How Web Search and Social Media Affect Google AdSense Performance

Ehi Aimiuwu
Information Sciences and Systems, Morgan State University, Baltimore, MD, United States., Ehaim1@morgan.edu

Sanjay Bapna
Information Sciences and Systems, Morgan State University, Baltimore, MD, United States., Sanjay.bapna@morgan.edu

Ashraf Ahmed
Morgan State University, Baltimore, MD, United States., ashraf.ahmed@morgan.edu

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Ashraf Ahmed
Morgan State University
Ashraf.ahmed@morgan.edu

ABSTRACT:

The purpose of this empirical and exploratory research is to investigate whether social capital through social media can increase online revenue through Google AdSense for conventional websites. Due to the fact that many Americans today are having problems with work and income, but still have time to spend on Facebook or other social media, it may be the right moment in internet marketing history to utilize a social medium they are already wedded to as a platform to make some revenue. The aim is to see if Facebook friends, on a daily basis, can actually be a good way to increase Google AdSense Revenue rather than relying on search engines to bring customers or clickers to your website without asking your social capital (Facebook friends) to intentionally click on the AdSense advertisement. It was discovered that AdSense clicks, web content searches, and website visits were significant in driving AdSense revenue through Facebook to any website. AdSense clicks and click-through-ratios (CTR) where significant for low content search value websites without revenue increase, while AdSense clicks and AdSense page views were significant for high content search value websites when Facebook was utilized to increase AdSense revenue.

Keywords:

Web 2.0; Social Media; Internet Relationship Marketing; Web Content; Facebook; Google AdSense

INTRODUCTION:

Many Americans and citizens of the world today are struggling with work and income. Yet, they spend time on various social media frequently. Hence, it may be the right moment in internet marketing history to utilize social media to generate some revenue. The warm social capital on most Facebook pages in which users blog and share links, pictures, and ideas with each other can be turned into a source of income. It would be a great idea for people to make a living or at least attain supplemental income where they already spend most of their time with friends around the world. Blogging has gone from a hobby to a flourishing business, but major businesses want to get in front of the right audiences and not just settle for click-through because it comprises less than 1% of industry standard (Sloan & Kaihla, 2006). Just 1% of industry standard in revenue could mean so much for an unemployed blogger or a social media user to profit from.

Internet entrepreneurs are moving into social networking sites; it is quite easy for small business development teams to build businesses on Facebook, and life on Facebook can be profitable (Stone, 2007). The average Facebook account has hundreds or even thousands of friends who inform and share information with each other on an hourly or daily basis. Many of these friends trust each other's opinions or ideas on issues ranging from fashion, food, and exercise to relationships. Thus, it is a good way to turn social media friends into product buyers or advertising clickers in order to generate revenue. Businesses are looking for methods to make their websites more social in order to build on social systems people are already in love with (Stone, 2008). Facebook users who want to rise above unemployment, the bad economy, or simply make extra cash can utilize Facebook or other social media to direct their social capital (friends) to their products or to Google AdSense on their existing websites by placing interesting links that suit the interests of their warm customers (friends on social media).

Infrastructure providers and content providers are the two factors that determine the success of any social network, where the infrastructure is the platform for an interacting society and content is the wealth of that society (Chai, Potdar, & Chang,

2007). The two infrastructures in this study are Facebook and Google AdSense, while the content provider is the Facebook user who generates content through interesting links on his social media as well as the information on his website, which the links lead his readers or customers to. Google AdSense, as an infrastructure, already has advertisers that have paid Google to advertise their goods and services on websites whose information matches their business needs, while Facebook as an infrastructure, already has millions of users linked through various social, political, economic, and educational benefits. What the Facebook user needs to do is to develop a website that matches the interest of his social capital in order to generate sales or clicks on the Google AdSense. While revenue is generated by the infrastructure, it should then share the revenue with the active user who generated the content (Chai, Potdar, & Chang, 2007).

Facebook's immediate concern is how to make advertising revenue, but unfortunately, only 57% of social media users click on advertisement, only 11% of these clicks are buyers, and marketers are really not interested in gossip and love updates (Stone, 2008). Since Facebook is already making millions of dollars from big corporate advertisers, as well as Google AdSense, it is in the best interest of the Facebook user and the AdSense advertiser, based on content, to profit from this internet or online union.

