

EFFECT OF FACEBOOK FRIENDS ON EACH OTHER'S CONSUMPTION PATTERNS

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ABSTRACT

This paper aims to reveal that Facebook's features, originally developed for the purpose of communication among friends and acquaintances, are indirectly affecting users in their consumption patterns and choices, thus impacting market dynamics. This research identifies the likely profile of Facebook users whose consumption decisions are affected the most by whom and by what. A mixed approach comprised of two focus groups and a survey was fielded at a Lebanese university in fall 2010-2011. A random sample of 1100 students from the different faculties participated, yielding 1090 respondents for a response rate of 99 percent. A Facebook Intensity score or FBI was used to measure Facebook usage, frequency, duration, integration into daily activity and emotional connection to site. Research established that consumption factors are positively correlated with the FBI score. The university students with high FBI scores are affected the most by their circle of top friends, mainly in their hanging-out decisions, among others. Research shows that companies need to look out for the growing influence of consumers' co-creation of value and needs if they desire to remain competitive. Companies need to pay more attention to the role of social media in empowering customers in influencing each other. The originality of this research lies in assessing the indirect effects of Facebook usage on consumption, which is a newly visited theme and unforeseen outcome of the social network sites. The study could be conducted on a longitudinal basis, as people are still experimenting with Facebook usage.

Keywords: Social networking, Facebook, Consumption

INTRODUCTION

Consumer-to-consumer interaction or the “marketing of many-to-many” is enabled by the Internet (Gummesson, 2008). Consumers have created new uses and values for the products available to them. For example, political activation was not initially the aim of the Facebook founders (Marandi et al., 2010). However, Iranian citizens, dissatisfied by the elections in their country, have used the Facebook for political reasons. It has been pointed out that “as consumers immerse themselves in experiences they often do so in co-experience and value co-creation with others, in formal and informal, networks which may be temporary or long term” (p. 170). Using the same logic of co-experience and co-creation, this paper aims to investigate the effect of Facebook usage on consumers’ behavior, specifically their purchase decisions and consumption patterns. Companies and marketers need to be aware of the growing importance of consumers’ influence on each other, in order to remain competitive, given the ever growing usage of the Internet and social sites. A study by Wise et al. (2010), aimed at studying emotional responses to Facebook usage, rightly concluded that the “different ways of fulfilling the need for connectivity lead to different physiological outcomes that may reflect a tendency for appetitive behavior” (p. 561).

This paper is based on a belief that Facebook is a new platform for bringing people closer to each other, and thus increasing the chances for more social comparison. With more propinquity, distances among people decrease and odds for interaction increase (Kotler & Keller, 2009). Since social comparison appears to be a basic human predisposition (Gulas & McKeage, 2000), it is assumed that the consumption decisions of people, among other decisions, will be more affected by their contacts ‘friends on Facebook’ choices. Taleb (2004) has stressed the fact that “becoming more rational, or not feeling emotions of social slights, is not part of the human race, at least not with our current biology” (p. 143). Social comparison applies basically to choices that do not have clear objective answers, as stylistic decisions (Insko et al., 1983). To render the evaluation of self more solid in the absence of physical evidence, social comparison tends to increase (Festinger, 1954). The choices of people become more positively or negatively dependent on the choices of others in their circle of contacts. They will either strive for more conformity or uniqueness via personal creativity or they will be motivated to engage in attempts to boost their self-portrays and sexual attractiveness in the eyes of others. All of these attempts will heighten the peer pressure, thus influencing the decisions people make, especially those related to their purchasing and consumption behaviors. However, people are generally selective about whom they will imitate (Tesser et al., 1988). Guessing who will be affected by whom is tricky, as opinion leaders tend to be simultaneously opinion seekers (Yale & Gilly, 1995).

The high-context collectivist culture prevailing in Lebanon, the location of the study, coupled with the high unemployment rate does nothing but spill oil on the fire when it comes to Facebook usage, thus intensifying the indirect influences of Facebook on the decisions and behaviors of people in the region. However, the university students targeted in this study are believed to share many of the same habits and lifestyles of the youth in the same age brackets in

different regions of the world, and thus an emphasis on cultural issues is not highly needed when it comes to social networking.

