would rather buy a smartphone on a contract plan than on a no-contract plan.

There were 98 valid responses for the predictor **Perceived Product Quality**. The 5-point Likert-type scale ranged from Strongly Disagree (valued at 1), which indicate that the respondent is totally dissatisfied with the quality of their smartphones, to Strongly Agree (valued at 5), which means he or she is very satisfied with the quality of their smartphone. The mean score for this predictor was 4.01. The median was 4.00. And the mode was 4, which meant customers

thought that their smartphones were in high quality. This predictor showed a strong preference for a positive response (4 or 5): No respondent answered they were totally dissatisfied with the quality of their smartphones, 5 respondents（5.1%) stated that they were dissatisfied with the quality of their smartphones.

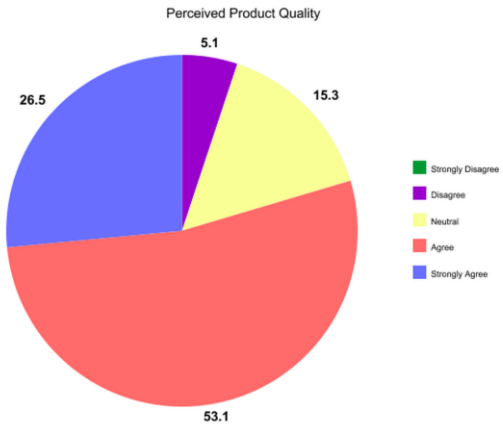

Figure 2 Perceived Product Quality

15 respondents (15.3%) answered Neutral. More than half of the respondents stated that they were satisfied with the quality of their smartphones (52 respondents; 53.1%); And 26 respondents (26.5%) chose that they were very satisfied with the quality of their smartphones. Satisfied and very satisfied totaled 78 responses. For positive responses of 4 and 5 (79.6% of the valid sample), standard error (95% confidence interval) was ±7.978 %, inferring a range of 71.62%–87.58% in the population. The relatively high number of positive responses indicate that most students are satisfied with the quality of their current smartphones.

The predictor **Perceptions of Price and Self-image Relationship** included 98 valid responses. The 5-point Likert-type scale ranged from Strongly Disagree(valued at 1), which means respondents don't believe at all that buying more expensive brands will improve their social status or self-image, to Strongly Agree (valued at 5), which means that they strongly believe that buying more expensive brands will improve their social status or self-image. The mean score for this predictor was 2.86. The median was 3.00. And the mode was 3 for Neutral. This predictor showed a slight preference for Neutral(39.8%). 7(7.1%) respondents answered that don't believe at all that buying more expensive brands will improve their social status or self-image. 27 respondents (27.6%) answered that they don't believe buying more expensive brands will improve

their social status or self-image . A slightly fewer (23 respondents; 23.5%) stated that they believe that buying more expensive brands will improve their social status or self-image. Only 2 respondents (2%) answered that they strongly believe that buying more expensive brands will improve their social status or self-image. Strongly Disagree and Disagree totaled 34 responses. For negative responses of 1 and 2 (34.7% of the valid sample), standard error (95% confidence interval) was ±9.425%, inferring a range of 25.28% – 44.13% in the population. The standard error (95% CI) for Neutral 3 (39.8% of the valid sample) was ±9.691%, inferring a range of 30.11% – 49.49% in the population. These results show that most students don't believe that buying more expensive brands will improve their social status or self-images.

It was worth to mention that for current Apple users, 25.7% of them believed and another 2.7% strongly believed that buying more expensive brands will improve their social status or self-image. So the positive responses accounted for 28.4% of all current Apple user respondents. But for current Samsung users, only 8.3% of them believed that buying more expensive brands will improve their social status or self-image. This result indicated that Apple customers are more likely to buy expensive brands to improve their self-image than Samsung customers.

There were 100 valid responses for the predictor **Price Consciousness**. The 5-point Likert-type scale ranged from "i don't engage in competitive shopping and focus on sales at all" l (valued at 1) to "I always engage in competitive shopping and try to get the "best-price" (valued at 5). Not a single

Figure 3 Price Consciousness

survey respondent answered they didn't engage in competitive shopping at all and only 5% chose they were not very likely to engage in competitive shopping and focus on sales. 31% of the respondents held neutral attitude and a larger percent of 52% stated that they sometimes engaged in competitive shopping and focused on sales. The remaining 12% answered that they always engaged in competitive shopping and focused on sales. The number of respondents who sometimes or always engaged in competitive shopping and focused on sales totaled 64 responses. The mean score for this predictor was 3.71. The median was 4.00, and the mode was 4. Finally, for positive responses of 4 and 5 (64% of the valid sample), standard error (95% confidence interval) was ±9.408 %, inferring a range of 54.59%–73.41% in the population. These results indicate that students have a moderate to high level of price consciousness.

The predictor **Perceptions of Price-quality Relationship** had 99 valid responses. The 5-point Likert-type scale ranged from Strongly Disagree (valued at 1), which means the respondents strongly disagree that the price of a particular product provides an accurate indication of its quality, to Strongly Agree (valued at 5), which means they strongly agree that price is a good indicator of a product's quality. The mean score for this predictor was 3.51. The median and mode were both 4.00. Only 1% selected that they strongly disagree that the price of a particular product provides an accurate indication of its quality and 5.1% chose that they disagree that the price of a particular product provides an accurate

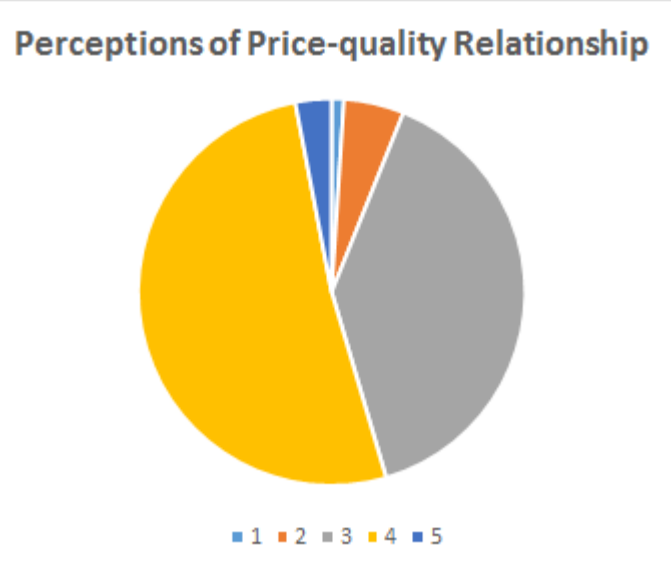

Figure 4 Perceptions of Price-quality Relationship

indication of its quality. 39.4% of the respondents answered Neutral. Respondents varied significantly between Agree (51 respondents; 51.5%)which means they agree that the price of a particular product provides an accurate indication of its quality and Strongly Agree (3 respondents; 3%), which means that they strongly agree that the price of a particular product provides an accurate indication of its quality. Agree and Strongly Agree totaled 54 responses. For positive responses of 4 and 5 (54.5% of the valid sample), standard error (95% confidence interval) was ±9.809%, inferring a range of 44.69%–64.31% in the population. Thus, about half of college students believed that the price of a particular product provides an accurate indication of its quality.

The predictor **Perceived Price-Quality Relationship of Current Phone** had 100 valid responses. The 5-point Likert-type scale ranged from Strongly Disagree (valued at 1), which means that respondents don't think at all that the price of their current smartphones reflects their quality, to Strongly Agree (valued at 5), which means that they think the price of their current smartphones definitely reflects their quality. The mean score for this predictor was 3.91. The median was 4.00, and the mode was 4. This predictor showed a tendency toward positive responses (4 and 5). One respondent (1%) answered they don't think at all that the price of their current smartphones reflects their quality; 3 respondents (3%) answered they don't think that the price of their current smartphones reflects their quality. 20 respondents (20%) chose Neutral. More than half (56 respondents; 56%) answered that they think the price of their current smartphones reflects their quality. 20 respondents (20%) stated that they think the price of their current smartphones

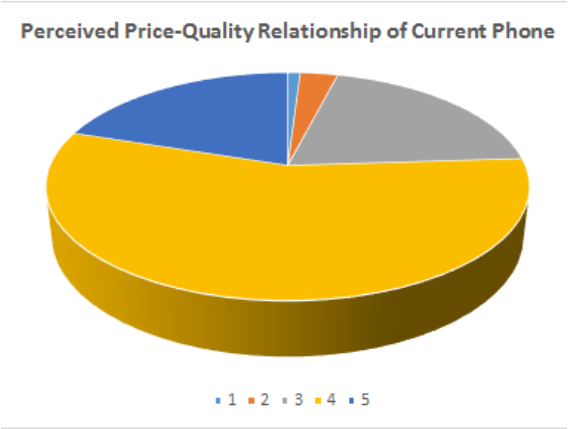

Figure 5 Perceived Price-Quality Relationship of Current Phone

definitely reflects their quality. Agree and Strongly Agree totaled 76 responses. For positive responses of 4 and 5(76% of the valid sample), standard error (95% confidence interval) was ± 8.371%, inferring a range of 67.63–84.37% in the population. From the results, it appears that the majority of students believe that the price of their current smartphones reflect their quality.

Another predictor we studied was **the influence of sale staff's recommendations,** which had 100 valid responses. It was calculated through 4 statements with 5-point Likert scale options ranging from "my purchase intention for smartphones isn't influenced by sale staff's recommendations at all"(valued at 1) to " sale staff's recommendations definitely influence my purchase intention for smartphones" (valued at 5). The mean score was 2.99. The median was 3.00 and the mode was 3. 5 (5%) respondents answered that their purchase intention for smartphones wasn't influenced by sale staff's recommendations at all. 17(17%) answered that they were not very likely to be influenced by sale staff's recommendations, and more than half (54 respondents; 54%) chose that they can't really tell if they were influenced by sale staff's recommendations. Respondents varied significantly between Sometimes influence me (22 respondents; 22%) and Definitely influence me (2 respondents; 2%). Sometimes influence me and Definitely influence me totaled 24 responses. The Can't really tell the influence response (scored at 3) was 54% of the valid sample, standard error (95% confidence interval) was ±9.769%, inferring a range of 44.23%–63.77% in the population. As indicated in the result, students customers are not very likely to be influenced by sales person's recommendations when they buy smartphones.

The predictor **Satisfaction of Customer Service** had 97 valid responses. The 5-point Likert-type scale ranged from Strongly Unsatisfied (valued at 1) to Strongly Satisfied (valued at 5) with their smartphones' customer service. The mean score for this predictor was 3.64. The

median was 4.00. And the mode was 4 for Satisfied. This predictor showed a strong preference for a positive response (4 or 5): Two respondents (2.1%) answered they were not satisfied at customers service at all and three (3.1%) reported not satisfied. Thirty-eight (39.2%) of the respondents chose Neutral. Nearly a half of the respondents answered Satisfied (39 respondents; 40.2%) or Very Satisfied (15, 15.5%). Satisfied and Very Satisfied totaled 44 responses. For positive responses of 4 and 5 (45.7% of the valid sample), standard error (95% confidence interval) was ±9.91%, inferring a range of 36–56% in the population. The standard error (95% CI) for Neutral was ±9.72%, inferring a range of 30–49% in the population. The high number of neutral and positive responses seems to indicate that students are not unsatisfied with their smartphone's customer service. Apple users also rated higher than Samsung users in this section. Apple users gave a mean score of 3.66, a median of 4.00 and a mode of 4 while Samsung rated a mean of 3.50, a median of 3.50 and a mode of 3.

As previously mentioned we also set out to measure how certain advertisements affected college students' purchase intention of certain smartphones, however we realized after administering the survey that these measures were improperly written and as such cannot analyze them.

Due to wording that was considered not overlapping upon review, **brand awareness** was deconstructed into single-item measures. The first single-item measure was "I know a lot about Samsung," which asked students to respond using a 5-point Likert-style scale ranging from I don't know Samsung at all to I know a lot about Samsung. The mean response was 2.44 and the median and mode were both 2. 23.47% of students chose don't know at all, 36.73% chose don't know very well, 17.35 were neutral, 17.35 have some knowledge about Samsung, 5.1% know a lot about Samsung. We applied the standard 95% confidence interval to the 60.2% of the

population we calculated a sampling error of +/- 9.69% which suggests a range of 50.43%-69.97%. A similar item measured Apple's brand awareness through the statement: "I am very familiar with Apple," and asked survey respondents to select an answer from a 5-point Likert type scale from not familiar at all to very familiar. We applied the standard 95% confidence interval to the 84.69% of respondents who selected familiar or very familiar and calculated a sampling error of +/- 7.06 % and a range of 77.63%-91.75%. Therefore Apple's brand awareness is clearly a great deal higher than Samsung's among college students.

A second measure regarding brand awareness was a statement which was only measured for Samsung: "I always see people discuss or share news about Samsung on social media." The mean response was 2.36, the median was 2 and the mode was also 2. For this measure 23% selected not see at all, 36% selected don't see often, 23% were neutral, 18% of respondents selected sometimes see and 0% selected always see people discuss or share news about Samsung on social media. We used the 59% of the responses which were negative (not see at all and not see often) and applied the standard 95% confidence interval and deduced a sampling error of +/- 9.64% and a range of 49.36%- 69.64%, which once again suggests a low brand awareness for Samsung.