Web 2.0 has a great deal of influence on consumer behavior and has empowered consumers in the areas of technology, business strategy, and marketing (Constantinides & Fountain, 2008). Facebook or other social media can be used to influence your social capital towards how you feel and what they need to think by sending them to your website. Users must understand and appreciate the great opportunity the internet and social media have provided for this generation and capitalize on it. Web 2.0 has affected the power structure of the marketplace and has transferred market power from the producers to the customers through interaction in a direct and personalized way (Constantinides & Fountain, 2008). It may no longer be a time or a generation that dwells on not finding a job or blaming both the government and corporations for their ills. It may be a time to tackle the bull by the horn by turning oneself as a mere user into a small business "Online Middleman of Social Capital" (OMOSC) between the infrastructures (producers) and consumers (social capital). Customers' preferences, opinions, and decisions are now being influenced by user generated contents in online forums, blogs, tagging, and social media rather than online marketers (Constantinides & Fountain, 2008).

It is a great idea for electronic stores to get on social networks and having potential customers become their online friends as well as dialoguing with them regularly or as needed (Meadows-Klue, 2008). If big businesses are going towards social networks, what are the social network users waiting for? This is the moment in history to have sole proprietorship more than ever before through the internet by plugging in between two or more successful big businesses as an OMOSC. In order for users to be successful, they should develop a product or a service online. This product or service can be opinions, gossip, research, political views, or homemade products that their warm social capital may want to benefit from. Brands that can persuade customers to fall in love with their conversations in Web 2.0 will be successful (Meadows-Klue, 2008).

Once a website has good content; it must utilize strategic advertising on other websites, search engines, mobile networks, and social networks to gain as many potential and unique customers as possible. The number of visitors who visit a site is related to the number of visitors who are converted into buyers (Hoffman & Novak, 2000) or advertisement clickers. Any successful e-commerce website must develop a way of having a presence in cross-related websites in an attempt to diversify and increase its customer base. The ability to obtain customers by interacting with other websites is a form of marketing and strategic partnership (Hoffman & Novak, 2000).

"Social media will play a critical part in driving purchase intent and delivering brand engagement in the digital society" (Meadows-Klue, 2008). In a social network, there is already a form of familiarity, confidence, comfort, trust, loyalty, and a one-to-one or peer-to-peer relationship. Hence, information shared in social network or Web 2.0 environments is usually received with some level of ease and trust. Relationship marketing wants customers to share as well as have the confidence to question and ask their friends (Meadows-Klue, 2008).

There is a need for e-commerce websites to have social capital in an attempt to promote their goods and services within a comfortable and trusted environment, such as a social network. According to Ellison, Steinfield, & Lampe (2007), social capital keeps people connected and sharing ideas within a community that is already inhabited. In doing so, people share their ideas and involvement without physical contact or actually knowing each other. Ellison, Steinfield, & Lampe (2007) also state that Facebook has provided some level of psychological well being for users who suffer from low self-esteem and low life satisfaction, which helps to create social capital.

According to Vatanasombut, Stylianou, & Igbaria (2004), the best online businesses are those that have products that need reorder due to frequent usage and attract sophisticated internet users who have no problem shopping online or sharing information over the web. E-marketplace should provide products and services that are needed frequently and must be able to guarantee potential customers that their time, energy, credit, or purchasing information are secure and worthwhile over the

internet. When using Facebook to attract customers to one's website either as buyers or clickers, one must ensure some level of trustworthiness and credibility in order to invite them on a regular or daily basis through the social network.

E-business must realize that potential customers are afraid of having their credit information compromised by shopping online. Lives have been ruined by cyber attacks and cyber thieves. This is one of the major setbacks for e-commerce because Hoffman, Novak, & Peralta (1999) explain that 94% of web users declined to provide personal information over the web and 40% went ahead to provide wrong information rather than give their legitimate information. As a Facebook and an AdSense user or as an OMOSC between infrastructure and content, confidentiality is still a must in any form used to derive revenue online.

In the rest of the paper, the methodology will explain how content search value from two websites was used along with Facebook to derive revenue online, how statistical analysis was used, and how data was gathered. It will also state the five hypotheses that need to be addressed. The results from our statistical findings will be presented and interpreted in the discussion section of the paper. Two models for Facebook usage towards generating online revenue will be presented as well as three regression models for the two content search values and both content values combined. The conclusion will be provided, and the limitations of the research will follow. The effect of both low and high content search value through the utilization of Facebook in driving Google AdSense revenue is the focus of the paper.