LITERATURE REVIEW

Social Networking via Facebook

Social networking sites are online websites that permit individuals to get in contact with friends or make new friends by creating personal profiles accessible by users of those sites (Orr et al., 2009). Facebook, twitter, Myspace, Lavalife and Plenty of Fish are some examples of these social networking sites. Millions of individuals around the world have integrated social networking sites into their daily routines (Boyd & Ellison, 2007). Scholars from different walks of the academies have shown increasing interest in SNS in the attempt to understand their uses and implications on the identities, social well-being and even political activation of their users (Boyd & Ellison, 2007). Researchers are particularly interested in Facebook because of its high-tech nature and high usage rates (Ellison et al., 2007). However, despite the popularity of Facebook, the scholarly work on Facebook's impact on identity and behavior remains modest (Raacke & Bonds-Racke, 2008).

“Founded in February 2004, Facebook is a social utility that helps people communicate more efficiently with their friends, family and coworkers” (Facebook factsheet). It saw the light in the hands of Mark Zuckerberg of Harvard University. This student's brilliant innovation was first created for communication purposes by the university's populace, but then it extended to other universities and ultimately to the whole world after officially becoming Facebook.com in 2005 (Philips, 2007). It is named after the paper Facebooks used to identify members of campus communities in colleges. The company is headquartered in Palo Alto, California, U. S, with offices around the world run by more than 2000 employees (Factsheet). There are more than 800 million active users, more than 75% of whom reside outside America (Facebook statistics). Anyone with an e-mail address can join Facebook for free. Facebook generates its revenue from advertising (Facebook Press Room).

Facebook is made up of basic functions and applications. Basic features on Facebook are a person's Home page and Profile. “The Home page includes News Feed, a personalized feed of his or her friends' updates. The Profile displays information about the individual he or she has chosen to share, including interests, education and work background and contact information. Facebook also includes core applications – Photos, Events, Videos, Groups, and Pages – that let people connect and share in rich and engaging ways. Additionally, people can communicate with one another through Chat, personal messages, Wall posts, Pokes or Status Updates” (Factsheet).

The average user has 130 friends and is connected to 80 community pages, groups and events. More than 50% of the active users log on to the site on any given day. More than 2 billion posts

are liked and commented on per day. On average, more than 250 million photos are uploaded per day (statistics). The site is available in more than 70 languages.

Uses of Facebook

Facebook, the product, with all its features and applications, can be utilized for various purposes that are classified differently by different authors. Ramirez et al. (2002) talked about the interactive, active, extractive and passive strategies employed as different social information seeking modes. While the first two strategies entail more or less direct interaction among people on Facebook, the latter two correspond to social searching and social browsing strategies detailed by Lampe et al. (2006) (Wise et al., 2010).

Impression management is yet another reason for using Facebook (Walther et al., 2008). Facebook offers a controlled setting for on-line identity portrayal and impression management (Kramer & Winter, 2008). Despite the fact that people on-line may know each other off-line through the workplace, neighborhood and common friends, and thus have lower chances of manipulating and polishing pre-established notions of themselves (Zhao et al., 2008), Facebook still offers the chance for individuals to portray personally hoped-for and socially desirable versions of their actual selves (Mehdizadeh, 2010). “Users can convey desirable information about themselves (via features such as About Me, Notes, and Status Updates routinely found on socially-networking sites) and can select attractive, self-promoting photographs” (p. 358). Thus, individuals on-line do have the chance to make clear public statements about the self via autobiographic enabling features or implicitly through posting photos (Zhao et al., 2008). The other side of impression management is that of self-assessment. Recent research shows that “selective self-presentation” is possible on Facebook through posting preferred photos and selective personal details and thus Facebook might lead to positive rather than negative assessments of the self (Gonzales & Hancock, 2011). However, checking whether this is done more profoundly through a particular social-information seeking strategy is beyond the scope of our paper.