Another item that measured brand awareness was based on exposure to advertising, in this case we asked respondents to rank the extent to which they agree with the statement "I have seen a lot of Samsung ads" on a 5 point Likert scale from strongly agree to strongly disagree, which referred to haven't seen any Samsung ads at all to have seen a lot of Samsung ads . For this the mean response was 3.2, the median was 3, and the mode was 4. 9% selected not seen any at all, 18% chose not seen many, 27% chose neutral, 36% chose seen some, and 10% selected have seen a lot. 46% of college students claimed they either have seen some or a lot with this

statement, applying the standard 95% confidence interval we determined a sampling error of +/- 9.77% and a range of 36.23%- 55.77%. Meanwhile when we asked college students to rank the extent to which they agree with the statement "I have seen a lot of Apple ads," 2% selected have never seen at all, 7% selected haven't seen many, 17% selected neutral, 38% chose have seen some, and 36% chose have seen a lot of Apple ads. Thus 74% selected either have seen some or have seen a lot, from which we calculated a sampling error of +/-8.6% and a range of 65.4%- 82.6%. Once again Apple seems to have a significantly higher brand awareness among college students than Samsung does.

One predictor we scrutinized was **Brand Loyalty**, which was measured through 5 statements with a 5-point Likert scale responses ranging from not loyal to current brand at all to very loyal to current smartphone brand. We received 99 valid responses to the questions in this construct, approximately 69% of those respondents either loyal or very loyal to their brands. The mean response was 3.84, and both the median and mode were 4. Not a single survey respondent answered not loyal at all and a mere 5% chose Disagree. Although 26% selected Neutral, a far larger percentage, 40%, selected they were loyal to current brands. Finally, using the standard 95% confidence interval we calculated a sampling error of +/- 9.11%, resultantly leaving a range of 59.89% - 78.11%. This evidences that students have a moderate to high loyalty to their smartphone brands.

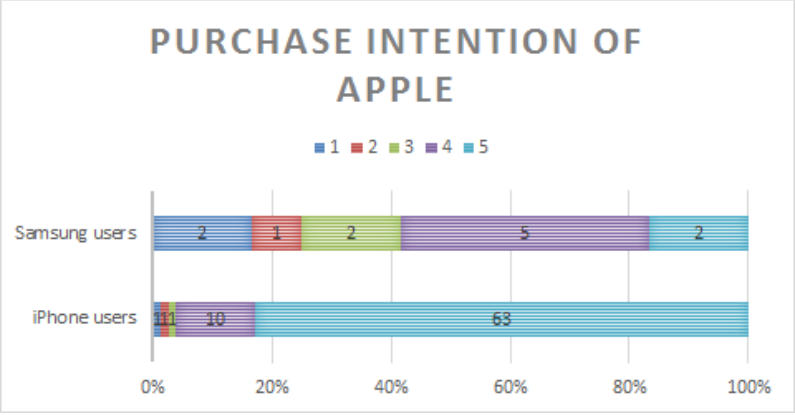

Figure 6 Purchase Intention of Apple

This measure was also analyzed depending on the brand of smartphone the respondents owned. Firstly, 76 of the surveyed college students owned an iPhone, for brand loyalty their mean response was 4.03, the median was 4.00, and the mode was 4. No respondents chose not loyal at all, only 1.3% chose not loyal, 21.1% were neutral, 51.3% selected loyal, and the remaining 26.3% chose they were very loyal Apple, these positive responses were 77.6%. Using the standard 95% confidence interval we calculated a sampling error of +/- 4.80%, which resulted in a range of 73.52% - 81.68%. Apple users therefore clearly demonstrate a high loyalty to their brand.

12 of our respondents owned Samsung products, regarding the brand loyalty predictor their mean response was 3.45, the median was 4.00, and the mode was 4. 8.3% of respondents selected not loyal at all, 0% chose not loyal, 8.3% were neutral, 30% chose loyal, and 50% selected very loyal. We then applied the standard 95% confidence level and determined that the sampling error was +/- 22.63%, thus generating a range of 57.37%-102.63%, which was rounded to 57.37%-100%. Although this is higher than Apple's at the top end, it is significantly lower than Apple's brand loyalty at the bottom end, as such we assume their brand loyalties may be similar. Although we also received responses from the survey respondents who owned other brands' smartphones, there were not enough of them to view patterns or draw conclusions about these consumers.

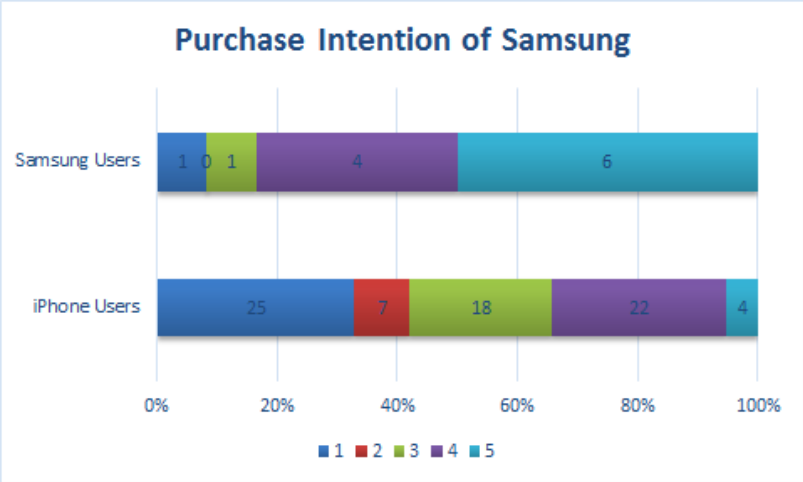

Figure 7 Purchase Intention of Samsung

Brand loyalty can also be inferred through the final section of our survey in which students were asked to rank their likelihood to purchase smartphones from certain brands by asking: “If you were to buy a smartphone tomorrow, how likely would you be to buy from the following brands”. This allowed us to better understand our dependent variable through purchase intention as well as brand loyalty. Of the 76 Apple users we surveyed, 63 claimed they were very likely to purchase from Apple again, 10 said they were somewhat likely, only 1 student said they were neutral, 1 said they were somewhat unlikely, and 1 stated they were very unlikely. Thus approximately 82.9% of students would be likely to very likely to purchase Apple smartphones again. As such, in terms of purchase likelihood Apple once again demonstrates strong brand loyalty. Applying the standard 95% confidence level, we were able to determine that the sampling error was +/- 8.46% from which we calculated a range of 74.44%-91.36%. Thus the vast majority of current Apple owners would be likely to continue to purchase smartphones from Apple. Apple owners also ranked their likelihood to buy a smartphone from Samsung, 25 stated they were not at all likely to do so, 7 were somewhat unlikely, 18 were neutral, 22 were somewhat likely, and 5 were very likely. In this case only 34.2% of Apple users claimed they were somewhat to very likely to purchase Samsung. Using the 95% confidence interval we calculated a sampling error of +/- 10.66% and a resultant range of 23.54% - 44.86%, this percentage who claimed they would be somewhat to very likely to purchase Samsung smartphones is significantly less than those who stated they would buy Apple smartphones.

Although we only received responses from 12 Samsung smartphone owners, a pattern did emerge, 6 students claimed they were very likely to purchase a Samsung smartphone again, 4 stated they were somewhat likely, 1 said they were neutral, 0 stated they were somewhat unlikely, and 1 said they were very unlikely. Thus approximately 83.3% of Samsung owners would be

somewhat to very likely to stick with their brand. Using the standard 95% confidence we determined the sampling error to be +/- 21.10%, which generated a range of 62.2% - 104.4%, which was rounded down to 100%, thus 62.2%-100%. Unfortunately because the sampling error is so large we are unable to determine precisely whether or not the brand loyalty in terms of future purchase intention is larger or greater. We also questioned Samsung owners' likelihood to buy Apple iPhones in the future, only 2 respondents said they were very likely and 5 claimed they were somewhat likely to do so. Thus 58.3% of Samsung owners would be likely to somewhat likely to buy iPhones, after applying the standard 95% confidence interval we calculated a sampling error of 27.89%, which resulted in a range of 30.41% - 86.19%. Since this prediction is so imprecise we cannot assume whether or not the majority of Samsung owners would purchase an iPhone, only that some would be somewhat likely to very likely to do so.

Another predictor we studied was **Positive Brand Personality** which was calculated through 4 statements with 5-point Likert scale options ranging from my brand personality was not positive at all (scored 1) to my brand personality was very positive (socred 5). The mean was 3.51 and the median and mode were both 3. 1.01% selected not positive at all and 5.05% chose not positive, the largest portion was the 39.39% who selected somewhat positive, however it was not very much greater than the 35.35% who chose Neutral, and finally 19.19% chose very positive. The addition of those who chose Positive and Very Positive was approximately 59%, for these positive responses of 4 and 5 we calculated a sampling error of +/- 9.69% using the standard confidence interval of 95%, thus inferring a range of 49.31% - 68.69%. Thus about half of college students believed that their smartphone brand had a positive personality.

However analyzing this construct is more efficient when analyzing the brands about which students were responding. 76 of the students we surveyed owned Apple products, their

mean response was 3.67, the median was 4.00, and the mode was also 4. None thought their brand personality was not positive at all, 2.6% of respondents thought not very positive, 39.5% were neutral, 44.7% claimed positive, 11.8% answered very positive. We then used 95% confidence to calculate a sampling error of +/- 5.69%, which determined a range of 50.18% - 62.19%. Meaning that half or more than half of Apple owners have a positive perception of their brand's personality. Although our study is about Samsung, only 12 of the students we surveyed owned Samsung smartphones. When responding to the brand personality questions their mean response was 3.08, the median was 3.00, and the mode was also 3. 8.3% chose not positive at all, none chose not very positive, 66.7% were neutral, 25% selected very positive and 0% selected very positive. We used the 66.7% which accounted for the largest portion of respondents we calculated a sampling error of +/-13.6%, which provided us with a range of 51.3% - 80.3% of Samsung owners who are neutral about their brand's personality, whereas more Apple owners were positive about their brand's personality.

One interesting result that emerged from studying frequencies resulted from analyzing the answers to a question that asked survey respondents to what extent they agreed with the statement "the brand of my current smartphone is unique." For current Apple iPhone owners, the mean response to this question was 2.54, with both the median and mode being 2. 19 iPhone users strongly disagreed with the statement, 21 disagreed, 16 were neutral, 16 agreed, and 4 strongly disagreed. Applying the standard 95% confidence interval to the 52.6% of owners who responded with disagree or strongly disagree produced a sampling error of +/-11.23%, which resulted in a range of 41.37%-63.83%. Thus a large portion of Apple users do not believe their smartphone is unique.

We also asked a series of questions to determine whether or not certain smartphone **features** were important to college students, as such we asked survey respondents to rank smartphone features of a 5-point Likert scale ranging from not important at all to very important. For the operating system the mean was 4.09 and the median and mode were both 4. For innovative functions which other smartphones don't have the median was 3.68 and the median and mode were both 4. The design of the smartphone's mean was 4.17 the median was 4 and the mode was 5. With regard to variety of the App store the mean was 3.37 the median was 3 and the mode was 4. For the price of the App store the mean was 3.41 the median was 3 and the mode was 4. For 3G/4G speed the mean response was 4.38 the median and mode were both 5. With regard to compatibility with other electronics the mean was 4.2 the median was 4 and the mode was 5. With regard to the importance of the music player the mean was 3.88 the mean was 4 and the mode was 5. For the screen size the mean was 3.63 the median and mode were both 4. Finally for the quality of camera the mean was 3.98 the median was 4 and the mode was 5. The following are the features accompanied by the percentage of respondents who ranked them as either slightly important or very important: operating system (78%), innovative functions which other smartphones don't have (63%) , design (79%), variety of App store (49%), price of App store(49%), 3G/4G speed (85%), compatibility with other electronics (79%), music player (69%),

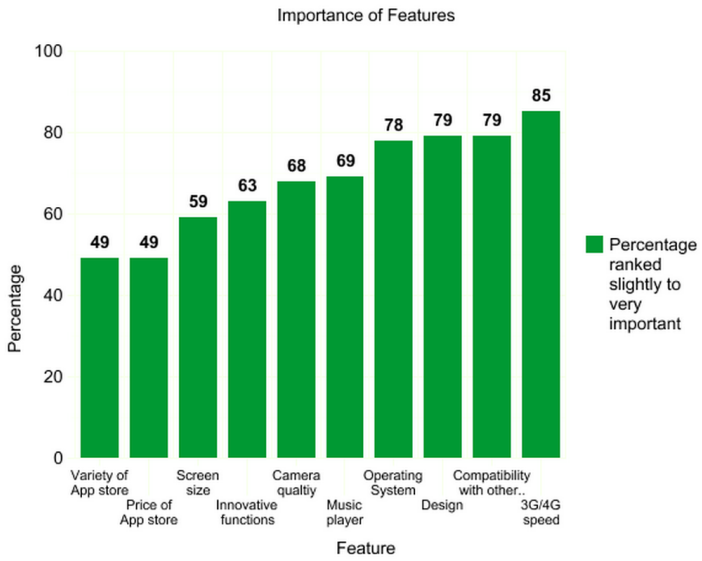

Figure 8 Perceived Importance of Smartphone Features

screen size (59%), and camera quality (68%). Applying the standard 95% confidence interval we determined the following sampling errors and ranges: operating system (+/- 8.12% 69.88% - 86.12%), innovative functions which other smartphones don't have (+/- 9.46 53.54% - 72.46%), design (+/- 7.98% 71.02%-86.98%), variety of App store (+/-9.8% 39.2%-58.8%), price of App store (+/-9.8% 39.2%-58.8%), 3G/4G speed (+/- 7% 78%-92%), compatibility with other electronics (+/- 7.98% 71.02%-86.98%), music player (+/- 9.1% 59.9%-78.1%), screen size (+/- 9.64% 49.36%-68.64%), camera quality (+/- 9.14% 58.86% -77.14%). As such we can conclude that for college students the following is the ranking of features in order of the greatest to the lowest importance when deciding which smartphone to purchase: 3G/4G speed, design/compatibility with other electronics, operating system, music player, camera quality, innovative functions which other smartphones don't have, screen size, variety of App store/price of App store.

