Linkages between Marketing Mix Components and Customer Satisfaction: An analysis on Google in Hanoi, Vietnam

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Abstract
Using SPSS and AMOS to conduct descriptive analysis and hypothetical analysis (t-test, one-way ANOVA and Regression), the study evaluates the importance of Marketing mix factors (4Ps) on Customer satisfaction of Google customers, using large-scale survey in Hanoi, Vietnam to generate primary data. Some "quotas" were built as quota sampling was used. Further, research implications, limitations and suggestions were mentioned respectively.
Keywords: Marketing mix, Customer Satisfaction, Google Inc., Vietnam, quota sampling.

Introduction

Marketing mix and *Customer behavior* are two areas which bring to us unlimited fascination. And in our 21st century world of technology nowadays, choosing a technology company for researching could be reasonable in contributing to the development of human knowledge. Google Inc. is well-known word-wide for its innovative marketing campaigns. However, we may wonder, to what extent these campaigns influence the satisfaction of customers, specifically Google customers in Hanoi, Vietnam? The question leads to the chosen research topic; although the road is long and far, but we determine to go till the end.

Our world is changing because of the Internet (Möller, 2006), with both opportunities (Pozo, 2014) and challenges (e.g. Porter, 2001). The global business environment, nowadays, is becoming growingly chaotic, competitive, complex and unpredictable (e.g. Doherty and Delener, 2001; Burnes, 2005; Yadav, Swami and Pal, 2006; Azad, Roshan and Hozouri, 2014), preventing marketers to determine, employ and manage their marketing mix strategies. Customers these days are more individualistic, demanding and critical (e.g. Capon and Hulbert 2000; Lewis and Bridger 2000), while less responsive and sensitive to traditional marketing (Christopher, 1989). Online commercial companies, networks, databases are easily accessed, and marketers are shifting to methods allowing personalization, interaction, sincere and direct dialog to improve communication with the target customers, promptly and accurately identify and respond to the regularly changing and evolving customer demand in the current competitive environment (Möller, 2006). Innovation is claimed vital to achieve success in the turbulent marketing environment (Mason, 2004), as traditional practices are slow, unresponsive (Nilson, 1995) and simplistic to cope with changes (e.g. McGlone and Ramsey, 1998; Tedesco, 1998).

In this scenario, marketers and managers find the solution in both classical and innovative marketing practices. This paper combines the classical 4Ps to evaluate the marketing strategies of an undeniably popular technology – Google. Regularly defined as a combination of variables to be identified and controlled for fulfilling specific customer requirement, *Marketing mix (MX)* is undeniably important tool in both marketing literature and practice. With the use of marketing tools such as 4Ps, after met customer demand, marketers push further and aim for

influencing higher levels of *Customer satisfaction (CS)*. The mentioned concepts were chosen for this paper with the situational reasons above, and could be referred in latter sections.

Literature Review
Google on a global basis

Google Inc. is an American-based multinational cooperation, established in 1998 (Essays, 2013; Greenspan, 2017), specializing in internet products and services (Bhasin, 2016). Its search engine Google Search has become a synonym for searching (Pratap, 2017), indexing and rating billions of pages per day, with speedy results (Elgin, 2004; Essays, 2013). Although applying diversified methods and facing stiff competition from other companies (e.g. Microsoft, Apple, Facebook) (Bhasin, 2016), Google has achieved global success mainly contributed by its marketing mix plan, playing the role of an efficient and varied set of product lines, appropriate pricing, ever-present distribution and cost-effective promotion (Greenspan, 2017).