Facebook users, as explained previously, can interact with each other in direct and less direct ways. Instant messaging, messages and wall postings are examples of the former. Status updates and posting notes are examples of the latter. The researchers are particularly interested in the effect that News Feed has on consumer behavior. It sums up and presents one user’s friends activities, including status messages, recent photos, latest notes and lately joined groups.

METHODOLOGY

In this research project, a mixed approach was used in data collection. A survey of 1100 university students preceded by a focus group study was carried out on one university campus. The focus group method was merely used to gain insights about the topic of interest. It was

useful in not only pinpointing some important facts, but revealing the reasoning behind these facts. It also illuminated the local perspectives in rich detail (Creswell, 1998). Two focus groups were carried out, where 12 university students of both genders, yet of approximate ages and backgrounds, participated in each. The sessions were carried out over a 90 minute time span, during which the moderator was guided by an interview guide that acted as a road map for the session (Morgan & Keueger, 1998). The interview guide started with a general question as to the uses of Facebook and continued with more precise questions in parallel with the key research questions of interest. The focus group results were analyzed by responses to questions where special interest was given to patterns formed by words, which led to themes.

The main data collection tool was the survey, which was carried out by 11 students registered in the marketing research class of fall 2011-2012 in exchange for course credit. Each of the eleven students was responsible for collect dating from 100 students at a preset faculty or department at the university. Thus, the total sample size of the survey amounted to 1100 respondents from various faculties. The university populates were specifically chosen to be the main sample of interest as they represent globally a sizable chunk of total Facebook users. The questionnaire guide was divided into four parts in reflection of the KRQs of interest, which were set in light of the qualitative findings of the focus groups. The focus group analysis hinted at the serious differences among participants' views regarding their use of Facebook as to who is affected the most, by whom they are affected and what category of their purchases is affected the most. Accordingly, the questionnaire was divided into four parts. The first section was set to collect the demographic data of the respondents. The second section addressed Facebook usage and intensity from Ellison et al.'s (2007) (FBI) scale, as the use of validated and reliable scales permits comparisons among similar studies (Vitak et al., 2011). The Facebook Intensity scale is a measurement used not only to assess the amount of time and duration spent using Facebook, but also includes the emotional connection to the site and "its integration into individuals' daily activities," as reported by Ellison et al. (2007). The third section requests information about reference groups. It divided friends by family, current city, hometown, workplace, interest, tops friends, friends of friends, fan pages, role models and not so liked friends. The logic behind these groupings is that individuals are influenced directly by membership groups that could be primary (family, friends, coworkers) and/or secondary (professional). They could be also indirectly influenced by non-membership groups, such as aspirational groups and/or dissociative groups (Kotler & Keller, 2009). The fourth and final section requests information about the consumption categories impacted by Facebook using five Likert-type statements. The consumption categories checked for in this section are many, including vehicles, phones, checked in places, movies, apparels, vacation, trip choices, restaurants, coffee shops, clothing, accessories and shopping malls. The researchers attempted to include mainly consumption of those goods that are plausible 'status' or 'social' goods (DeLeire & Kalil, 2009), as it is believed that respondents are mainly interested in self-presentation and/or belonging reasons. As the questionnaires were filled in on a one-on-one basis, the response rate was a high, amounting to 99%.

Analysis of Focus Group Data

The focus group discussions which lasted for about 90 minutes revealed interesting insights about the Facebook effect on the lives and personas of the participants in general, and on their social behavior and satisfaction in particular. It is believed that Facebook is a new platform for exercising the same habits and behaviors, but at higher intensities. Facebook, as discussed, gives one the chance to post an improved, 'edited' picture of oneself. It is becoming a modem for 'self-presentation' and 'personal-marketing'. With all the effort put in self-polishing, people can be really hurt if they get no attention or positive comments. "I classify friends according to their comments. If they agree of what I do, how I look, who I am, then they are true friends, and vice versa, and the less friends I have the less happy and worthy I feel," commented one female senior student. Another complemented this by saying that when she posts a picture and if she does not get enough likes after a couple of hours, she removes it.