There were 100 valid responses for the predictor **Perceived Ease of Use**. The 5-point Likert-type scale ranged from "my smartphone is not easy to use at all" (valued at 1) to "my smartphone is very easy to use" (valued at 5).

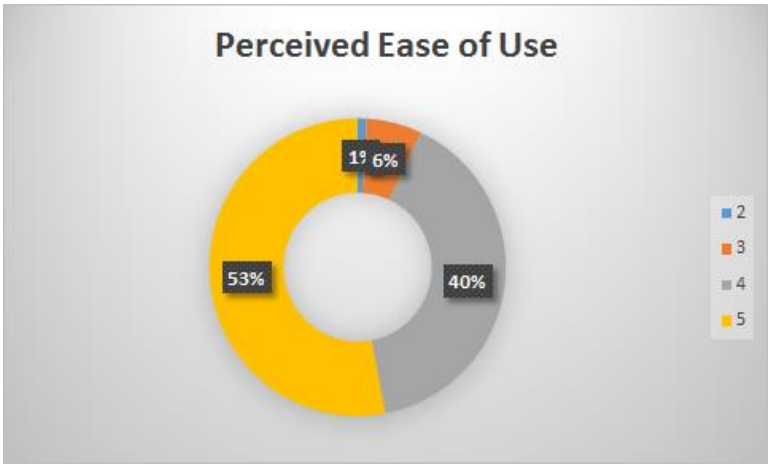

Figure 9 Perceived Ease of Use

This predictor showed a tendency toward the latter response: the mean score for this predictor was 4.45. The median was 5.00. And the mode was 5 for Very Easy to Use. No respondent answered very difficult to use; 1 (1%) answered a little bit difficult; and 6 (6%) respondents chose Neutral. On the other hand, respondents leaned heavily towards Ease to Use with 40

responses (40%) and 53 (53%) choosing Very Easy to Use. Easy and Very Easy, totaled 93 responses. For positive responses of 4 and 5 (93% of the valid sample), standard error (95% confidence interval) was ±5.00%, inferring a range of 88–98% in the population. These results indicate that most of the student smartphone users felt that the operation of their smartphones is not complex.

It was worth to mention that current Apple users rated their smartphones' ease of use higher that Samsung users. The former's mean was 4.49, median was 5.00 and mode was 5 while the later's mean 4.08 was median 4.00 and mode was also 4.

We continued to study the how could the social factors influence college students' purchase intention of smartphone.

One predictor we studied was **Perceived Peer Influence** which was calculated through 6 statements with 5-point Likert scale options. Five questions are ranged from doesn't describe me at all (valued at 1) to definitely describes me (valued at 5), and one questions is ranged from Strongly Disagree (valued at 1) to Strongly Agree (valued at 5). We calculated the construct score of every respondents, which is ranged from 1(The respondents felt their purchase intention was not influenced by friends at all) to 5 (The respondents felt their purchase intention was strongly influenced by friends). The mean of the predictor is 3.38, median response was 3.00 and the mode was 4.

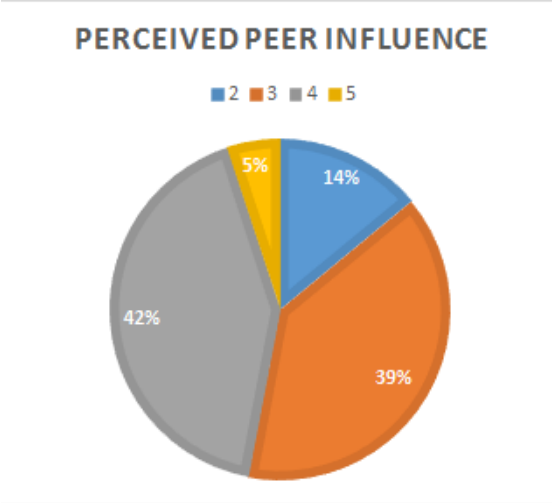

Figure 10 Perceived Peer Influence

Among all 100 valid responses, nobody reported their purchase intention of smartphone were not influenced by friends at all, and 14 students chose not strongly influenced. The largest portion was the 42% who selected they were influenced, however it was not very much greater than the 39% who chose Neutral about the peer influence, and finally only 5 students stated that friends could strongly influence their purchase decision. The addition of those who were influenced or strongly influenced was 47%, for these positive responses of 4 and 5 we calculated a sampling error of +/- 9.78% using the standard confidence interval of 95%, thus inferring a range of 37.22% to 56.78%. For neutral responses of 3 (39% of the valid sample), standard error (95% confidence interval) was ±9.56%, inferring a range of 20–49% in the population. From the results, it appears that students regard advice from friends as being of only minor importance when selecting which smartphone to buy.

One other predictor we explored was **Familial Influence** was measured through 5 statements with a 5-point Likert scale responses ranging from strongly disagree to strongly agree as well as doesn't describe me at all to definitely describes me. We received 100 valid responses to the questions in this construct, approximately 43% of those respondents reported that they felt influence from their family when making a purchase decision. The mean response was 3.16, the median was 3.00 and mode was 4. Nine survey respondent answered that their purchase intention is not influenced by family at all and 15 chose they cannot feel much familial influence. Although 33% selected Neutral, a larger percentage, 37% selected they are somewhat influenced by family members and 6 reported strongly influence, which means 43% of respondents felt their purchase intention were influenced by parents and family members. For the neutral response, coded by 3, standard error (95% confidence interval) was ±9.22%, inferring a range of 24–42% in the population. Finally, using the standard 95% confidence interval we calculated a sampling

error for positive responses of +/- 10.12%, resultantly leaving a range of 32.88% - 53.12%. Based on the results, students did not rank their parents as a high influencer when choosing a bank.

The predictor **Perceived Social Group Fitness** included 99 valid responses. The 5-point Likert-type scales in this construct ranged from 1 to 5, which refers to Strongly Disagree to Strongly Agree and Doesn't describe me at all to Definitely Describes me. The mean score for this predictor was 2.73. The median was 3.00. And the mode was 3 for Neutral. This predictor showed a slight preference for Neutral: 12 respondents (12.1%) answered that smartphones they used could not help them fit into the social group at all and 28 respondents (28.3%) answered not much help. In the central score range, 38 respondents (38.4%) were Neutral; and fewer (17 respondents; 17.2%) answered that they can fit better into some social groups when they are using the same smartphones as the group members. Only 4 respondents (4%) answered they could fit into the social group much better when they are using the same smartphone as others. Agree and Strongly Agree totaled 36 responses. For negative responses of 1 and 2 (39.4% of the valid sample), standard error (95% confidence interval) was ±9.63%, inferring a range of 29.77-49.03% in the population. The standard error (95% CI) for Neutral was ±9.58%, inferring a range of 29-48% in the total population. Like the other two social influence predictors (above), student customers do not tend to buy a smartphone because they want fit into some specific social groups.

The predictor **Perceived Influence of Early Adopters** had 99 valid responses. The 5-point Likert-type scale ranged from Not Important at All (valued at 1) to Very Important (valued at 5). The mean score for this predictor was 3.63. The median was 4.00. And the mode was 4 for I think Earlier Adopters' Feedback is Important. No students answered Not Important at all;

eight respondents (8%) answered Not Very Important; 37 respondents (37.4%) answered Either Important or Not. The majority of the respondents answered Important (38, 38.4%) or Very Important (16, 16.2%). For the positive response (54, 54.6%), coded by a 4 or 5, standard error (95% confidence interval) was ±9.81%, inferring a range of 44.79–64.41% in the population. The standard error (95% CI) for "Either Important or not" was ± 9.53%, inferring a range of 28–47% in the population. These results indicate that a large part of students are care about earlier adopter's feedback and only very few think it's not important. But the second large part is neutral attitude. Thus, student smartphone users' purchase intention does not tend to be strongly influenced by earlier adopters. Similarly, current Apple users thought they were more influenced by earlier adopters than Samsung users. The mean, median, and mode score of Apple users were 3.71, 4 and 4, while the mean, median and mode value of Samsung users were 3.25, 3 and 3.

The predictor **Perceived Dependency on Smartphone** had 98 valid responses. The 5-point Likert-type scale ranged from Strongly Disagree (valued at 1) to Strongly Agree (valued at 5), which referred to not dependent on smartphone at all to very dependent on smartphone. The mean score for this predictor was 4.13; the median was 4.00; and the mode was 4 for Agree. This predictor showed a strong preference for Agree and Strongly Agree: None of our respondents regarded themselves as not dependent on smartphone at all (0%), and two (2.0%) answered not very dependent on their smartphones; 19 respondents (19.4%) reported neutral attitude. The majority of respondents chose dependent on smartphone (41 respondents, 41.8%) and 36 (56.7%) of the respondents answered they were very dependent on their smartphone. Dependent and Very Dependent totaled 77 responses. For positive responses of 4 and 5 (78.5% of the valid sample), standard error (95% confidence interval) was ±8.13%, inferring a range of 70–87% in the population. Also, for the open-end question "How many hours do you spend per day on your

smartphone?" we got 98 valid answers. In terms of the hours students spent on their smartphones, the mean is 3.95, median is 3.00. Twenty-seven (27.6%) responses were 2 hours and 19 (19.4) respondents stated they used phone for 3 hours per day. Only 11 (11.2%) students reported that they spent less than two hours on smartphone per day and 38 (38.8%) were using 3-10 hours a day. There are even 3 (3%) said they spent more than 10 hours per day on their smartphones. Thus, student smartphone users are strongly addicted to their smartphone.

To capture the variables better, we asked what smartphone brands did respondents currently own. The result was surprising: 76 (76%) out of 100 respondents reported that they owned Apple smartphones, while Samsung took the second place, with only 12 current users. All the other brands took 12% totally, with one HTC users, three had LG, one owned Sony, six Motorola users, and one had smartphone from other brand (Smartisan T1, which was a smartphone launched by Hammer, a new Chinese Brand). None of our respondents reported they had Blackberry or Lenovo. For the current Apple users, coded by 1, standard error (95% confidence interval) was ± 8.37%, inferring a range of 68–84% in the population.

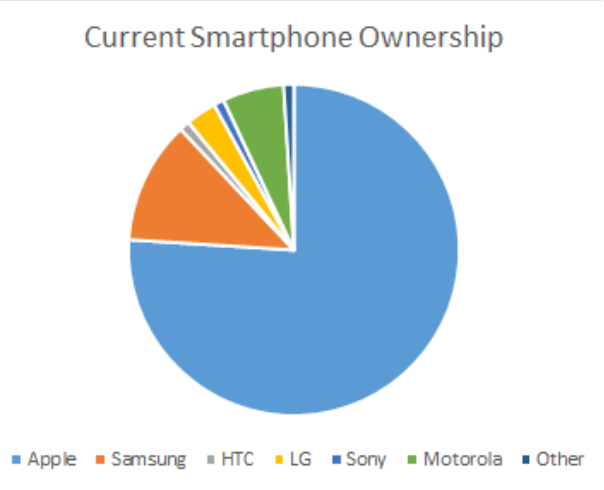

Figure 11 Current Smartphone Ownership

Of our **dependent variable**, we captured respondents' purchase intention of smartphone by asking "If you were to buy a smartphone tomorrow, how likely would you be to buy from the following brands?" We provided 8 brands as options and used the 5-point Likert-type scales ranged from Not Likely at All (valued at 1) to Very Likely (valued at 5) to capture people's attitudes.

The mean score of people's purchase intention of Samsung was 2.93, the median was 3 and the mode was 3 for somewhat likely. The majority (41 respondents; 41%) answered that they were somewhat likely or very likely to choose Samsung as their next smartphones. A large number (34 respondents, 34%) stated that they were very unlikely or unlikely to buy a Samsung smartphone. Another 25 students (25%) indicated neutral attitude. The standard error (95% CI) for "likely or Very likely" was ± 9.64%, inferring a range of 31–51% in the population, while for "Not likely at all to Not likely" was ±9.28%, inferring a range of 25% - 43%. These statistic showed that a large part of smartphone users were taking Samsung as a good choice for their next smartphone, but still one third to forty percent of them wouldn't buy smartphone from the brand.

When it comes to Samsung's largest competitor, Apple, when found that 6 (6%) people reported not want to purchase iPhone at all, 3 (3%) claimed they were not very likely to purchase, 6 (6%) held a neutral attitude. The major part of respondents reported that they were likely (17 respondents, 17%) or very likely (68 respondents, 68%) to select iPhone as their next smartphones. For the likely to very likely responses, coded by 4 and 5, standard error (95% confidence interval) was ± 7.00%, inferring a range of 78–92% in the population. Apple got a mean of 4.38, median of 5 and mode of 5 in this question, which was quite impressive. Consequently, we argued that a very large part of college students still took Apple as their first choice when they would purchase smartphones.