Objective:

The objective of this paper is to study whether indeed small businesses (conventional websites) can increase their revenue through the Google AdSense and social media, especially during a time in which high unemployment and poor economic conditions plague America and the rest of the world. The analysis is based on the influence of six variables, which are Web content search, Facebook usage, Website visits, AdSense page views (PV), AdSense clicks (clicks), and AdSense click-through-ratios (CTR), on revenue.

Hypotheses:

There are five hypotheses that should be investigated in this study in an attempt to discover whether Facebook has any influence in driving AdSense revenue on "mom and pop" websites, aside from the revenue generated through the search engines. The hypotheses that should be verified are:

H_1: Facebook helps to increase visits to websites that have low content search value.

H_2: Facebook helps to increase visits to websites that have high content search value.

H_3: Facebook helps to increase the revenue of websites that have low content search value.

H_4: Facebook helps to increase the revenue of websites that have high content search value.

H_5: Facebook helps to increase the revenue of websites regardless of their content search value.

It is very important to note three things in order to fully understand this research. First, the assumption in this study is that any global monthly search words on Google AdWords Keyword Tool (GAKT) that are above 500,000 searches is considered a high content search value and defines the content value search for its resident website, while those below 500,000 searches are considered low content search value. Second, the Google AdSense advertising is placed on the websites and not on Facebook; only the links to the websites are posted on Facebook with an interesting description to entice readers. Last, Google AdSense advertising includes image and text boxes or banners (including sizes 336 x 280, 300 x 250, and 200 x 90) found on websites.

METHODOLOGY:

To study the effect of website content search in using Facebook to drive revenue through Google AdSense, two websites of varying contents that obviously had high and low content search value on GAKT were strategically chosen. The first was a cultural website, and the second website was a website dedicated to helping students and parents in math. Google AdSense data was collected for the cultural website for a total of 62 days (n = 62). The first 31 days did not utilize Facebook, but the

second 31 days did. The same data was collected for the math website for 28 days (n = 28). The first 14 days did not utilize Facebook, but the second 14 days did.

In utilizing Facebook, we posted a link of the websites with different information on a Facebook account that had a social capital (Facebook friends) of over 3,000 people daily. The aim was to get people who already know each other or see each other's postings on a regular basis to check out the websites, if they wanted to, and to see if they may be interested in clicking on the Google AdSense advertisements on the websites. We wanted to find out if social capital from Facebook could actually be a better source of revenue to websites through Google AdSense rather than allowing people to find the websites through search engines.

We chose two varying content search values based on the numbers of monthly searches from the GAKT. For the cultural website, the top three searched keywords from GoDaddy.com (website host) were "Edo Language," "Benin City, Nigeria," and "Edo Names" from August 20, 2009 to September 30, 2011. Their global monthly searches on GAKT were 880, 4,400 and 880 respectively. According to GoDaddy.com from November 20, 2010 to October 1, 2011, the math website had its top searches as "math," "math games," and "math problems." Their global monthly searches on GAKT were 55.6 million, 11.1 million, and 673,000 respectively. Therefore, based on the GAKT searches, the math website was considered a higher content search value than the cultural website.

After compiling the data for both websites, it was analyzed based on the influence of the six variables on revenue, which are Web content, Facebook usage, Website visits, AdSense Pageviews (PV), AdSense clicks (clicks), and AdSense click-through-ratios (CTR). ANOVA and regression were done to see if linearity could be established and if any of the predictor variables above were significant to revenue. Correlation of these variables was also used to derive the appropriate regression model for each of the websites in relation to revenue and the value of their content search.

RESULTS:

The number of website visits for the low content search value website without Facebook was 53,852, according to Godaddy.com. Google AdSense shows that it received 421 PV and 224 clicks, but with Facebook, it received 53,746 website visits, 384 PV, and 249 clicks. The high content search value website without Facebook had 4,786 website visits, 228 PV, and 544 clicks. However, it received 7,481 website visits, 429 PV, and 863 clicks with the use of Facebook. When Facebook effect was plotted against mean revenue, low content search value showed a decrease with Facebook, but high content search value increased revenue with the use of Facebook. The Facebook value on the graph is 0 for without Facebook, and it is 1 with Facebook.

In the low content search value, the regression shows that only clicks and CTR where significant to revenue and that they had a p = .000 and p = .001 significance respectively at $\alpha = 0.05$ as well as a R^2 = .375. The ANOVA and the Normal Q-Q plot for unstandardized residual value shows linearity. The correlation of the variables with revenue shows that clicks was the strongest followed by CTR at a 0.01 level (2-tailed) with a value of .489 and .352 respectively. PV was significant at 0.05 level (2-tailed) with a value of .292.