Facebook brings people closer than ever, empowers them with editing and self-presentation capabilities, but makes them more prone than ever to social criticism. Their self-worth becomes a function of others' opinions of them. This is a reality they are aware of, so to get others' approval they engage in more editing and conforming trials. "Nobody wants to feel an outcast," a female interviewee noted. Competitive parity might have other marginal subsided reasons. "I'm lazy. I don't know what I want, so I choose most liked things, and I copy. This saves me time and effort," another participant noted.

These 'nouveau' celebrities are hungry for any piece of attention, and they are ready to go to great extents to get it. This vicious circle seems to be intensified in high-context cultures such as the Arab one. A major theme noted in the focus group discussion is that Facebook is thought to be used differently in the Muslim-dominated Arab world. "Facebook is the hangout place for Arab Muslims. It is the hangout place for us," one male participant confirmed. Another agreed that Arabs spend hours on Facebook, as many don't have too many work preoccupations. A third backed them up by saying that sex education is close to zero in the region, so pornography is on the increase over Facebook.

In a country like Lebanon where the girls outnumber the boys, appearances and impression management are key to attracting men, thus this is still another reason for females' dependence on such venues. However, females are not only out there to influence the other sex, but also to influence each other. "Young to middle aged women boast about their weddings, places they visit, beautiful kids, breakfast gatherings and parties. This is especially common among women who don't work or work part-time," one female participant confirmed. Another female participant confirmed that she will not wear a wardrobe for a particular occasion if she appeared in it in one of the photos posted on Facebook. These behaviors are an exaggerated version of an international reality, since it is known that reference groups influence members' attitudes and self-concept and pressure them to conform, which might influence their product and brand choices and expose them to new behaviors and lifestyles (Kotler & Keller, 2009). The focus group participants used Facebook in varying intensities. As some rocked between activation and

de-activation, others swayed between more to less privacy measures and vice versa. “I used to be very open, then I deleted like 1000 albums. My profile now is very private and limited,” one female participant claimed. Another said that he used to be very private about his life, but not anymore, as he cannot control it. “I will appear in the photo albums of my friends anyway.” Some even mentioned playing an active role in managing the Facebook accounts of other family members, such as fathers and grandfathers. “My grandfather got private tutoring to use the Internet and Facebook, but I still help from time to time,” one female participant explained. A major theme is that Facebook is becoming a subconscious engagement for many. “It is part of a daily routine, part of family.” These intergroup differences regarding Facebook usage intensity seems reflective of the wider population of Facebook users. The pattern generated from the focus group pertaining to the entities impacting the participants in their choices is that most participants seemed to be mostly impacted by their friends of the same age groups. Family and relatives were another primary group of influence on the participants, but of lesser importance. Some participants even mentioned blocking certain family members, especially young kids. “I just hate their very fake comments. I get really embarrassed,” one female participant explained, while blushing. Given that friends at the university are the predominant reference group, it seemed logical that the majority of the participants felt that trends and fashion diffuse horizontally among members of the same social group, thus trickling across, rather than down or up (Kotler & Keller, 2009).

Participants varied in their responses as to what consumption decisions are affected mostly by others’ postings on Facebook. However, checked in places were cited numerously. Causes, movies, music, clothes were mentioned, too. However, there seemed to be some differences between what catches the eye of men versus women. “Men are affected also, but by different things. We mainly look out for cars, phones and houses,” said one male participant echoing the beliefs of others in the group. Another theme brought up in the group conversation is that individuals might be affected differently at different times and ages they pass through. “When I was younger, like 17, 18, I was stupid and very much affected by everything I see, especially make-up and accessories,” one female participant declared.

Analysis of the Survey Results

The questionnaire was divided into three parts, in coherence with the key research questions.

KRQ1: What is the likely profile of Facebook users whose consumption decisions are affected the most by what they see on Facebook?

KRQ2: What is the relation between the Facebook intensity usage and its effect on consumption?

KRQ3: By what category of friends are they affected most?

To answer the key research questions, the data analysis process was designed for data entry, analysis and the major findings.