For other brands, 50% to 69% of our respondents reported they were not likely to purchase LG, 53% to 72% claimed not likely to purchase HTC, 61% to 79% stated not likely to purchase Motorola, 65.5% to 83% said not likely to buy Lenovo in the future, 61% to 79% said they did not take Blackberry as a choice in the future, 61% to 79% answered they did not want buy Sony

smartphones. Only seven filled the blanks to provide alternative smartphone brands. (Two answered Hamme, two answered Nokia, one answered Xiaomi and one stated Amazon. Other one provided Trident, but we searched about Trident and found it was not a smartphone brand, but a smartphone cases brand).

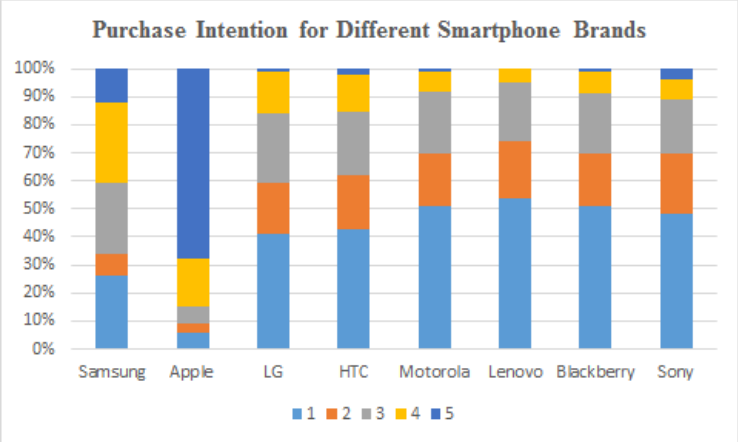

Figure 12 Purchase Intention of Different Smartphone Brands

For the predictor in the demographic part, we asked four questions.

The first predictor is the age of respondents. Ninety-eight respondents gave a valid response, while 2 respondents did not write their age. The mean age was 21.23, while the median was 21.00 and the mode was 19. The rage of our respondents ranged from 18 to 29. Eight respondent (8.2%) was 18 years of age, 18 (18.4%) were 19 years old; 17 respondents (17.3%) were 20 years old; 16 respondents (16.3%) were 22 years old; and 12 respondents (12.2%) were 22 years old. On the upper age range, 7 respondents (7.1%) were 23 years old, 12 respondents (12%) were 24 years old. For the students even older, six (6.1%) of the respondents was 25, one (1%) was 27 and one (1%) was 29.

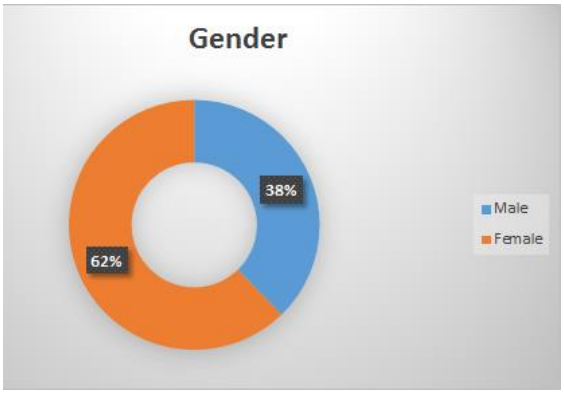

Figure 13 Gender

On the questions of gender (Are you male or female?) there were 98 valid responses. The majority (61 respondents; 62.2%) were female; 37 respondents (37.8%) were male.

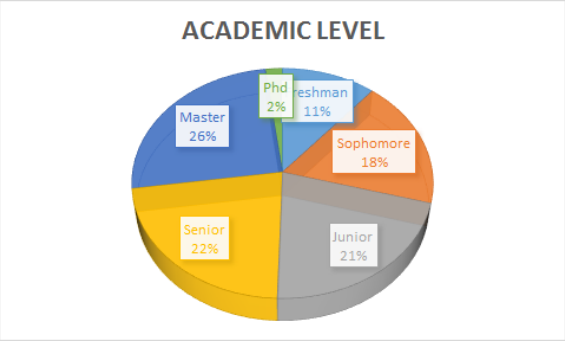

Figure 14 Academic Level

The predictor "Which of the following describes your current academic level" had 99 valid responses, and one respondent didn't report his/her gender. The choices given were Freshman (scored by 1), Sophomore (scored by 2), Junior (scored by 3), Senior (scored by 4), Master's (scored by 5) and Phd (scored by 6). The mean response was 3.38; the median was 3.00. The modes was 5 (Master) had 25 responses, followed by 4 (Senior), with 22 responses and 3 (Junior), with 21 responses. Eighteen respondents were Freshmen and eleven respondents were Sophomores.

We also collected information about college students' approximate monthly spending (excluding tuition and house rent). This predictor had 97 valid responses, and 3 missing. The choices given were 0-199 dollars (scored by 1), 200-399 (scored by 2), 400-599 (scored by 3), 600-799 (scored by 4), 800-999 (scored by 5) and more than 1000 dollars (scored by 6). The mean response was 3.26; the median was 3.00; the mode was 2 (200-399 dollars monthly spending).17 stated they spend between $0 and $199, 14 chose the $400-$599 range, 11 chose the $600-$799 range, 9 selected the $800-$999 range, and finally 19 claimed they spent over $1000 per month.

TABLE 3A: CALCULATION OF SAMPLING ERRORS AND RANGES FOR MULTI-ITEM MEASURES

Variable	N	Most Frequent Responses	Alignment with Construct	95 CI SE	Range
Price and Self-Image Relationships	98	Neutral	40%	±9.691%	30.11%–49.49%
Price Consciousness	100	will engage in competitive shopping and focus on sales and will definitely engage in competitive shopping and focus on sales	64%	±9.41%	54.59% - 73.41%
Perceived Product Quality	98	Satisfied with my smartphone's quality and Very satisfied with my smartphone's quality	80%	±7.92%	71.62%–87.58%
Price-Quality Relationship	99	price of a product can provide an accurate indication of its quality and price of a product definitely can provide an accurate indication of its quality	55%	±9.81%	44.69%–64.31
Price-Quality Relationship of Current smartphone	100	"My current smartphone's quality worth its price" and "My current smartphone's quality worth its price very much"	76%	±8.37%	67.63%-84.37%
Salesperson's Recommendations	100	Influenced and Strongly Influenced	24%	±8.37%	15.63% - 32.37%
Customer Service Satisfaction	97	Satisfied and Very Satisfied	46%	±9.91%	35.79% - 55.61%

Perceived Ease of Use	100	Easy to use and Very easy to use	93%	± 5.00%	88% - 98%
Brand Loyalty (general)	99	Loyal to brand and Very Loyal to brand	69%	±9.11%	59.89% - 78.11%
Positive Brand Personality (general)	99	Have postive personality and Definitely Have postive personality	59%	± 9.69%	49.31% - 68.69%
Positive Brand Personality (Apple)	76	Apple has postive personality and Apple definitely has postive personality	57%	± 5.69%	50.18% - 62.19%
Positive Brand Personality (Samsung)	12	Neutral	67%	± 13.6%	51.3% - 80.3%
Peer Influence	100	Neutral and Influenced	47%	± 9.78	37.22% - 56.78%
Familial Influence	100	Neutral and Influenced	43%	± 10.12%	32.88% - 53.12%
Social Group Fitness	99	Had nothing to do with social group fitness and Not help to fit into social group	39%	± 9.63%	29.77% - 49.03%
Perceived Influence of Earlier Adopters	99	Somewhat influenced and strongly influenced	55%	± 9.81%	44.79%–64.41%
Dependency	98	Dependent and Strongly Dependent	79%	± 8.13%	70.37% - 86.63%

TABLE 4A CALCULATION OF SAMPLING ERRORS AND RANGES FOR SINGLE-ITEM MEASURES

Single Item Measures					
Short intervals between upgrades make me to change my phone more often	100	Definitely won't make me change my phone more often and won't make me change my phone more often	40%	±9.602 %	30.40%–49.60%
I would rather buy a smartphone on a contract plan than on a no-contract plan	99	would buy a smartphone on a contract plan and definitely would buy a smartphone on a contract plan	57%	± 9.766%	46.73%–66.27%
I know a lot about Samsung	98	Basically don't know and Don't know anything at all	60%	± 9.69%	50.43%-69.97%
I am very familiar with Apple	98	Familiar and Very Familiar	85%	± 7.06 %	77.63%-91.75%.
I always see people discuss or share news about Samsung on social media	100	Never see at all and Don't usually see	59%	± 9.64%	49.36%- 69.64%
I have seen a lot of Samsung ads	100	Have seen some and Have seen a lot	46%	± 9.77	36.23%- 55.77%
I have seen a lot of Apple ads	100	Have seen some and Have seen a lot	74%	± 8.6%	65.4%-82.6%
Features: Operating System	100	Slightly important or very important	78%	± 8.12	69.88% - 86.12%
Features: Innovative Functions which other smartphones don't have	100	Slightly important or very important	63%	± 9.46	53.54%-72.46%
Features: Design	100	Slightly important or very important	79%	±7.98	71.02%-86.89%
Features: Variety of App Store	100	Slightly important or very important	49%	±9.8	39.2%-58.8%

Features: Price of App Store	100	Slightly important or very important	49%	±9.8	39.2%-58.8%
Features: 3G/4G speed	100	Slightly important or very important	85%	±7%	78%-92%
Features: compatibility with other electronics	100	Slightly important or very important	79%	±7.98%	71.02%-86.98%
Features: Music Player	100	Slightly important or very important	69%	±9.1%	59.9%-78.1%
Features: Screen Size	100	Slightly important or very important	59%	±9.64%	49.36%-68.64%
Features: Camera Quality	100	Slightly important or very important	68%	±9.14%	58.86% -77.14%

TABLE 5A: ANALYSIS OF VARIATION OF MULTI-ITEM MEASURE

Predictor	N	Frequency	Alignment with Construct	Mean	Median	Mode
Price and Self-Image Relationships	98	7 Buying expensive brands won't improve self-image at all. (7.14%) 27 Buying expensive brands won't improve self-image (27.55%) 39 Neutral (39.79%) 23 Buying expensive brands will improve self-image (23.47%) 2 Buying expensive brands will definitely improve self-image (2.04%)	Buying expensive brands will improve self-image+ Buying expensive brands will definitely improve self-image = +/- 26%	2.86	3	3
Price Consciousness	100	0 won't engage in competitive shopping and focus on sales at all (0%) 5 won't engage in competitive shopping and focus on sales (5%) 31 Neutral (31%) 52 will engage in competitive shopping and focus on sales (52%) 12 will definitely engage in competitive shopping and focus on sales (12%)	will engage in competitive shopping and focus on sales + will definitely engage in competitive shopping and focus on sales = +/- 64%	3.71	4	4
Perceived Product Quality	98	0 Not satisfied with my smartphone's quality at all (0%) 5 Not satisfied with my smartphone's quality (5.10%) 15 Neutral (15.31%) 52 Satisfied with my smartphone's quality (53.06%) 26 Very satisfied with my smartphone's quality (26.53%)	Satisfied with my smartphone's quality+ Very satisfied with my smartphone's quality= +/- 80%	4.01	4	4
Price-Quality Relationship	99	1 price of a product can't provide an accurate indication of its quality at all (1.01%) 5. price of a product can't provide an accurate indication of its quality (5.05%) 39 Neutral (39.39%) 51 price of a product can provide an accurate indication of its quality (51.51%) 3 price of a product definitely can provide an accurate indication of its quality (3.03%)	price of a product can provide an accurate indication of its quality+ price of a product definitely can provide an accurate indication of its quality = +/- 55%	3.63	4	4
Price-Quality Relationship of Current Smartphone	100	1 My current smartphone's quality doesn't worth its price at all (1%) 3 My current smartphone's quality doesn't worth its price well (3%) 20 Natural (20%) 56 My current smartphone's quality worth its price (56%) 20 My current smartphone's quality worth its price very much (20%)	My current smartphone's quality worth its price and My current smartphone's quality worth its price very much = +/- 76%	3.91	4	4