Product

Opportunities are bought by the rise of Internet to both businesses and users in using products and services of Google (e.g. Google Search, Google Drive) (Pozo, 2014). With smart judgments, excellent and perfect ideal implications, Google is crowned as the most popular search engine in the world (Pozo, 2014), with cutting-edge technology and varied (and rising) product lines of around 151 (Bhasin, 2016). Specifically, products and services are categorized into groups, notably (1) Web-based products (e.g. Youtube, Gmail, Google Translate, Google Docs, Google Analytics); (2) Operating systems (e.g. Chrome OS); (3) Desktop apps (e.g. Google Chrome, Google Earth); (4) Mobile apps (e.g. Google Maps; Google Calendar); (5) Hardware products (e.g. Chromecast media player, Nexus and Pixel phones); (6) Services (e.g. Google Fiber), and many others (Elgin, 2004; Essays, 2013; Pozo, 2014; Bhasin, 2016; Pratap, 2017; Greenspan, 2017). Among these, Google Search, Google Chrome and Gmail are most popular being used by millions, providing maximum capacity of information to users from webpages (Bhasin, 2016). Google Search processes 40,000 search queries per second, translates around 3.5 billion searches per day meaning trillions per year (Pratap, 2017).

Besides search engine, Google is also active in other areas, expanding its business and market share (Greenspan, 2017), supporting individuals, businesses, students, experts and even web-masters with smart solutions (Pratap, 2017). Business services, such as search appliance models based on corporate form or using purpose, are offered (Bhasin, 2016). Chromebooks were made and sold in partnership with other laptop companies, which optimized for Google products and run on Chrome OS (Pratap, 2017). Earning substantially from libraries around the world, Google uses Google Scholar with the intention of digitizing as many books as possible and including them in search results, supporting a variety of scholarly materials, making all books available to everybody (Essays, 2013; Marketingmixx, 2011).

Surprisingly, the major income of Google is from advertising. The best and biggest online advertising solution of Google is Google AdSense (Pratap, 2017) - a simple network for website owners (or publishers) to monetize by displaying relevant, unobtrusive ads and improve page content (Google Inc., 2007; Pratap, 2017). The program matches the ads with the content of the site, adding value to the site by matching visitors with relevant products (Google Inc., 2007).

Another note-worthy is AdWords (Essays, 2013; Marketingmixx, 2011), launched in 2000, made search engine marketing (SEM) effective and revolutionized the online advertising industry (Google Inc., 2007). This is a quick and simple advertising program to advertise, regardless of advertising budget (Google Inc., 2007), as series of advertisements displayed on the search engine results page are paid by advertisers.

Price

Google smartly charges their products/services, and regularly brings good results. They apply varied pricing strategies, notably freemium pricing (e.g. Gmail), value-oriented pricing (e.g. AdWords), market-based pricing (e.g. Chromecast), and penetration pricing (e.g. Google Fiber) (Greenspan, 2017; Pratap, 2017) to satisfy the demand of different user segments in varied situations and scenarios (Pratap, 2017). Products are smartly and competitively priced (e.g. Chromebooks, G-suite, Nexus) and sometimes provided for free (e.g. Google drive, Google docs) (Pratap, 2017), bringing convenience to both individuals and businesses. In short, Google prices are set based on the value of their products/services, list price, discounts, allowances,

credit and payment terms, current market condition and competitors' policies (Bhasin, 2016).

As mentioned above, Google primarily earns through AdWords, a keyword-based special advertising program (Bhasin, 2016). One potential problem with AdWords is "click fraud", where competitors fraudulently click on the advert; however, this is not much of a problem as Google has methods to tackle this (Essays, 2013).

Place

Google's Headquarters (The Googleplex) is located at Mountain View in California with a created innovative environment similar to a university campus, enabling employees to reach their highest potential (Essays, 2013). Google has a highly-expertise and experienced workforce of around 52,000, coming from many regionals with different languages (Bhasin, 2016). Data is collected from all over the world which latter used in search filtering (Bhasin, 2016). We can say that Google know how to maximizes the workforce productivity by creating innovative and multicultural atmosphere.

Google is majorly an online business; therefore its main distribution channel is the Internet (Essays, 2013; Greenspan, 2017; Pozo, 2014), and the company seems to be the best (Elgin, 2004; Pozo, 2014). Popularity of the Internet nowadays maximizes the efficiency of distributing digital Google products, as most of the products/services can be accessed and purchased online (Greenspan, 2017). With two target groups, individuals and businesses (Pratap, 2017), Google effectively and conveniently distribute and its products/services via Internet. Prospective customers are also targeted by Google with conclusion of all activities through internet (Bhasin, 2016). For tangible products such as Nexus, Pixel phones and Chromebooks, the main outlets of Google are retailers, enhancing Google's ability to reach larger customer population (Greenspan, 2017; Pratap, 2017). Further, by cooperating with other companies and organizations (e.g. NASA, Sun Micro), Google's products and services are helpfully shared and distributed (Bhasin, 2016). Undeniable fact is that Google effectively distribute their products/services, through both online and offline channels.