Sample Allocation

The target population of this study was the University of Balamand students on all campuses comprised of 6600 students in fall 2011. Whilst the target population was students from the entire university, for practical considerations fewer students were involved in the research. One of the reasons was the inaccessibility to some respondents who were registered at the university but were not attending classes (finishing the thesis, medical students on duty, etc.). Hence, the total sample size for this study during fall 2010-11 was about 1090 respondents allocated by faculty, academic year and socio-economic factors.

The sample was allocated by faculty including from the most to the least in terms of respondents: Faculty of Engineering, Faculty of Business and Management, Faculty of Arts and Social Sciences, Faculty of Sciences, Académie Libanaise des Beaux-Arts, Faculty of Health Sciences, Faculty of Medicine & Medical Sciences, Institut Universitaire de Technologie, and Saint George's Faculty of Postgraduate Medical Education. Generally speaking, it is expected that the younger the student is, the more the student spends time using social media. The demographical study was then segmented based on whether the student was a senior, junior, sophomore, freshman or even graduate. For example, senior students account for 29.29 % of the studied samples, whereas postgraduate students account only for 4.4 % of the population. From a different perspective, students were classified into socio-economic levels, through average yearly household income, work status, club membership and the residence.

For the yearly household income, the results depicted that the majority of student didn't know their parents' income, hence this classification was discarded. The same applied to the "work status," where the majority of students were not working or were under the "student work" title. As for membership in clubs, only 30% were club members.

Validation

Using the ID of students, and with the help of universities administrators, the respondents' majors and ID matching were checked to insure all data was valid. In order to make sure the entire measurement instrument was reliable, ensuring similar results for similar inputs (Field, 2009), Cronbach's α was utilized. The Cronbach's α is the most common measure of scale reliability (Field, 2009, p. 674). Accordingly, Facebook intensity and the consumptions questions all had high reliabilities and all Cronbach's α was greater than 0.8. (0.855 for Facebook intensity and 0.930 for consumption).

KRQ1: What is the likely profile of Facebook users whose consumption decisions are affected the most by what they see on Facebook?

In order to answer this question, a consumption factor was created as a sum of all the consumption variables. This factor was then divided in two categories, the consumption low and high. Using the Independent Samples Test, the profile of students who have high consumption

was examined. The consumption category varied based on the Facebook intensity, age, average yearly income and education (Refer to the Significance column in the table below):

TABLE 1
Independent sample test

		Levene's Test		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
FBI	EVS	3.65	0.056	-12.102	1062	0	-6.26686
	EVNS			-12.038	1001.632	0	-6.26686
Education	EVS	2.243	0.135	-3.128	1077	0.002	-0.257
	EVNS			-3.15	1060.307	0.002	-0.257
Gender	EVS	3.302	0.069	0.966	1079	0.334	0.029
	EVNS			0.965	1035.265	0.335	0.029
Age	EVS	20.632	0	-5.831	795	0	-1.061
	EVNS			-6.032	782.954	0	-1.061
Avg yearly Income	EVS	1.588	0.208	2.07	1073	0.039	0.224
	EVNS			2.068	1026.905	0.039	0.224
Faculty	EVS	13.3	0	0.625	1081	0.532	0.067
	EVNS			0.617	978.183	0.537	0.067
Work Status	EVS	0	0.991	0.974	1071	0.33	0.095
	EVNS			0.974	1035.396	0.33	0.095
Club Member	EVS	5.522	0.019	-1.185	1083	0.236	-0.033
	EVNS			-1.182	1028.506	0.238	-0.033

Using Chi-square (cross-tabulation) to examine any random relationship between student profile and consumption category, more variables were revealed.

As a result, the research established the following profile for the users of high or low consumptions, as summarized in the table below:

TABLE 2
Chi-square cross tabulation

	Pearson Chi-Sq Sig 2t	High Consumption	Low Consumption
<i>Average yearly income</i>	.001	Greater than \$12000	Less than \$12000
<i>Age</i>	.000	Older than 21	Younger than 21
<i>Faculty</i>	.000	DUT, FOM, FOE, FOBM.	FHS, ALBA, FOS, FASS, St. George
<i>FBI</i>	.000	Greater than 44	Less than 44
<i>Academic year</i>	000	Senior, graduate, post graduate, freshman.	Sophomore, junior

The evidence presented above helped in directing the research towards the characteristics of users who had a high consumption: A student older than 21, mostly senior and above (except for freshman), with moderate to high FBI.