Predictor	N	Frequency	Alignment with Construct	Mean	Median	Mode
Salesperson's Recommendations	100	5 Not influenced at all (5%) 17 Not influenced (17%) 54 Neutral (54%) 22 Influenced (22%) 2 Strongly influenced (2%)	Influenced+ Strongly Influenced= +/- 24%	2.99	3	3
Customer Service Satisfaction	97	2 Not satisfied at all (2.06%) 3 Not satisfied (3.09%) 38 Neutral (39.17%) 39 Satisfied (40.21%) 15 Very Satisfied (15.46%)	Satisfied+ Very Satisfied= +/- 56%	3.64	4	4
Brand Loyalty	99	0 Not loyal to brand at all (0%) 5 Not loyal (5.05%) 26 Neutral (26.26%) 48 Loyal to brand (48.48%) 20 Very Loyal to brand (20.20%)	Loyal to brand + =Very Loyal to brand +/- 69%	3.84	4	4
Positive Brand Personality	99	1 Don't have positive personality at all (1.01%) 5 Don't have positive personality (5.05%) 35 Neutral (35.35%) 39Have positive personality (39.39%) 19 Definitely have positive personality (19.19%)	Have positive personality+ Definitely Have positive personality= +/- 59%	3.71	4	4
Perceived Ease of Use	100	0 Very difficult to use (0%) 1 Difficult to use (1%) 6 Neutral (6%) 40 Easy to use (40%) 53 Very easy to use (53%)	Easy to use+ Very easy to use= +/- 93%	4.45	5	5
Peer Influence	100	3 Not influenced at all (3%) 11 Not influenced (11%) 39 Neutral (39%) 42 Influenced (42%) 5 Strongly Influenced (5%)	Influenced + Strongly Influenced = +/- 47%	3.38	3	4
Familial Influence	100	9 Not influenced at all (9%) 15 Not influenced (15%) 33 Neutral (33%) 37 Influenced (37%) 6 Strongly influenced (6%)	Influenced + Strongly Influenced = +/- 43%	3.16	3	4
Social Group Fitness	99	12 Had nothing to do with social group fitness (12.12%) 28 Not help to fit into social group (28.28%) 38 Neutral (38.38%) 17 Help to fit into social group better (17.17%) 4 Strongly help to fit into social group better (4.04%)	Help to fit into social group better+ Strongly Help to fit into social group better= +/- 21%	2.73	3	3
Perceived Influence of Earlier Adopters	99	0 Not influenced at all (0%) 8 Not influenced much (8.08%) 37 Neutral (37.37%) 38 Somewhat influenced (38.38%) 16 Strongly Influenced (16.16%)	Somewhat influenced + Strongly Influenced = +/- 55%	3.63	4	4

Predictor	N	Frequency	Alignment with Construct	Mean	Median	Mode
Dependency	98	0 Not dependent at all (0%) 2 Not dependent (2.04%) 19 Neutral (19.39%) 41 Dependent (41.84%) 36 Strongly dependent (36.73%)	Dependent+ Strongly Dependent= +/- 79%	4.13	4	4

TABLE 6A: ANALYSIS OF VARIATION OF SINGLE-ITEM MEASURES

Predictor	N	Frequency	Alignment with Construct	Mean	Median	Mode
I know a lot about Samsung.	98	23 Don't know anything at all (23.47%) 36 Basically don't know (36.73%) 17 Neutral (17.35%) 17 Generally Know (17.35%) 5 Know a lot (5.10%)	Basically don't know + Don't know anything at all= +/- 22%	2.44	2	2
I am very familiar with Apple.	98	2 Not familiar at all (2.04%) 7 Not familiar (7.14%) 6 Neutral (6.12%) 34 Familiar (34.69%) 49 Very familiar (50%)	Familiar + Very Familiar = +/- 85%	4.23	4.5	
I always see people discuss or share news about Samsung on social media.	100	23 Never see at all (23%) 36 Don't usually see (36%) 23 Neutral (23%) 18 Sometimes see (18%) 0 Always see (0%)	Somtimes see+Always see= +/- 18%	2.36	2	2
I have seen a lot of Samsung ads.	100	9 Have never seen any at all (9%) 18 Haven't seen (18%) 27 Neutral (27%) 36 Have seen some (36%) 10Have seen a lot (10%)	Have seen some + Have seen a lot= +/- 46%	3.2	3	4
I have seen a lot of Apple ads.	100	2 Have never seen any at all (2%) 7 Haven't seen (7%) 17 Neutral (17%) 38 Have seen some (38%) 36Have seen a lot (36%)	Have seen some+ Have seen a lot= +/- 74%	3.99	4	4
Features: Operating System	100	2 Not important at all (2%) 2 Not very important (2%) 18 Neutral (18%) 41 Slightly important (41%) 37 Very important (37%)	Slightly important + Very Important= +/- 78%	4.09	4	4
Features: Innovative Functions which other smartphones don't have	100	3 Not important at all (3%) 18 Not very important (18%) 41 Neutral (41%) 37 Slightly important (37%) 3 Very important (3%)	Slightly important + Very Important= +/- 63%	3.68	4	4
Features: Design	100	2 Not important at all (2%) 3 Not very important (3%) 16 Neutral (16%) 34 Slightly important (34%) 45 Very important (45%)	Slightly important + Very Important = +/- 79%	4.17	4	5

Predictor	N	Frequency	Alignment with Construct	Mean	Median	Mode
Features: Variety of App Store	100	5 Not important at all (5%) 19 Not very important (19%) 27 Neutral (27%) 32 Slightly important (32%) 17 Very important (17%)	Slightly important + Very Important= +/- 49%	3.37	3	4
Features: Price of App Store	100	5 Not important at all (5%) 18 Not very important (18%) 28 Neutral (28%) 29 Slightly important (29%) 20 Very important (20%)	Slightly important + Very Important= +/- 49%	3.41	3	4
Features: 3G/4G Speed	100	0 Not important at all (0%) 1 Not very important (1%) 13 Neutral (13%) 32 Slightly important (32%) 53 Very important (53%)	Slightly important + Very Important= +/- 85%	4.38	5	5
Features: Compatibility with other electronics	100	2 Not important at all (2%) 4 Not very important (4%) 15 Neutral (15%) 30 Slightly important (30%) 49 Very important (49%)	Slightly important + Very Important= +/- 79%	4.2	4	5
Features: Music Player	100	3 Not important at all (3%) 10 Not very important (10%) 18 Neutral (18%) 34 Slightly important (34%) 35 Very important (35%)	Slightly important + Very Important= +/- 69%	3.88	4	5
Features: Screen Size	100	3 Not important at all (3%) 10 Not very important (10%) 28 Neutral (28%) 39 Slightly important (39%) 20 Very important (20%)	Slightly important + Very Important= +/- 59%	3.63	4	4
Features: Quality of Camera	100	4 Not important at all (4%) 5 Not very important (5%) 23 Neutral (23%) 25 Slightly important (25%) 43 Very important (43%)	Slightly important + Very Important= +/- 68%	3.98	4	5
Which Smartphone Brand do you currently own?	100	76 Apple (76%) 12 Samsung (12%) 1 HTC (1%) 0 Blackberry (0%) 3 LG (3%) 1 Sony (1%) 6 Motorola (6%) 0 Lenovo (0%) 1 Other (1%)	N/A	N/A	N/A	N/A

Predictor	N	Frequency	Alignment with Construct	Mean	Median	Mode
Purchase intention: Samsung	100	26 Not likely at all (26%) 8 Somewhat unlikely (8%) 25 Neutral (25%) 29 Somewhat likely (29%) 12 Very Likely (12%)	Somewhat likely+ very likely= +/- 41%	2.93	3	4
Purchase intention: Apple	100	6 Not likely at all (6%) 3 Somewhat unlikely (3%) 6 Neutral (6%) 17 Somewhat likely (17%) 68 Very Likely (68%)	Somewhat likely+ very likely= +/- 85%	4.38	5	5
Purchase intention: LG	100	41 Not likely at all (41%) 18 Somewhat unlikely (18%) 25 Neutral (25%) 15 Somewhat likely (15%) 1 Very Likely (1%)	Somewhat likely+ very likely= +/- 16%	2.17	2	1
Purchase intention: HTC	98	42 Not likely at all (42.86%) 19 Somewhat unlikely (19.34%) 22 Neutral (22.45%) 13 Somewhat likely (13.26%) 2 Very Likely (2.04%)	Somewhat likely+ very likely= +/- 15%	2.12	2	1
Purchase intention: Motorola	100	51 Not likely at all (51%) 19 Somewhat unlikely (19%) 22 Neutral (22%) 7 Somewhat likely (7%) 1 Very Likely (1%)	Somewhat likely+ very likely= +/- 8%	1.88	1	1
Purchase intention: Lenovo	97	52 Not likely at all (53.61%) 20 Somewhat unlikely (20.62%) 20 Neutral (20.62%) 5 Somewhat likely (5.15%) 0 Very Likely (0%)	Somewhat likely+ very likely= +/- 5%	1.77	1	1
Purchase intention: Blackberry	100	51 Not likely at all (51%) 19 Somewhat unlikely (19%) 21 Neutral (21%) 8 Somewhat likely (8%) 1 Very Likely (1%)	Somewhat likely+ very likely= +/- 9%	1.89	1	1
Purchase intention: Sony	100	48 Not likely at all (48%) 22 Somewhat unlikely (22%) 19 Neutral (19%) 7 Somewhat likely (7%) 4 Very Likely (4%)	Somewhat likely+ very likely= +/- 11%	1.97	2	1

Correlations

Our research team tested correlation in order to measure the strength and the direction of the linear relationships between independent variables with dependent variable which is the college students' purchase intention. We ran SPSS to get the correlations, which were measured by Pearson's coefficient (r). Independent variables have positive linear relationship to dependent variable at significant level 0.05.

We transferred the dependent variable into the following question: If you were to buy a smartphone tomorrow, how likely would you be to buy from the following brands? The answer choice for this question included our client, Samsung, as well as what we identified as the seven other major competitors in the smartphone market: Apple, LG, HTC, Motorola, Lenovo, Blackberry and Sony. We also gave a choice of "Others," but very few students filled the blanket to provide other brands they would like to buy. We ran the correlations between these eight answer choices and our 25 independent variables.

According to our analysis of current ownership, we found that more than 75% of our respondents were current Apple users. Such results are consistent with the information in literature review which states that the vast majority of college students own Apple smartphones. We thus took Apple as our major competitor, and in this section, we will majorly talk about the correlations between our independent variables and the respondents' purchase intention of Samsung and Apple.

For **perceptions of price and self-image relationship**, we found that this variable reflected a positive moderate relationship with likely Apple buyers, yielding a score of r = .237 and p =.019. However, for likely Samsung buyers, we calculated an r of -.028 and a p of .786,

which does not indicate any relationship. Likely Apple buyers thus more strongly believe that owning expensive products will improve their self-image.

However, for the other price-related predictors**(Price Consciousness, perceptions of price-quality relationship, and perceived price-quality relationship of current smartphones)**had no relationships with likely Apple or Samsung buyers because all the probabilities of P are over .05. As such pricing does not appear to be a major issue for college students who are likely to buy Apple or Samsung smartphones.

Additionally, neither likely Apple nor likely Samsung buyers had relationships with the **perceived product quality** because the probability of P=.233(for likely Apple buyers) and P=.859(for likely Samsung buyers) are both over .05 thus quality surprisingly does not appear to strongly influence college students' purchasing of Apple or Samsung smartphones.

There was also no relationship for likely Apple or Samsung buyers with the recommendations made by the sales staff because the probability of P=.075(for likely Apple buyers) and P=.425(for likely Samsung buyers) are both over .05, thus the sales staff does not appear to strongly influence the purchasing decisions of college students shopping for these smartphones.

For other brands besides Apple and Samsung, we found that the predictor **Price Consciousness** had a positive moderate relationship with likely LG buyers with a score of r = .235 and a probability of p =.019. **The influence of sale staff's recommendations had a negative moderate** relationship with likely HTC buyers, yielding a score of r = -.235 and a probability of p =.02. It is also showed that **Perceptions of Price and Self-image Relationship** had **a negative moderate** relationship with likely Lenovo buyers, yielding a score of r = -.238 and a probability of p =.02. In addition, **Perceptions of Price and Self-image Relationship** also

had **a negative moderate** relationship with likely Sony buyers, yielding a score of r = -.295 and a probability of p =.003.

Regarding respondents' purchase intention for Samsung smartphones, we found that the **perceived satisfaction of customers service** reflected an inverse moderate relationship with a score of r=-.205 and a probability of p=.044. However, there was no significant relationship between this independent variable and respondents' purchase intention of Apple. The p value equaled 0.579 and largely exceeded 0.05. Such results indicate that the more customers were satisfaction with their smartphone's customer service, they were less likely to purchase smartphones from Samsung. However, customers' satisfaction is not strongly associated with respondents' preference of buying iPhone in the future. We then tested the correlation between satisfaction of customers service and purchase intention of Samsung among current Apple users and also found a moderate negative relationship. As mentioned before in frequency analysis section, current Apple users were more satisfied with customer service they received, thus they refused to swift to other brands like Samsung.

As previously explained **brand awareness** was separated into several single-item measures, firstly for the statement "I know a lot about Samsung," likely Samsung buyers displayed a moderate relationship with an r of .350 and a p of .000. However there was no relationship with likely Apple buyers as it had an r of -.175 and a p of .085. Next, for the statement "I am very familiar with Apple," likely Samsung buyers did not display a relationship since the r was -.180 and the p was .076. likely Apple buyers however showed a strong relationship with this statement with an r of .417 and a p of .000. For the statement "I always see people discuss or share news about Samsung on social networks," likely Samsung buyers demonstrated no relationship due to the p of .215.

For **brand loyalty** likely Samsung buyers' answers to these questions resulted in an r of -.376 and a p of .000. This negative result was due to the large proportion of survey who were Apple owners compared to the small amount who owned other brands' smartphones. Likely Apple buyers demonstrated an r of 0.376 and a p of .000, which again indicates a moderate relationship. To verify such inference, we tested the Brand loyalty and future purchase intention of current brand among current Apple and Samsung owners as well. For current Apple owners there was an r of 0.365 and a p of .001 which indicates a moderate positive relationship, which referred that the higher Apple users were loyal to their brand, the more they were likely to purchase Apple in the future. The correlation between current Apple users' brand loyalty and their purchase intention for Samsung was again negative, with an r= -0.357 and p=0.002. However for current Samsung owners there was a p of .171 which indicates no relationship and suggests Samsung owners' brand loyalty is not as strong as Apple owners'.