Box plots were used to test for any outliers in any of the data that was collected during the 62 days for the low content search value website, and we found out that days 2 and 35 may be outliers for clicks and days 2, 33, and 35 may be outliers for CTR. The Bonferroni test was conducted for 90% confidence interval and was compared to the studentized deleted score. The Bonferroni test was ± 3.312, but the studentized deleted score for all were within the Bonferroni test, except for day 10, which had a studentized deleted score of 4.521. The leverage for moderate data was calculated, and none was above .05 and the DFFIT for small data was also calculated and none was greater than 1, so there were no outliers to influence the low content search value study.

In the high content value, the regression shows that only clicks was significant to revenue and had a p =.000 significance at $\alpha = 0.05$ as well as a R^2 = .604. The ANOVA and the Normal Q-Q plot for unstandardized residual value shows linearity. The correlation of the variables with revenue shows that clicks was the strongest followed by PV at a 0.01 level (2-tailed) with a value of .777 and .618 respectively. Box plots were used to test for any outliers in any of the data that was collected in the 28 days for the high content search value website, and we discovered that days 7 and 8 may be outliers for CTR. The Bonferroni test was conducted for 90% confidence interval and was compared to the studentized deleted score. The Bonferroni test was ± 3.213, but the studentized deleted score for all were within the Bonferroni test range. Hence, there were no outliers to influence the high content search value study.

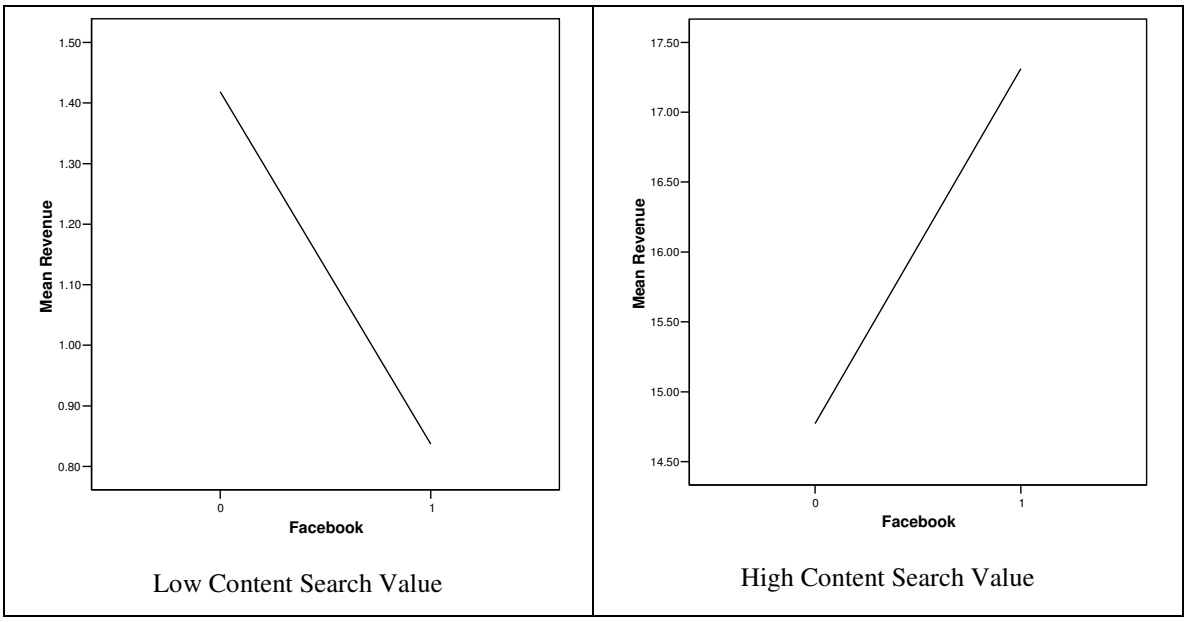

Figure 1: Graphs showing relations between revenue and Facebook at low and high content search value

A line graph was used to chart each of the six variables from a combination of all 90 data set (two websites with both content values) to see how they influence mean revenue. Content and Facebook had a positive slope which shows that higher content search value and Facebook use leads to higher AdSense revenue. Higher website visits did not result in higher AdSense revenue unless the content value was high, and higher AdSense page views were insignificant to revenue. Both clicks and CTR fluctuated, but there was a steady rise to show that they both equated to higher AdSense revenues when they were higher.