Promotion

Previously, Google spends minimal promotional budget and more on research and development (Greenspan, 2017), commits itself to concentrate on improving search results (Bhasin, 2016) and avoids fancy graphics (Elgin, 2004; Pozo, 2014). As the result, the brand grows significantly because of mouth publicity, not by advertising (Elgin, 2004; Pozo, 2014; Bhasin, 2016); therefore, we say that Google is very successful in branding.

However, Google is changing its policy, actively promoting its brand awareness internationally via Internet, television, radio and even print media, with simple and informational ads (Pratap, 2017; Bhasin, 2016). Specifically, Google is proactively managing the media and deepening user engagement by incentivizing advertisers to use AdWords by proving money-off promotions (e.g. free $20 worth of advertising), promoting its products (online ad Gmail for work), having its own TV ad for Google Chrome, using AdWords to promote its services, flyers included inside business magazines, billboards to promote the brand, sponsoring competitions and having a PR function (Essays, 2013; Greenspan, 2017; Pozo, 2014; Pratap, 2017).

Overall, the reason behind the success of Google is its high-quality products and services, word of mouth, and smart and effective ads. Collecting world-wide data, simple platform and free services are provided to help to sell the ads on webpages (Bhasin, 2016). This is a very tricky strategy, showing the fact that Google understands the importance and the needs of their customers.

Google in Vietnam

Vietnam is a 93-million-populated and developing country, with over 52% uses the Internet, and 128 million mobile subscribers (Voice of America, 2015). Google.com.vn is the number one search engine, while Google.com ranked third, and Youtube is one of the most used and viewed websites in Vietnam (Do, 2013). Google's survey shows that the figure of Vietnamese using Google Search for information & education is three times higher compared to the world's average (Ly, 2015). The slow dominance of Google brings undeniable difficulties to local firms e.g. Wada.vn or CocCoc (Do, 2013).

The cyberspace in Vietnam is becoming growingly competitive. The recent developments of CocCoc, with many special features, bring some obstacles to Google (Kaushik, 2015). Funds are kicking in,

helping Coc Coc in improving its product lines, implementing strategies and enhancing user experience (Kaushik, 2015). Further, recent activities of Google in Vietnam have also showed the focus of the company on this country, bringing many opportunities (Tuoi tre news, 2015; Ly, 2015; Minh, 2015). On July 2015, Nguyen Phuong Anh, an 8X Vietnamese, has been appointed as Head of Marketing (Do, 2015). December 2015, Sundar Pichai, CEO of US Google Inc., joined a meeting with Vietnamese entrepreneurs in Hanoi, said that Vietnam has potential because of large population, high percentage of Internet users and a strong entrepreneurship spirit (Voice of America, 2015, Ly, 2015). Earlier, Pichai promised with Vietnamese Prime Minister Nguyen Tan Dung to help Vietnam to train IT engineers, confirmed that "Vietnam already has an Internet economy, with "ongoing transition" (Minh, 2015). Vietnamese government also promises to cooperate and assist Google and technological companies to develop in Vietnam.

Marketing mix (MX)?

Let's have a review of marketing mix literature. The concept is unquestionably popular and has undergone many adjustments and improvements in definition (e.g. Kalyanam and McIntyre, 2002; Tellis, 2006; Kotler and Armstrong, 2012; Jobber and Ellis-Chadwick, 2012), regularly reviewed and modified over time (e.g. Möller, 2006; Dominici, 2009; Kotler and Keller, 2011).