With regard to **positive brand personality** our team focused on responses given by Apple owners and Samsung owners of their respective brands. Firstly, for likely Samsung buyers we calculated an r of -190 and a p of .059 which does not indicate a relationship. However, for this same measure likely Apple buyers resulted in an r of .291 and a p of .003, which demonstrates a moderate relationship. Based on these results, we claimed that the customers who had a more positive feeling about their smartphone personality were more likely to purchase Apple. We also discover negative correlations between brand personality and students' purchase intention of other brands: LG (r= -0.266, p= 0.008), HTC (r= -0.215, p=0.034), Motorola (r=-0.212, p=0.035), Lenovo (r= -0.239, p=0.019) and Sony (r=-0.216 and p=0.041). Aforementioned, these negative results may have been the been due to the large proportion of survey who were Apple owners compared to the small amount who owned Samsung smartphones.

Advertising-specific questions were also asked, firstly we asked respondents the extent to which they agreed with the statement "I have seen a lot of Samsung ads." likely Samsung buyers displayed a moderate relationship with an r of .340 and a p of .001. Meanwhile likely Apple buyers displayed no relationship with an r of .789 and a p of .027. For the statement I have seen a lot of Apple ads," likely Samsung buyers displayed no relationship with an r of .382 and a p of -.088, similarly likely Apple buyers did not display a relationship with said statement as seen by the r of .234 and the p of .120.

Although we did ask 2 questions regarding specific advertisements in our survey these were judged too poorly written to be analyzed and as such correlations will not be discussed.

We also asked survey respondents a series of questions about the importance of the following **smartphone features**: operating system, innovative functions which other smartphones don't have, design of smartphone, variety of App store, price of App store, 3G/4G speed, compatibility with other electronics (PC, Mac, Speakers, etc.), music player, screen size, and quality of camera. Likely Apple buyers did not have any relationships with any of these features. Students' purchase intention of other brands, however, displayed relationships with several features. There was a moderate relationship between likely Samsung buyers and operating system, with an r of .200 and a p of .046, which indicated that the more respondents care about the operating system, the more they would like to purchase Samsung in the future. The testing result demonstrated students' preference of Android system. Moreover, students' purchase intention of another Android system Korean brand, LG, also had a slightly positive relationship with operating system (r= 0.199, p= 0.047). But the more students thought quality of camera was important, the less they would be likely to purchase LG (r= -0.210, p= 0.036). For Samsung's another competitor HTC, respondents' purchase intention was related to 3G/4G speed

(r= -0.241, p=0.017) and screen size (r=0.200, p=0.048), negatively. For Lenovo, customers seemed care about its compatibility with other electronics, with an r= -0.206 and p=0.043, which indicated that the more customers thought compatibility was important, the less they would purchase Lenovo smartphones. When it came to Blackberry, a moderate negative correlation was found between design of smartphone (r=-0.243 and p=0.015.) as well as compatibility (r=-0.281 and p=0.005) and students' future purchase intention.

The **perceived ease of use** was not related to college students' purchase decision of any brand. For instance, when we tested the correlations between this predictor and purchase intention of Apple or Samsung, we found probability of p=0.106 and p=0.519, far higher than 0.05.

Among four social influence variables, the **perceived familial influence** was also negatively associated with respondents' preference of buying Samsung smartphone, yielding a score of r=-0.208 with a probability of p=.038. But it was not significantly related with respondents' purchase intention of Apple, with a probability of p =.618. For the other three variables, Perceived Peer Influence, Perceived Social Group Fitness, and Perceived Influence from Earlier Adopters, were not related with our dependent variable, with probabilities of .561, .202 and .907. However, the **perceived influence of earlier adopters** had a moderate relationship with college students' purchase intention of Apple, because the p-value scored 0.012, much less than 0.05 and the value of the correlation coefficient was 0.251, fell under the range of ±0.20 to ±0.39, which indicated a moderate relationship between two variables. These numbers indicate that students who care more about earlier adopters feedbacks are more likely who buy iPhone. We also found that **perceived social group fitness** was positively associated with our respondents' purchase intention of Apple iPhones, with a score of r=0.291 and a probability of

p=0.003. From the correlation, we could argue that the more respondents think smartphone can help them fit into special social group, the more likely they want to buy iPhones.

In addition, our predictor **perceived dependency on smartphone** had a moderate relationship with respondents' preference of buying smartphones from iPhone. The value of the correlation coefficient (r) is 0.220 and the probability (p) is 0.030. Such results demonstrated that the more students felt that they were dependent on their smartphone, they would be more likely to choose iPhone when they purchase smartphone in the future. Conversely, Perceived Dependency on Smartphone was not associated to the dependent variable, respondents' purchase intention of Samsung, with a probability of .346, much higher than 0.005.

In the demographic section, it was interesting to find that **gender** was related to our respondents' purchase intention of nearly every smartphone brand. For our client Samsung, we found that gender of our respondents were negatively related to their purchase intention of Samsung. The relationship was moderate, with a score of r=-0.207 and probability of p=.041. Since we scored male as 1 and female as 2, the result illustrated that male respondents are more likely to purchase smartphone from Samsung than female. When it turned to the most important competitor Apple, the predictors had an inverse relationship with our respondents' purchase intention, with a score of r = .201 and a probability of p =.047. The result reflected that female respondents tended to select smartphones from Apple. For other brands, we found that gender of respondents were moderately associated with their future purchase intention of LG (scoring r = -0.308 with a probability of p = 0.002), HTC (scoring r = -0.299 with a probability of p = 0.003), Motorola (scoring r = -0.322 with a probability of p = 0.001), Lenovo (scoring r = -0.205 with a probability of p = 0.046) and Sony (scoring r = -0.200 with a probability of p = 0.048). It was worth to mention that respondents' gender was also nearly to have a relationship with their

purchase intention of Blackberry, scoring r=-0.198, with a probability of p= -0.051. In sum, all these results implied that males were more likely to purchase brands other than Apple, while female college students prefer to purchase Apple rather than other brands.

In addition to gender, we found that **age** and **academic year o**f respondents were negatively relevant to their likelihood to buy Apple smartphones in the future. This was because the values of the correlation coefficient, which were -0.283 and -0.232, felt under the range of p-value equal to ±0.20 to ±0.39, while the p-values equaled 0.005 and 0.021, less than 0.05. From the above results, we could claim that students who were older and higher educated were less likely to choose Apple, while the younger students who just attended college had a higher probability to select iPhone.

Summary

For likely Samsung buyers the predictors that were determined to have relationships were: brand loyalty, satisfaction with customer service, family influence, operating system, brand awareness (exposure to advertising and knowledge about the brand), and gender. For likely Apple buyers the predictors that were determined to have relationships were: brand loyalty, brand personality, social fitness, dependency, self-image, early adopters, brand awareness (familiarity with the brand), age, gender, and academic level. As such the only overlap between the two consumer groups are: brand loyalty, brand awareness, and gender. However for brand loyalty the relationship was negative for likely Samsung buyers since most of the students surveyed were Apple owners, and for gender more females were likely to buy Apple smartphones and more males were likely to buy Samsung smartphones.

IX. Discussion

Dependent Variable

After administering our surveys we found that the literature we studied predicted the vast difference in the amount of college students who owned Apple smartphones versus Samsung smartphones. 76% of respondents currently had iPhones whereas only 12% owned Samsung, we anticipated this because Apple is Samsung's largest competitor in the United States. The remaining 12% owned other smartphones, with 6% owning Motorola, 3% owning LG, 1% owning Sony, and additional 1% owning HTC, and a final 1% owning a smartphone from a brand that was not listed. Although we recognized Blackberry and Lenovo as Samsung's competitors as well, 0% of the survey respondents owned smartphones from those respective brands.

We also measured respondents' likelihood to switch to another brand, however the results do not appear promising for Samsung since we measured that between 74.44% and 91.36% of iPhone owners would be somewhat likely or very likely to buy their next smartphone from Apple, and only between 23.54% and 44.86% claimed they were somewhat likely or very likely to buy their next smartphone from Samsung. The brand loyalty Apple has created is therefore a serious obstacle Samsung will have to overcome if it wishes to regain market share from Apple. Samsung's own brand loyalty also appears to be significantly less than Apple's with only approximately 35.57% to 64.43% of current Samsung owners being very likely or somewhat likely to buy their next smartphone from Samsung.

Overall we found that college students who are likely to buy Samsung smartphones had relationships with the following predictors: innovative features which other smartphones don't have, screen size, operating system, awareness of the Samsung brand, and exposure to many

Samsung advertisements. Consumers also appeared to value ease of use, product quality, 3G/4G speed, compatibility with other electronics, and the smartphone's design.

Demographics

The demographics questions allowed our team to understand whether we had sampled a satisfactory variety of college students. Although we had significantly more female respondents, 62 females compared to 37 males (with 2 missing responses), this is likely a result of the random sampling of Boston University students which has a gender ratio of approximately 60% females and 40% males (U.S. News: Boston University). In terms of academic level we interviewed, most of our respondents are undergraduate (72%). It is worth to mention that 25 of our candidates are master and only one is PhD candidates, and one missing. While there was a relatively equal distribution of respondents of the junior, and senior academic levels, there were fewer respondents from the freshman academic level. We were able to get responses from students in every academic level. Although the majority of our respondents were Masters Candidates we were able to get responses from students in every academic level. The rage of our respondents ranged from 18 to 29, and 96 of them are between 18 and 25. Thus we were able to obtain information from college students of various age groups. Finally we asked students for an approximate range of their monthly expenditure excluding housing and tuition. About 45% of the respondents reported their monthly spending was less than 400 dollars, while nearly 20% said they spent more than 1000 dollars a month.

Predictors

Some of our findings were consistent with conclusions drawn in the literature we reviewed. For instance, with regard to the predictor **The influence of carrier's contract plans and programs** we found that approximately half of students would rather purchase a news smartphone on a contract plan than a no-contract plan, which was consistent with findings of Hulkhower (2014). However since we only scrutinized it as a single-item measure we could not

draw conclusions as to what specifically they preferred about contract plans compared to no contract plans.

Perceptions of Price and self –image relationship (Suki, 2013) we found likely Apple buyers associated purchasing high priced items with improving their self-image which matched Suki's (2014) findings of Malaysian college students.

We investigated a variety of predictors related to price, such as **Price consciousness** for which we found that likely Apple and Samsung buyers were moderately price conscious which is similar to findings by Monroe (2003). **Perception of the price –quality relationship** was also studied and we found that approximately half of college students believed that price accurately predicts the quality of price. Etgar & Malhotra (1981) also concluded that price strongly influenced quality perceptions among consumers.

Unlike Swani and Yoo (2010) we did not find that **sales staff's recommendations** affected college students' likelihood to purchase a smartphone.

We also studied a variety of issues regarding advertising and brands. Although we asked some questions regarding the response to advertisements, upon reviewing our survey after administering it these questions were too direct in asking consumers about their understanding of the relationship between the independent and dependent variables and as such we could not draw conclusions from them. We investigated **brand awareness** as well, for which we found that it could influence purchasing decisions for Apple however it did not affect potential Samsung buyers' likelihood to purchase from the brand, which could perhaps be explained by the fact that Samsung appears to have a lower brand awareness among college students compared to Apple. The influence of brand awareness on the likelihood to purchase iPhones matches findings by Chi, Yeh, and Yang (2009), who suggested brand awareness positively influences purchasing

likelihood. We also scrutinized **brand loyalty** and found it to be substantially higher for Apple owners than for Samsung owners, the influence of brand loyalty on the likelihood to purchase from a company supports the findings of Gee (2014) and Chi, Yeh, and Yang (2009). Finally, with regard to branding, **brand personality** was considered, since our sample of Samsung owners was so small we could not accurately determine how they regarded their brand's personality due to the large sampling error. However we did discover that Apple has a relatively positive brand personality and given that many students claimed they were likely to purchase Apple iPhones for this brand our results support the findings of Pinsen and Brosdahl (2014) as well as Mintel (2014).

We also attempted to determine which **features** were most important to college students deciding which smartphones to purchase and found that college students ranked features in the following order of importance: 3G/4G speed, compatibility with other electronics, design, operating system, music player, camera quality, innovative functions which other smartphones don't have, screen size, price of App store, and variety of App store. Since all of these features were important to at least half of college students, our results support the findings of Suki (2013), Mintel (2014), Merithew (2014), Chow, et al. (2012), Price (2012), LoMonaco (2014), and Osman et al. (2012). Similarly **ease of use** was found to be important to college students, which supports LoMonaco (2014) and Chun et al. (2012).

Another portion of our study focused on social influence, **specifically recommendations from friends**, **recommendations from family**, and **social group fitness**. However our results determined that none of these strongly influenced college students' purchasing decisions as such they do not support the findings of Chew (2012), Nelson and McLeod (2005), Childers and Roa (1992), Suki (2013), or Roman and Medvedev (2011).

Similarly our results regarding **customer service** determined that college students were largely neutral about their attitudes towards it, which does not support the findings of Rompas and Tumewu (2014).

We also analyzed **dependency** and determined that college students are very dependent on their smartphones, and that this dependency does have a moderate relationship with smartphone purchasing, which supports Mintel (2014) and Nielsen (2014).