Content	Variables	R^2	F	Sig	Correlation	Std. Error
LC	Clicks/CTR	.375	17.726	.000		
	Clicks	.239	18.874	.000	.489*	.089
	CTR			.001	.352*	.323
	PV				.292	
HC	Clicks	.604	39.678	.000	.777*	.036
	PV				.618*	
HC/LC	Clicks	.865	563.851	.000	.930*	.020
	Web Visits			.000	-.872*	.000
	Content			.0018	.025*	.544
	Click/Web Vis.	.901	396.070	.000		
	Click/Web/Cont	.907	280.536	.000		

Table 1: Summary ANOVAs for significant variables

*$\alpha = 0.05$ except with * ($\alpha = 0.01$); Correlation was 2-tailed; Std. error for listed variables together*

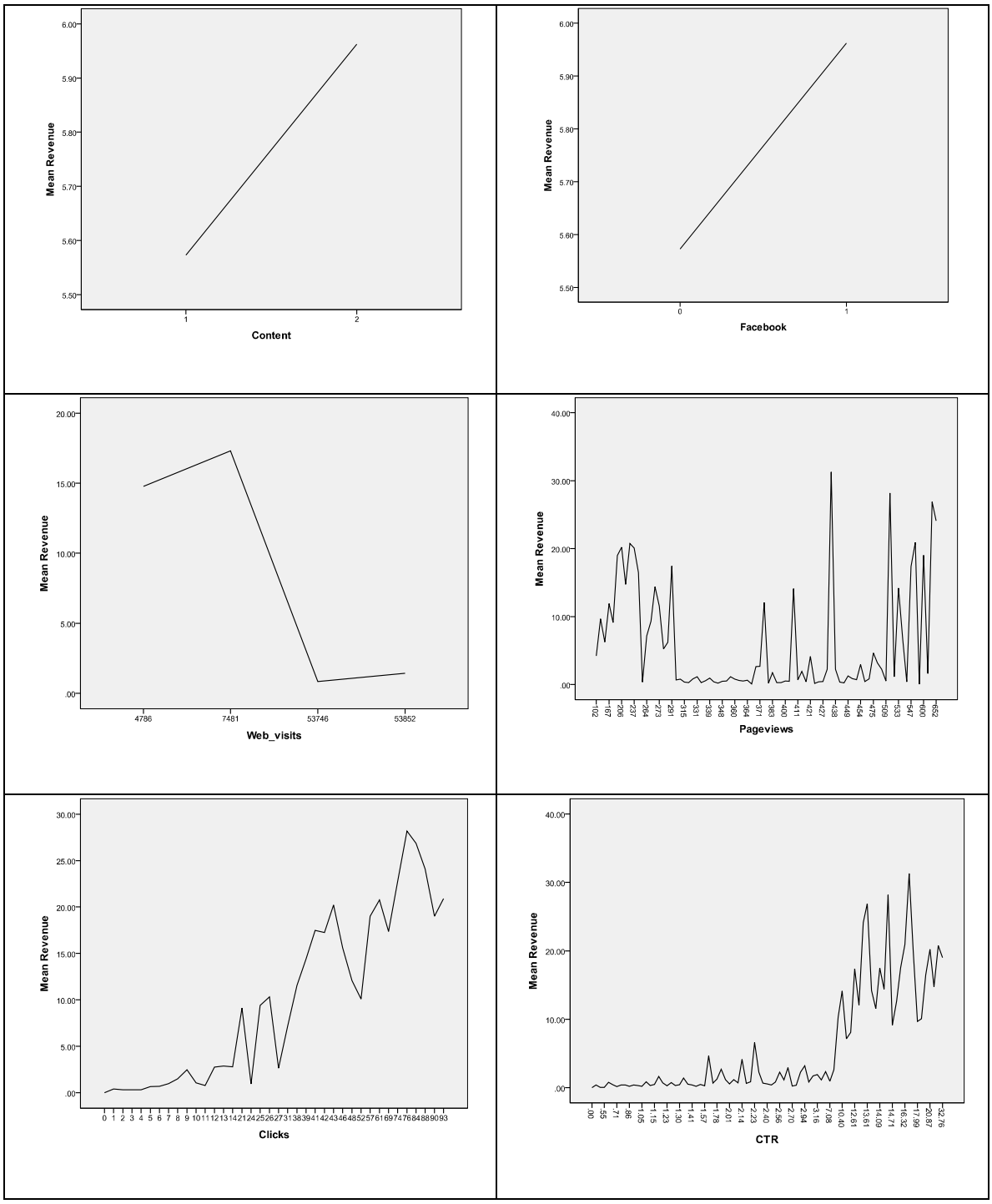

Figure 2: Combining all 90 data from the two websites to compare each variable with mean revenue