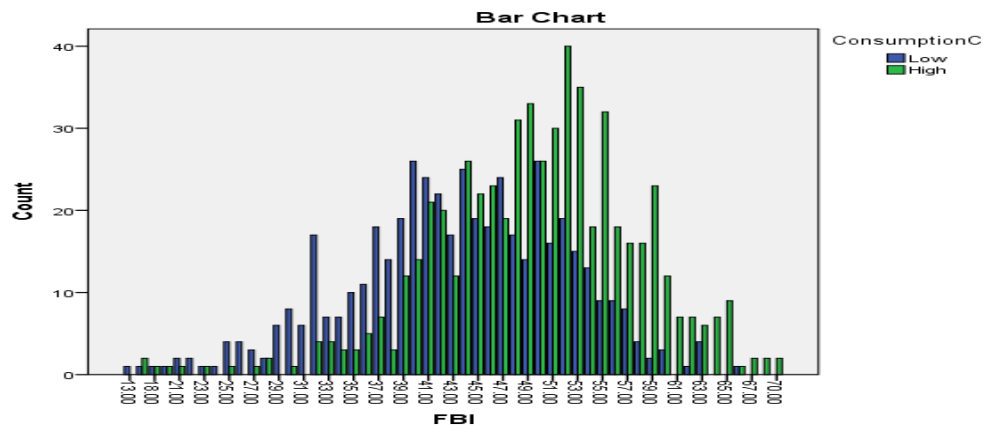
One more aspect of the demographics affecting the consumption was the average yearly income. Although the majority of the students 61.3 % did not report the average yearly income of their parents, among the rest, those students whose family income was greater than \$12000 per year showed high consumption.

The students who were older than 21 had greater consumption than those who were younger, as depicted in the bar chart below.

Another factor distinguishing the student profile for those who had high consumption is the Facebook Intensity, which was found to be greater than 44. In other words, students who have moderate to high FBI tend to consume more.

FIGURE 1
FBI and consumption bar chart

FBI	Status
>60	High
49-59	Moderate
35-48	Normal
20-34	Low
0-19	Very Low



As for the academic year, the senior, graduate and post graduate students demonstrated high consumption compared to younger sophomore and junior students, except for freshmen.

KRQ2: What is the relation between the Facebook intensity usage and its effect on consumption?

KRQ2 probed whether there exists any relation between the scale of the users' Facebook Intensity FBI and the Consumptions factors. For that purpose, first a factor for FBI was computed as the sum of all the FBI variables.

$$FBIntensity = FBI_1 + FBI_2 + FBI_3 + FBI_4 + FBI_5 + FBI_6 + FBI_7 + FBI_8 + FBI_9 + FBI_{10} + FBI_{11} + FBI_{12} + FBI_{13}$$

FBIntensity was then subdivided into categories from Lowest to highest. The initial results yielded a majority of 85% who have normal and moderate Facebook intensity.

The relation between the Facebook intensity usage and its effect on consumption was tested first using correlation where all the Consumption factors were positively correlated with the FBI score (0.01%). In fact, the larger the FBI score, the more people are consuming products on Facebook, and vice-versa.

Findings suggest that the larger the FBI, the more Facebook users are inspired to buy products and go to locations visited by other Facebook friends either in the newsfeed, the photos, the check-in, the fan pages, etc., as depicted below:

TABLE 3
FBI correlation with consumption

Consumption Variables	Correlation with FBI	Explanation: The larger the FBI, the more Facebook users are
Products found on any photo on Facebook could inspire others to buy it or not	.327**	Inspired to buy products found on Facebook photos
Through Facebook, I was influenced to buy clothes, cell phones, cars, go to certain places, or attend movies	.401**	Purchasing clothes, cell phones, watching movies and going to certain locations
I am inspired by some of the popular fan pages apparel and check in	.406**	Motivated by the check in and Facebook fan pages
My vacation choices are associated with my friends' vacations posted on Facebook	.330**	Stimulated to go to vacation areas where other Facebook friends went to

Specifically, the FBI score also is linearly related to consumption variables, such as friends' trips, restaurants and coffee shops, pubs, malls, cars, goods, clothes, accessories and fashion.