Summary

Samsung unfortunately does not dominate college campuses in terms of smartphone ownership and still lags far behind Apple's iPhones. Although our team was able to discover the several predictors that influence students' decision-making when buying smartphones which Samsun could use to its advantage, some clear threats to Samsung's desire to increase its market share were also uncovered. These will be addressed thoroughly in our recommendations section.

We also found that the target demographic for marketing to college students would be between 18 and 25, due to random selection of respondents we surveyed approximately 20% more women than men. We found that women are more likely to purchase Apple iphones while men are more likely to purchase smartphone brands that are not Apple. As such Samsung would benefit from marketing to men since they already have a tendency to buy smartphones from a brand other than Apple, who is their biggest competitor. But Samsung should also improve its marketing towards women in order to increase its market share amongst female college students. We also found that academic year influences smartphone purchasing decisions as students in lower academic years were more likely to buy iPhones whereas students in higher academic years were less likely to buy Samsung.

X. Conclusions and Recommendations

Recommendations

In attempting to increase its market share among college students, one of the biggest issues Samsung will have to overcome is the strong brand loyalty Apple owners have to their brand, this could be achieved by following some of the recommendations made by our team but will likely be a lengthy process.

First, our study also found that about half of the students would rather buy a smartphone on a contract plan than on a no-contract plan. Therefore, our suggestion is that Samsung should strengthen its partnership with all the carriers to offer better contract plans to attract more consumers. According to our literature review, when selecting new phones, T-mobile customers will pay more attention to the price (Youngs, 2013). So we suggest that Samsung should offer more discounts or other benefits for T-mobile customers due to their high price consciousness. In addition, according to Kantar Worldpanel ComTech's recent study (2014), 25% of consumers did pre-purchase research by visiting carriers' websites when they planned to buy new phones. So we recommend that Samsung should increase efforts to advertise and promote on carriers' websites because some consumers will do pre-purchase research through visiting carriers' websites.

Second, the majority of students (64% of respondents) surveyed in our study felt that they will more or less engage in competitive shopping and focus on sales, trying to get the best-price. Therefore, the price of smartphone is one factor that will influence students' purchase intention. So first, we suggest that Samsung should monitor the price of their competitors and set their prices properly to maximize both sales and profits. Second, we recommend that Samsung can offer exclusive discounts for students or benefits like trading old Samsung phones for new ones.

Another piece of advice we offer is to divide a large one-time fees into weekly or monthly prices. For example, for a Galaxy Note 4 with a price of 700, Samsung can allow students to pay a down payment of $200 to get the phone and then pay for $50 per month for 10 months. By this means, Samsung can communicate to the customers by saying "with a down payment of $200, you can get a Galaxy Note 4 for just $50 per month or $12 per week." Or Samsung can put in their commercials something like "for less than the price of a cup of coffee every day, you can get the latest Galaxy Note 4". This strategy will help to attract student buyers who have higher price consciousness.

However, we also discovered that about half of students believe that the price of a particular product provides an accurate indication of its quality, which means that low price indicates poor quality. Therefore, we suggest that Samsung be cautious in cutting its prices or offering discounts that are too large. The strategy of reducing price or giving discounts may be effective for older and cheaper phones and for recent phones price reductions should be advertised as a rare occasion.

Third, according to our survey, there is a positive moderate relationship between the perceptions of price and self-image relations and likely iPhone buyers. This indicated that students who are likely to purchase an iPhone believe that owning an expensive brand will improve their social status and self-image. Because no similar relationship was found for likely Samsung buyers, we recommend that Samsung put efforts to associate their brand with high social status and self-image.

According to our literature review, after-sale customer service could influence customers' purchase decision as well as the brand reputation (Rompas & Tumewu, 2014; Lim, et al, 2013). A study of Lim, et al. (2013) stated that better customer service and after sales service should

also be provided in order to create dissatisfaction and create negative word of mouth. Based on our research result, we found that the respondents' were more satisfied with their smartphones' customer service, they were less likely to purchase Samsung smartphone. After we checked our results and found Apple users rated their satisfaction of customer service higher than current Samsung users. We checked Samsung's website, and found the customer service and after sale support page was poorly organized. Customers could schedule a repair or other kind of service online, but the process was quite complex. In addition, it was difficult to find the contact information of Samsung's customer service. However, on Apple's official website, the navigation of customer service page is much clearer. Apple also has a support community which customers could find and share solutions with fellow Apple users around world. What's more, since Apple had more than 250 Apple Store all around the United States (apple.com, n.n.d), it was quite easier for Apple users to visit an Apple Store and get help from Genius Bar. Apple stores serve more than a million people worldwide every year (Slashgear, 2013). But for Samsung, they had few retail stores, and customers might need to ask for the mobile service provider for help. For instance, we tried to register a repair service online and set the location in Allston area, where a lot of BU students live off campus. But we could not find any support center, and Samsung asked us to call their support phone number. Such experience would likely not satisfy its customers.

A lot of previous studies also took brand awareness as an important factor which could affect customers' purchase decision. For instance, Chi, Yeh and Yang (2009) found that brand awareness and loyalty were discovered to be the most influential when it came to consumers' decision making. Such result was also supported by a research by Lim, et al (2013) in Malaysia. Our analysis result indicated Samsung to strengthen its brand awareness, too. According to the

statistics, Samsung's brand awareness appears to be much lower than Apple, since only 22.45% of survey respondents agreed or strongly agreed with the statement "I know a lot about Samsung," whereas 84.69% agreed or strongly agreed with the statement "I am very familiar with Apple." Samsung could attempt to increase its online presence, since only 18% of respondents agreed or strongly agreed with the statement "I always see people discuss or share news about Samsung on social media." Also, to increase its brand awareness in the U.S., Samsung could attempt increasing its investment in advertising, especially those targeting at college students, since only 46% of survey respondents agreed or strongly agreed with the statement "I have seen a lot of Samsung ads" whereas 74% agreed or strongly agreed with the statement "I have seen a lot of Apple ads." Samsung could also build up cooperation with some popular American movies and TV programs to put product placement, or sponsor some campus or student-related events wherever its products are relevant. Samsung could also put some ads on school and resistance halls.

At the moment, students in our survey maintain a strong brand loyalty when it comes to choosing a smartphone, especially current Apple users. Most of Apple users had a strong intention to purchase iPhones again in the future. Such results were also supported by previous researches (e.g. Chi, Yeh and Yang, 2009). We searched Apple's website and found that they were hiring Campus Reps, who could "take an understanding of Apple technology as well as the ability to exceptionally represent Apple on your campus." In this way, Apple lets students promote their products on campus as well as provide a job experience of students. Those who work for Apple on campus can get a good chance to build their resumes. Subsequently, they would speak highly of Apple to their friends and social groups. It also built up cooperation with some colleges, such as Northwest Kansas Tech (Apple Education: real story, n.n.d). Apple put a

video online to tell the story about how its products helped Northwest Kansas Tech step out of decline and gain more students. Through such projects, Apple currently dominates college campuses in the United States, largely through marketing and brand loyalty (Martin & Kenneth, 2013). Apple had clever ideas about getting students "hooked early and buying bigger later." (Martin & Kenneth, 2013). In seeking to increase its market share of college students Samsung may want to explore new marketing and branding options to overtake Apple as the staple smartphone on campus. Samsung could also have its own campus programs, such as Samsung on campus representative job opportunities, on campus communities, to build brand loyalty among college students.

Many studies have pursued the influence on brand perception on consumers' likelihood to purchase. One such example is a study conducted by Massoud Moslehpour, Van Kien Pham, and Selman Yumnu (2014). Overall the results of this study suggest that brand image carries a significant weight when it comes to consumers' decision making. Our studies supported such argument. We noticed that positive brand personality had a moderate relationship with likely Apple buyers, yet none with likely Samsung buyers. Perhaps Samsung can improve its brand personality by capitalizing on the fact that many Apple owners do not feel that their smartphone brand is unique, as evidenced by the fact that approximately 41.37%-63.83% of iPhone owners do not believe that their current smartphone brand is unique. A survey by USA Today of nearly 200 U.S. consumers revealed that 79% of respondents' opinions about Android products were "much cooler" or "a little cooler" that iPhone. The lack of uniqueness of Apple smartphones was mentioned as a challenge for Apple and an opportunity for Android companies (Martin& Kenneth, 2013). We recommend that Samsung could produce some advertisement emphasize its uniqueness, as well as some online campaign to promote such characteristic. In addition,

Samsung could also provide some customized products, to make its products seem more unique and "cooler."

With regard to smartphone features, Samsung may wish to advertise them strategically. For instance, there was a moderate relationship seen between likely Samsung buyers and its operating systems, as mentioned in our literature review Android is now considered somewhat "cooler," Samsung could produce some advertisements about the system to consider reinvigorate the branding of Android so that consumers align it with even more positive traits. Therefore Samsung may wish to not only demonstrate the capacities of its smartphones in advertisements, but comment on their superiority to the capacities of its competitors' smartphones. In our survey, 85% of respondents also claimed that 3G/4G speed is important or very important to them, 79% stated the smartphone's design is important or very important to them, another 79% stated that compatibility with other electronics is important or very important to them, and 78% consider the operating system important or very important. As such these 4 aspects of their smartphone may be areas Samsung could either improve upon or advertise more. Samsung could also started campaign on social networks to popularize its products' features, or invite its customers to talk about their using experiences. Like its campaign on Vine as a means of showcasing its camera quality, Samsung invited customers to participant in a project to advertise its high quality camera.

A recent study in Malaysia found that some college students are interested in the notion that smartphones would help them to fit into their social group and they might consequently choose the most popular smartphone brand among peers (Suki, 2013). However, in our study, we did not find any relationship between friends' influence and students' purchase decisions of smartphones. But the perceived social group fitness was moderately associated with students' purchase

intention of Apple, which claimed that students thought that using Apple smartphone could help them fit into their social group better. But there was no such relationship between perceived social group fitness and purchase intention of Samsung. This was consistent with our literature review. Though marketing campaigns on campus and among students, Apple built its popularity among college students. Every time Apple launched a new gadget, students rushed to buy it, since their friends all had one, if you didn't have, you were considered "out of date" (Martin & Rosen, 2013). We searched Apple's office site and found a lot of information about their on campus projects. On contrary, there were much less on Samsung's website.

To solve the problem that students thought Samsung could not help them fit into the social group better, we recommend that Samsung could put more advertisements on campus, as well as launch more on-campus events and promote activities, to build its reputation among students. Since students today are considering Apple less "cool" and smartphones with Android System "cooler" (Martin & Rosen, 2013), it is a good chance for Samsung to gain a better brand image.

In contrast to Pagani (2004), we found that students tend to take earlier adopters' feedback as an important reference when they were purchasing smartphones. Our research findings also supported this argument. A moderate positive relationship was found between the Perceived Influence of Earlier Adopters and students' purchase intention of Apple. According to our literature review, we found that Apple had a very good online reputation and aforementioned Apple community contributed, too. The online marketing media could be divided to Owned, Paid and Earned (Scott, 2013), while the owned media would have the most credibility. Samsung has devoted a lot to online marketing, but it is not as competitive as Apple in earned media. From our literature review, we found that social media is a great tool for targeting college students as 80% of students say that Facebook and Twitter is the most effective way to reach them (SheerID,

2014). But only 47% of Samsung owners said they reached out to their respective brands through social sites, much less compared with Apple's 61% (Mintel, 2014). Therefore, we recommend Samsung to build its own users community, as well as invite its users to write about their experience online. Samsung could have more socializing with its target market to generate positive word of mouth among them to spread it to others.

In addition, we found that the perceived dependency on smartphone had a positive relationship with students' purchase intention of Apple, which inferred that the more students felt they were dependent on their smartphone, the more likely they would purchase Apple. Current Apple owners also reported a higher dependent score in our result. Similarly, in two other studies about people's demand for smartphone, dependency was also ranked as one important factor to gain more users. In our research, we found that respondents' dependency on smartphone was related to perceived ease of use ($r= 0.312$, $p= 0.002$) and product quality ($r= 0.299$, $p= 0.003$), which suggested that the more smartphones were easy to use, and the higher the smartphones' quality, the students would spend more time on their smartphones (Arif & Aslam 2014).

To gain more college student users, we recommend Samsung improve its product quality by making Samsung smartphone easier to use. According to our literature, the previous researchers found that people spent most of their time for entertainment and media on smartphone, while the majority of Americans' time with apps is spent using social media (29%) (Nielsen, 2014). Social networks will allow students to get further engage with smartphones (Arif and Aslam, 2014). Samsung could improve their smartphone design which will allow a better multimedia connectivity between university students and among their social circle. The research also found that university students consider convenience of smartphones as a factor that motivates them to increase their smartphone usage (Arif and Aslam, 2014). In our research, we found that more

than 71% of the respondents claimed that they always use their smartphone to deal with school work or job (61% to 79% of the whole population). Samsung may further increase the convenience to deal with job or school work by providing user friendly interface option for connecting input and output devices and ability to write, edit and view documents, images, and presentations.

Our research demonstrates that females were more likely to purchase Apple while males were more likely to purchase Samsung. We then went over the frequencies section, and found that female rated higher on Design of Smartphone, Screen Size and Quality of camera. To make its smartphone more appealing to females, Samsung could launch more visually attractive phone cases and improve its smartphones' aesthetic design to make the Samsung smartphone look better. Additionally, it should emphasize its high quality camera in future advertisements to appeal to women.