A good analysis of the AdSense variables that affected revenue on a daily average shows that Facebook increased the number of clicks regardless of content value. The cost-per-click (CPC) for high content value (HC) was higher than that of the low content value (LC), but regardless of content value, the CPC with Facebook (WF) usage was less than that with no Facebook (NF) usage. Since Google controls AdSense's CPC, not Facebook, HC pricing from advertisement is higher than LC pricing. This must be due to the fact that highly searched keywords on the Google AdWords Keywords Tool (GAKT) require more payment from advertisers than lowly searched keywords. In both content values, during the period in which Facebook was

utilized, the CPC was $0.10 lower than that of the period without Facebook usage. This could have been the result of the value of the advertisement the clickers clicked on or the result of Google readjusting their prices during that period.

Despite the significance of both clicks and CTR for low content search value in the regression model and correlation, the 22.22% increase in CTR and the 14.29% increase clicks with the utilization of Facebook on an average, could not increase the revenue due to the 8.79% decrease in the average AdSense page views. On the other hand, the significance of both clicks and AdSense page views for high content search value in the correlation and only clicks in regression model were able to increase revenue with Facebook usage. This was caused by the 88.16% increase in AdSense page views and the 60.53% increase in clicks. Therefore, despite the fact that AdSense page views were not significant in the regression model (p = 0.201 significance at $\alpha = 0.05$), it should be added to the regression equation of the high content search value with Facebook usage because without it, clicks and revenue would not have increased with a 15.57% decrease in CTR.

Some may wonder why the low content search value website received over 50,000 web visits while the high content search value website had less than 10,000, if it was based on search results. It is an issue of quality versus quantity. The low content search value website had about 500 pages while the high content search value website had just 5 pages. While it was easier to find the former from the search engine on any topic related to its content, the few that found the latter also used the AdSense advertisement as a search engine to search for more math help since the AdSense matches the content they needed on the page. While the website visit was lower for the high content search value website, it generated numerous clicks, which is the main driving force behind AdSense revenue.

	# of PV	# of Clicks	CTR	CPC	Revenue
LCNF	421	7	1.71%	$0.20	$1.42
LCWF	384	8	2.09%	$0.10	$0.84
HCNF	228	38	17.02%	$0.38	$14.77
HCWF	429	61	14.37%	$0.28	$17.31
LC	805	15	1.87%	$0.15	$2.28
HC	657	99	15.08%	$0.33	$32.97
NF	649	45	6.95%	$0.29	$13.35
WF	813	69	8.50%	$0.19	$13.41

Table 2: AdSense variables that affected revenue on a daily average

LC, HC, NF, and WF were calculations based on the actual AdSense report for LCNF, LCWF, HCNF, and HCWF

Key: *Low content search (LC), High content search (HC), No Facebook (NF), and With Facebook (WF), Low Content no Facebook (LCNF), Low Content with Facebook (LCWF), High Content no Facebook (HCNF), and High Content with Facebook (HCWF)*

Hence, the best regression model for low content search website in generating AdSense revenue in the study is:

$$\mathbf{Y_1 = 0.064 + 0.436\ (X_1) - 1.159\ (X_2)}$$

X_1 = Clicks and X_2 = CTR

The best regression model for high content search website in generating AdSense revenue in the study is:

$$\mathbf{Y_2 = 4.825 + 0.316\ (X_1) - 0.014\ (X_2)}$$

X_1 = Clicks and X_2 = AdSense Page view

Analyzing the overall regression for both content values (n = 90) with and without the usage of Facebook, only clicks, website visits, and content search were significant at p = .000, p = .000, and p = 0.018 respectively at α = 0.05. The ANOVA regression model confirmed linearity at p =.000 significance and had a R^2 = 0.907. The correlation with revenue was .025, -.872, and .930 for content search, website visits, and clicks, respectively, and only clicks and website visits were significant at 0.01 level (2-tailed). While content search may be weak in the overall regression equation of deriving revenue through Google AdSense, website visits had a significant negative correlation while clicks had a significant positive correlation. Evidently, clicks is the dominant variable in AdSense revenue, and website visits is the foundation by which AdSense page views and click-through-rations are derived in high content and low content search values, respectively. Content may have a weak correlation with revenue, but it is the very thing that drives website visits through search engines, Google AdWords advertising, Google AdSense for advertising websites, and social networks through links.