TABLE 4
Elaboration of the correlation between consumption and FBI

Consumption Variables	FBI
My friends' trips and activities uploaded on Facebook encourage me to imitate their choices	.362**
My choice of restaurants and coffee shops is now primarily based on my friends' check in	.350**
I go to pubs and clubs my friends checked in on Facebook	.362**
I went to malls that my friends checked in on Facebook	.403**
I have learned about new stores and shopping places from my friends' updates on Facebook	.342**
My movies choices are associated with my friends' status updates and critiques	.330**

about movies	
My opinion about cars is related to my friends' posts of Facebook	.355**
Facebook has become a major source for my clothing and fashion tips	.318**
My clothing choice is strongly associated with the news feed posts by my friends on Facebook	.301**
I have learned about new fashions in the market from my friends' pictures	.333**
I decide what clothes and accessories to buy based on what my friends wear on Facebook	.308**
I usually avoid wearing something that is worn by my disliked friends on Facebook	.301**
I have purchased a goody that I was introduced to by my friends' Facebook feeds	.325**
I bought hats and accessories that my friends posted on Facebook	.259**

Another way to test the effect of Facebook intensity on consumption was to use factor analysis and create consumption factors for each set of categories discussed by the focus group. Factor Analysis was utilized to come up with a new combination of variables to describe each group of the consumption variables (Zuccaro, 2010; Wu & Wong, 2003; Acito et al., 1980; Hair et al., 2006). Before proceeding with the factor analysis, there are many steps to be checked, starting with the correlation, the KMO and Bartlett test and finally the communalities. One more condition is having five or ten observations for each variable (Hair et al., 2006, pp. 141-144).

In fact, the table below gives the correlations between the original variables to be combined into size. Accordingly, the SPSS analysis was done and the highest correlation for Pearson was 0.7 and the lowest 0.3, which is an acceptable range [0.1 to 0.9].

TABLE 5
Correlation values

	C1	C2
C2	.501**	1
C3	.366**	.507**

	C17
C18	.684**

	C4	C5	C6	C7	C8	C9
C5	.586**	1				
C6	.589**	.587**	1			
C7	.559**	.545**	.680**	1		
C8	.514**	.488**	.638**	.693**	1	
C9	.377**	.410**	.422**	.434**	.482**	1
C10	.427**	.450**	.472**	.411**	.467**	.455**

	C11	C12	C13	C14	C15
C12	.574**	1			
C13	.538**	.748**	1		
C14	.433**	.589**	.657**	1	
C15	.503**	.650**	.717**	.657**	1
C16	.483**	.566**	.594**	.574**	.630**

Once the correlation is done, there are two additional measures to test whether or not factor analysis could or couldn't be performed: the Kaiser-Meyer-Olkin and Bartlett's test of sphericity. Based on the results, KMO is greater than 0.5 and the null is rejected for the Bartlett Test (all found significant). Taken together, these tests provide a minimum standard which should be passed before a principal components analysis (or a factor analysis) should be conducted.

Another matrix of interest is the loading matrix, also known as the factor pattern matrix or the component matrix. The entries in this matrix and loadings are correlations between the components and the variables.

TABLE 6
KMO and Bartlett's test

	KMO	% Variation	Component
<i>C1==>C3</i>	0.655	63	C1_3
<i>C4==>C10</i>	0.896	58.322	C4_10
<i>C11==>C16</i>	0.899	66	C11_16
C17_18	0.5	84.214	C17_18

Extraction communalities in this case are very high indicating that the extracted components represent the variables well.