Since age and academic year had negative correlations with students' purchase intention of Apple, we recommend Samsung provide more events for college freshmen. For instance, to reach freshman and transfer students before they arrive on campus, Samsung could enter into an agreement with Boston University wherein marketing materials, such as brochures and special student offers, would be sent with orientation packets. For older students and students in higher academic years who, according to our findings are statistically not as eager to buy Apple products, as younger students, Samsung could launch some advertisements targeting them specifically. Since the higher year students are approaching their graduation, Samsung could gain customers with high Live Time Value.

Even though research shows a relatively low effect family influence could still potentially affect one's purchase decision. Our results indicated that the more students' were influenced by

their parents, the less likely they would purchase a smartphone from Samsung. Such results suggested that Samsung either did not have a very good reputation among parents or are not well known among parents. Since it is important for parents to know more about Samsung smartphone, our team suggest that Samsung could build a cooperation with mobile service provider to offer special family plan promotion. Also, to build its reputation among older generations, Samsung could do more corporate social responsibility activities as well as related its brand name more tightly with American culture. However, Lim, et al. (2013) noted that students born after 1990s were experiencing a decreasing parental influence. We also found that students in our research rated familial influence lower than peer influence and influence from earlier adopters, as such this should not be a major point of concern for Samsung.

Table 7A: Recommendations for Samsung

Influencer	Recommendations
Carriers and Retailers	• Samsung should offer more discounts or other benefits for T-mobile customers due to their high price consciousness. • Samsung should increase efforts to advertise and promote on carriers' websites because some consumers will do re-purchase research through visiting carriers' websites. • More contract options (family/friends/students) • More convenient trade-in program
Price and Quality Consciousness	• Samsung should monitor the price of their competitors and set their prices accordingly to maximize appeal to price-conscious college students without lowering it drastically enough to compromise the perceived quality of the product • Back to school promotions • Student discounts • Special student-oriented promotional events, such as buy smartphone get free gift card to the app store or music store
Accessibility	• Improve website design and navigation • Create an online Samsung community where Samsung users can troubleshoot issues with other users as well as Samsung representatives • Make registration process less complex • Increase Samsung owned retail stores and help stations
Advertising and Branding	• Use advertising as a means of improving the positivity of the brand's personality • Advertise the benefits of the Android operating system to improve the associations with it • On campus advertising • Product placement in popular TV programs and movies • Cooperation with colleges to sponsor devices to schools
Product Features	• Improve Samsung smartphone 3G/4G speeds • Improve their products' compatibility with other electronics • Use advertising to promote the features college students find most important
Social Influence	• Improve its social media presence to promote its products and engage directly with consumers • Initiate a Campus Rep Program • Sponsor collegiate academic, sporting, and recreational events •
Dependency	• Mobile advertisements to directly target dependent smartphone users • Make Android operating system easier to use • Create apps that are convenient for college students and allow them to organize their busy lives
Demographic Variables	• Focus on aesthetics of design and provide more attractive cases • Continue to improve camera quality • Target both male and female users in advertising • Make special offers and incentives for college freshman

Recommendations for further study

There are several aspects of our study that could be scrutinized in further studies.

One factor that might limit the current research findings is that the sample was only distributed among 100 students in Boston University and it has limited research findings regarding the influence of students' purchase intention towards smartphones. For instance we had a very small sample size particularly for Samsung owners, which were only 12. Students, as such many of our calculations had large sampling error sizes. It is recommended that the coverage of sample selection be widened to improve the generalizability of the results and to provide more accurate and holistic results. Future study should be conducted across student groups at university and secondary level in the U.S. to obtain more accurate and holistic results of buying behavior factors and to reflect different cultures among students.

Although we also addressed students' opinions of purchasing smartphones on contracts versus trade-in programs, future studies should ask more questions about contracts and trade-in programs so that overall attitudes to these programs could be understood more thoroughly. As such the measures would be more reliable, correlations could be more easily observed, and more recommendations to Samsung could be generated.

We also asked consumers whether or not they were satisfied with their brand's customer service, however we did not ask specifically which aspects they liked or disliked about it and as such we experienced difficulty to provide thorough recommendations for Samsung as to how to improve or strengthen their customer service. We also did not analyze whether or not the fact that Samsung does not have stores (compared to Apple which has physical stores with built-in customer service areas called Genius Bars) affects college students' opinions of the brand's customer service.

Another aspect that could be more thoroughly studied in the future would be brand awareness, while we asked students about their brand awareness for Samsung and Apple specifically, these questions did not determine college students' brand awareness for Samsung's other competitors. Future studies should include more in-depth questions which analyze the brand awareness of other major smartphone brands.

Although we asked college students whether they often saw people discuss Samsung on social media, we did not ask whether these discussions were positive or negative. Future studies should specify this when surveying college students in order to understand whether they are exposed to positive or negative online word-of-mouth, which is now considered as an important impact factor in college students' buying behavior (Ioanăs & Stoica, 2014).

When determining which smartphone features college students found most important, we asked them about the importance of the operating system, however since we did not ask them for their opinions about the operating system we were unable to generate recommendations for Samsung as to whether or not students had issues with Android or iPhone operating systems. Further studies could delve deeper into which aspects of operating systems students like or dislike. With regard to features we also asked students whether or not they found screen size important, however we did not specify whether this screen size should be big or small and resultantly could not determine their preference to smartphone sizes. Future studies should clearly specify different screen sizes in order to understand college students' opinions regarding this matter.

We also intended to study the effects of certain advertisements and whether or not they were successful in attracting customers to Samsung products, however since they were improperly phrased we were unable to analyze the advertisements' effects or generate

recommendations for the company. These questions could be worded more specifically to determine where college students are most exposed to advertisements, such as online or on campus.

We also attempted to determine the relationship between early adopters and smartphone purchasing, however we only had 2 questions addressing this topic, future studies should ask more questions about it to generate more reliable results and better understand that population segment. Some construct had too many questions, while some had not enough. The future studies could keep a better balance and adopt four questions for each constructs.

In the demographic section, we provided six choices in the academic level question, of which the last one was PhD. But doctors in some areas do not considered themselves as Phd, such as JD and MD. The future studies could add an option of "Others" here to more thoroughly understand the demographics of their respondents.

Finally, in order to thoroughly gage college students' opinions on this variety of predictors that could potentially influence their purchasing decisions, future studies should conduct focus groups to engage in in-depth conversations about certain aspects of smartphone brands, products, and services.

XI. Assessment

Measures

Generally, most of our predictors were researched and supported by previous studies. According to previous research reports, academic scholars, we created the individual measures for each predictors. For example, the questions in social influence part were all from the researches done by 2014. The Marketing Scales Handbook was also an important source for our measures, such as the items in Brand Personality construct and Perceived Product Quality construct. Since there were a large number of options, we carefully selected the questions and phrased them to fit with our research question. However, for the predictor "influence of smartphone contract" and "response to generic advertising," we could not find any items could be used directly, since these predictors had not been studied much thoroughly before. We thus created the constructs by ourselves.

Most of our constructs rated either very good (Cronbach's Alpha range from 0.70 to 0.79) or excellent (Cronbach's Alpha >0.80), and three of them were acceptable (Cronbach's Alpha range from 0.50 to 0.59), and one was good (Cronbach's Alpha range from 0.60 to 0.69). But there were still two constructs that loaded as unacceptable (Cronbach's Alpha<0.5). One of them were the Brand Awareness of Apple, the reliability was 0.495. Another predictor we felt did not capture the variable was about the influence of contract plan. We went over these questions and found they were not overlapped with each other. Especially the predictor of smartphone construct, the items were about the construct, trade-in program and smartphone updating period, which were absolutely three different areas. In addition, in the construct "response to generic advertising," we asked our respondents to report their opinion about the relationship between dependent and independent variables directly. Such measures could not capture students' opinion

accurately. For the construct "perceived ease of use," even the reliability rate was very good (Cronbach's Alpha of 0.748), we still removed two items, because we found two of them were not testing the ease of use, which had a validity problem. These two predictors were neither very new problem, but few studies had been done on them. Therefore, they could be considered as the new area in research. Perhaps better measures would have been to test attitudes towards contracts.

In terms of restraints of time, budget and resources, we only explored those potential predictors that were proven by previous studies to be a factor in smartphone preferences. We think there were still many interesting predictors that were not mentioned as often in the literature but would rather be greater factors in this particular population. For instance, the influence of celebrities and culture background of the brand (Apple related to American culture, Samsung related to Korean culture).

Additionally, at the outset our team had brainstormed a list of potential predictors that we were not able to explore due to the reasons mentioned above (e.g. the influence of the name of smartphone series, such as "iPhone" and "Galaxy" and the consistence of names of product line).

This is a very general study, we could go depth for some of the constructs, such as the brand awareness, the customer services and the advertisements. Moreover, questions about dependent variable could also asked in a more various way, such as respondents' expectation about the new product and the update period of smartphones.

As this was the first time we did a research project, there were still some aspects we need to improve. Overall, we were quite pleased with the results and strength of our measures, and the sample responded well to the survey. We hope the experience gained in this research process could help us do better in the future researches.

Instrument

The instrument we used was a 98-item self-report survey, which is one of the most commonly used research methods. Self-report surveys are active instead of passive. Consequently, some bias was expected in the answers. What's more, as we randomly selected the sample in GSU's dining hall, students might be in a hurry. As a result, they didn't read the questions carefully and provided inaccurate answers. For instance, our last question asked respondents their monthly spending excluding tuition and rent. Or some of our respondents were sitting with their friends and chatting when they were filling the questionnaires. This might have a negative impact on the accuracy of their answers.

The questionnaire was quite long, thus we separated it into several sections, so that response headings in the grid were easily viewed. Moreover, we added the signal "continue to next page" at the end of the first and second last page, to remind people to turn over the page and not left any questions. Subsequently, most of our questionnaires were completed.

The survey itself was separated into sections so that response headings in the grid were easily viewed. All the constructs were broken and put into a new order to reduce the respondents' feeling that we kept asking the same questions. The questionnaire was reorganized from general to specific. The questions about respondents' general buying behavior were asked first, then we put the questions about Apple and Samsung. All their opinion about current smartphones they were currently using and came later. Their purchase intention of different brands smartphones, which was the dependent variable were put in the last part. The questionnaire was ended by demographic questions, because respondents were asked about their personal information in this part. Even we stated that the survey was absolutely anonymous, students might be still not willing to answer these questions at the beginning of the survey. We thought such an order could

fit with people's mode of thinking and provide the accuracy of their reported answers. Likert scale was not the only way we asked questions. We also have fill-in-blank questions to asked students how did they spend on their smartphone per day.

The biggest obstacle we encountered was the option for the current ownership and dependent variable. For the questions, "which smartphone brand do you currently own?" and "If you were to buy a smartphone tomorrow, how likely would you be to buy from the following brands?" since we could not provide an exhaustive list of smartphone brands for the response options, we listed Samsung and its seven major competitors (Apple, LG, HTC, Motorola, Lenovo, Blackberry and Sony). In the question about current smartphone ownership, we assume each students had only one smartphone, which was not true. One of our respondents reported that he owned two smartphones, which created difficulty for our data entering. Also, in the purchase intention part, we assured respondents had almost the same opinion about different products from the same brand. But one students rated his purchase intention of Apple with a 5, but he also put iPhone 6 in the 5's blank, then he wrote iPhone 6+ sucks on the questionnaire. Given one smartphone brand could offer many different products, we could divide the purchase intention part more specifically.

We also added the option "others" and put a blank after it for respondents to fill in their own options. It turned out very view students provide additional options. For current ownership, only one said he/she was using Smartisan T1, and for future purchase intention, only seven filled the blanks to provide alternative smartphone brands. Given the small sample size, such responses were even fewer and we didn't analyze them. In addition, except Apple and Samsung, none of the user number of other brands exceeding 10, and we consequently emphasized our analysis on Samsung and Apple.

Methodology

Due to the limitations in time, budget and resources, we were restricted in the number of surveys we could distribute and access in Boston University. This limitation was perhaps the cause of the gender disparity. We had a significantly larger number of females, which reflected the gender distribution of BU, but was not representative enough for the whole college community. In terms of distribution of academic level, we also found in our demographic a significantly low number of freshmen. These issues may have been addressed by increasing the number of surveys as well as select sample more randomly.

We also had a low percentages of students who were using smartphones other than Apple. Only 12 students were Samsung users and 12 were using other smartphone brands. This made the assessment of these brands difficult and our findings limited. The sampling errors were too huge when we analyzed the frequencies results of current Samsung users. Similarly, this problem could be solved by increasing the sample size.

Self-report survey was the only way we accepted to do the research. But this the method of science is not perfect, the self-report studies also had some limitations. We argue that a series of focus groups before and after the survey could be a good supplement to the research. We might have been able to gain more predictors, and have been able to gain a more comprehensive picture of what drove students to buy smartphone from a specific brand. We could also dig deeper to the predictors with focus group.

Self-report surveys also represent a cross-section of time, so what students believe today, may be drastically different from what they will believe in a month. Technology today are developing so fast, smartphones are updated nearly every year. We need a more consistent

method which would have been to distribute the surveys along a larger scope of time, and thus capture customers' expectations about smartphone in the future.

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