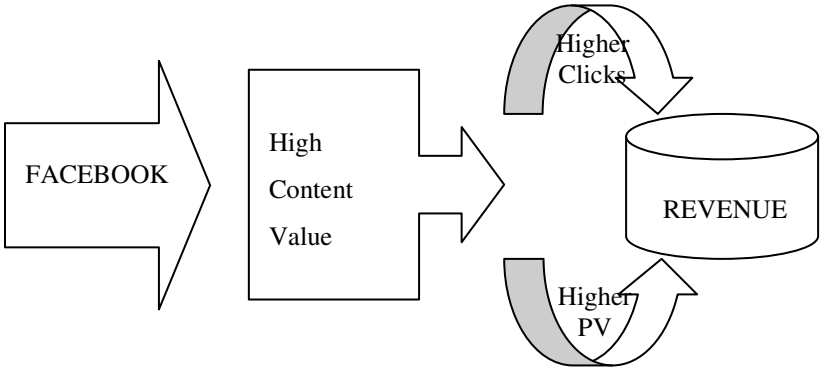

Figure 3: Model for Facebook, High Content Search, and Revenue

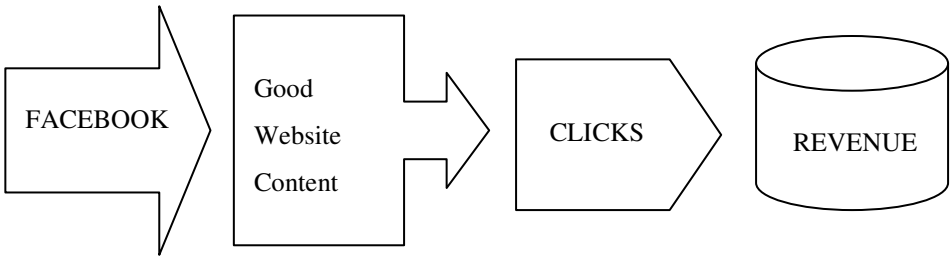

Figure 4: Model for Facebook and Revenue regardless of content search

The regression model for both content website should be without website visits, since website visits has a significant negative correlation with revenue and is 0.000 in the equation. With web visits removed, the best regression model for both content websites in generating AdSense revenue in the study is:

$$\mathbf{Y_3 = 6.969 + 0.233\ (X_1) - 1.310\ (X_2)}$$

X_1 = Clicks and X_2 = Content Search

In analyzing the five hypotheses which were investigated in this study, the conclusions are:

H_1: Facebook helps to increase visits to websites that have low content search value.

No, it does not. In fact, the website visits and AdSense page views decrease from 53,852 to 53,746 and from 13,066 to 11,911, respectively. Facebook did increase the number of clicks from 224 to 249, but it did not increase visitors.

H_2: Facebook helps to increase visits to websites that have high content search value.

Yes, it does. Actually, the website visits, AdSense page views, and clicks increased from 4,786 to 7,481, from 3,196 to 6,006, and from 544 to 863 respectively.

H_3: Facebook helps to increase the revenue of websites that have low content search value.

No, it does not. Revenue was actually better without the use of Facebook. The revenue went from $43.95 to $25.94 when Facebook was utilized, which was a 40.98% reduction in revenue.

H_4: Facebook helps to increase the revenue of websites that have high content search value.

Yes, it does. With the use of Facebook, revenue increased from $206.79 to $242.35, which was an increase of 17.2%.

H_5: Facebook helps to increase the revenue of websites regardless of their content search value.

Yes, it does. With the use of Facebook, content search value was found to be significant towards driving website visits towards increasing the numbers of AdSense clickers regardless of the content of the website. Clicks are the major variable that drives AdSense value and regardless of content value, Facebook increased clicks. It is the increased clicks on AdSense advertisement placed on website that lead to increased revenue with Facebook.