TABLE 7
Extraction communalities

<i>Extraction</i>		<i>Extraction</i>		<i>Extraction</i>		<i>Extraction</i>	
C1	.597	C4	.583	C11	.502	C17	.842
C2	.720	C5	.584	C12	.722	C18	.842
C3	.601	C6	.698	C13	.772		
		C7	.677	C14	.644		
		C8	.657	C15	.734		
		C9	.426	C16	.617		
		C10	.458				

The dimension of every variable and the individual and cumulative percentage of variation of variables explained by each facto were summarized. The newly extracted factors represent at least 58 % of the variation in the component (Refer to Table 6). In fact, the components of each group were factored out in one variable while taking Eigenvalues greater than one. The correlation between the new component and the variables is depicted in the factor pattern matrix or the component matrix in Table 8.

TABLE 8
Component score matrix

C1_3		C4_10		C11_16		C17_18	
C1	.772	C4	.763	C11	.709	C17	.918
C2	.849	C5	.764	C12	.849	C18	.918
C3	.775	C6	.835	C13	.879		
		C7	.823	C14	.803		
		C8	.811	C15	.857		
		C9	.653	C16	.785		
		C10	.677				

The next step of the analysis is to test the linear pairwise association between the FBI score and the consumption factors. The table below depicts a positive linear association between the FBI score and the consumption factors. The higher the score the more people consume, and vice versa.

Factors	C1 to 3	C4_10	C11_16	C17_18
FBI Correlation with each component	.474**	.463**	.390**	.318**

KRQ3: By what category of friends are they affected most?

Within a university context, this study looked at the reference group of students when it comes to attitudes, preferences and lifestyle. The majority of respondent were influenced most by their top friends, rather than by their families, coworkers and the least by fan pages and friends they don't like.

More specifically, the categories or grouping of the influential users could fall under either a *direct* (face-to-face) influence called *membership* groups or *indirect* influence on attitudes or behaviors. Results showed that the most influential membership group is the primary followed by the secondary. However, strangely, the inspirational groups were almost at the bottom of the influential groups and lastly were the dissociative groups.

TABLE 9
Grouping of users from the most to the least influential

Membership	Reference Group	N	Sum	Description
Primary	Top Friends	1045	2628	The most influential source
	Friends by Family	1029	3820	
	Friends by Workplace	924	4365	
	Friends by Current City	1023	4864	
	Friends by Hometown	1022	4967	
Secondary	Friends by Interest	930	5153	
	Friends of Friends	920	5909	
Inspirational	Role Models or opinion leader	923	6507	
	Fan Pages	925	6612	
Dissociative	Not so liked friends	919	7704	The least people are influenced by
	Valid N (listwise)	908		

FINDINGS

Research has implied that the more people are engaged with Facebook, the more their consumption decisions are affected by each other's decisions. This is particularly true for people within the same circle of friends, those with a large number of Facebook friends and who spend more time using the network. Consumers seem to be influenced the most by the places their friends visit, among other things. Users whose consumption patterns are affected the most are those who are older than 21, mostly seniors and above (except for freshman), with moderate to high FBI and with parents' yearly income greater than \$12000.

Companies, thus, should be aware that consumers, through Facebook, have more chances for interaction and thus exert more influence on each other. This might be due to a theory known as FOMO (Fear of Missing out), which is a down turn of being on a computer, while others are enjoying their time on beaches and in parties (BBC News, 15 Aug, 2013). Regardless of the underlying reasons, there is evidence pointing to the growing influence of consumers on each other with the prevalence of the social network sites. Companies need to look out for this growing influence of consumers' co-creation of value and needs if they desire to remain competitive. The relation is no longer a one-way relation between the marketer and the consumer. It is becoming multi-directional among marketers and consumers in a complex web, unlike any other time. The more companies understand and are pro-active with these changes, the higher their competitive edge will be.

However, the study was limited to only one university and did not offer any comparisons with consumer-to-consumer influences exerted by direct social contact. The study should be

continued in the future to cover more universities. The same study could be even conducted on a longitudinal basis, as the Facebook usage is still relatively new as people are still experimenting with its usage.

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