	Web Visits	PV	Clicks	CTR	Revenue
LCNF	53,852	13,066	224	1.71%	$43.95
LCWF	53,746	11,911	249	2.09%	$25.94
HCNF	4,786	3,196	544	17.02%	$206.79
HCWF	7,481	6,006	863	14.37%	$242.35
LC	107,598	24,977	473	1.87%	$69.89
HC	12,267	9,202	1,407	15.08%	$449.14
NF	58,638	16,262	768	6.95%	$250.74
WF	61,227	17,917	1,112	8.50%	$268.29

Table 3: Variables that affected revenue in the entire study

Key: *LC, HC, NF, and WF were calculations based on the actual AdSense report for LCNF, LCWF, HCNF, and HCWF*

DISCUSSION:

Facebook increases clicks for both low and high content value websites, but the cost-per-click in Google AdSense is also a factor in determining revenue. This is because the cost to advertise on Google AdWords using highly searched words on the Google AdWords Keywords Tool (GAKT) tends to be higher than the lower search words. As a result, content in of itself is biased on the value of the AdSense click placed on each website. The Google AdSense advertisements placed on the websites were 200 x 90 rectangles. Websites that have higher content search value will most likely make more AdSense revenue than websites with low content search value. Even if it were possible to have equal cost-per-click on all websites, high content search value is searched for more frequently and results in more clicks that drive AdSense revenue.

Low content search value websites, according to this study, depend on clicks and CTR, while high content value websites depend on clicks and AdSense page views. Yet, any website depends on clicks and content searches to increase AdSense revenue through the use of Facebook. It is imperative for any Online Middleman of Social Capital (OMOSC) who is interested in benefiting from the union between infrastructure (producers) and consumers (social capital) to have a website whose high content search value matches the interests of the social capital on his Facebook or social network. This guarantees AdSense clicks after posting a content link for the social capital to consume on Facebook.

CONCLUSION:

In the study, it can be concluded that in high content search value websites, visits, AdSense page views, clicks, and revenue increased with the use of Facebook. In addition, Facebook was instrumental towards increasing the numbers of AdSense clickers, regardless of the content of the website. Clicks are the major variable that drives AdSense revenue, and no matter what the content search value was, Facebook increased clicks. In low content search value websites, the website visits and AdSense page views decreased with the use of Facebook. However, Facebook did increase the number of clicks, but revenue was actually better without the use of Facebook.

With millions of people on Facebook or other social media daily, even unemployed and low-income people can utilize their social capital through their social media to derive revenue from their websites through sales or AdSense clicks. The market power the internet and social media now provide the average consumer creates the opportunity to drive traffic to personal websites or blogs, to create content as a product of experience or education, to acquire more web and software skills, or to create a revenue stream that never existed before, from her or his desktop at home or mobile network in her or his pocket.

This economic downturn in the 21st century information technological world should be viewed as an opportunity rather than a depression or recession because it creates the entrepreneurial foundation to share from that 1% "pie" of clickers in the industry standard as well as market home-based products to the world through the internet. By using social media to enhance their e-Commerce potential, Facebook and other social media may actually be the means by which the largest percent of the population than ever before may become self-employed and self-sufficient.

LIMITATIONS:

The number of website visits for the low content search value website was based on the 62-day period between July 2010 and July 2011, while the 4-week period for the high content search value site was August 12, 2011 through September 8, 2011. While the website visits are exactly as reported by GoDaddy.com for the low content search value website, we used GoDaddy.com weekly reports from August 14, 2011 through September 10, 2011 for the high content search value website. Since the value of website visits may be very close in the high content search value website, the two days lost at the beginning were substituted for two days at the end because the daily reports for August 12-19 were considered outdated (missing) in the GoDaddy account. This is why weekly reports were used for the high content search value website to maintain a balance in website visits only.

The low content search value website was a year apart because AdSense from one account was used on multiple sites as of March 2011, and Google AdSense recently added a "Site" feature around June 24, 2011 in order to allow AdSense users to determine which site was producing what results (since Google AdSense forbids multiple accounts per owner). Since one website was functioning with AdSense before March 2011 and the "Site" feature was in use at the end of June, 2011, the next full month to see each websites' performance was July 2011. Thus, July 2010 was chosen for the study so the days and months would be even.

It is true that in high content search value, the CTR, PV, website visits, clicks, and revenue all increased with the use of Facebook; however, the study also collided with the new school year, which began around August 15, 2011. By August 26, 2011, homework and quizzes may have already become an issue for many students and parents. Facebook may have worked some magic, or it could have been an increase in search engine use by students who were desperate for math help. This will require more research.

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