Invented by James Culliton (1948) based on the single factor of price in microeconomic theory (e.g. Chong, 2003), but nearly 20 years latter, in 1964, Borden popularized the classical marketing mix in the article *The concept of marketing mix*, with 12 factors, helping marketers in designing marketing plans. McCarthy (1964) defined marketing mix as a set to be used to leverage and meet market demand (Dominici, 2009), or a medium for designing and lauching marketing plan (Bennett, 1997) with four famous components (4Ps).

Previously defined as variables companies should manage and apply to fulfill the needs of the target market (McCarthy and Perreault, 1987), and considered (Kalyanam and McIntyre, 2002) as combination of clustered micro-elements, simplifying administration process, or variables used and controled to influence sales/market shares (Tellis, 2006); Marketing mix recently redefined as a collection of marketing tools to be tactically controlled by organizations to produce specific outcomes in the target market (Kotler & Armstrong, 2012).

Since the introduction in 1940s, the term has been contributing its undeniable role of differentiation maker in marketing management (Van Waterschoot, 2000).

Customer Satisfaction (CS)

Customer satisfaction is known as the vital factor to be successful in the marketplace (Mostaghel, 2006; Wirtz, 2003; Weiser, 1995) and the remarkable factor in determining the successful degree of an organization in customer relationships (Reichheld, 1996). Popularly defined by many researchers, in varied of terms regarding satisfaction of end-users (Giese, 2000), but generally, satisfaction is about achieving the things we want (Mostaghel, 2006). In fact, satisfaction is more considered as a cumulative/overall evaluation rather than a transaction-specific phenomenon (Wilton and Nicosia, 1986). Johnson, Herrmann and Gustafsson (2002) suggested that it is necessary to adopt the cumulative overall definition as the key indicator of past, present and future performance, motivating companies to invest more in customer satisfaction.

Further, repeat purchase, positive word-of mouth and long-term profits are believed (Wirtz, 2003) as outcomes of customer satisfaction (e.g. Heskett, James, Loveman, Sasser and Schlesinger, 1994). Customer satisfaction even brings loyalty across many product/service categories (Gustafsson, Johnson and Roos, 2006), having positive and productive impacts on business growth (Nuseir and Madanat, 2015). However, customer demand often wrongly specified, misinterpreted or misunderstood (Hill, 1996; Kekäle, 2001), as criteria for evaluating customer satisfaction should be defined by customer (Mostaghel, 2006).

Impacts of Marketing mix on Customer Satisfaction

Marketing exists to satisfy the needs and wants of customers (Kotler, 2005), being used to match the values to the exact customer for higher levels of outcomes (e.g. Ghazizadeh, Besheli and Talebi, 2010; Nuseir and Madanat, 2015). In order to compete in business environment nowadays, companies need to improve their strategies to fulfill customer needs and achieve customer satisfaction (Murshid, Halim and Osman), which can lead any business to success or failure (Nuseir and Madanat, 2015). Therefore, customer satisfaction should be focused rather than customer acquisition (Kotler, 2005) and the crucial factor to customer retention is customer satisfaction (Kotler, 1994).

Recently, influences of Marketing mix components on customer satisfaction have been regularly analyzed (Saludin, Ling and Razali, 2007; Mamoun, 2012; Ahmed and Rahman, 2015; Nuseir and Madanat, 2015; Abdullah Kadhim, Abdullah and Abdullah, 2016). The framework is described as the antecedent (Murshid et al., 2014), or function, of customer satisfaction (Sarker, Aimin and Begum, 2012; Murshid et al., 2014), playing the role of predominant factor in marketing plan that increases customer satisfaction levels. By understating psychological traits of customers, 4Ps variables could be managed and applied to satisfy the constantly changing customer needs (Nuseir and Madanat, 2015).

Product on Customer satisfaction
Product quality brings satisfaction, helping organizations to secure the competitive advantages and attract potential customers (Nuseir and Madanat, 2015), although it may not be totally true in service sectors (Lai, Griffin and Babin, 2009; Auh and Johnson, 2005; Mincocha, 2006).

Branding is a popular topic in marketing literature as brand loyalty is considered to reduce the product costs compared to the efforts made to attract new customers (Nuseir and Madanat, 2015), and bringing reputation to firms (Bontis, Booker and Serenko, 2007). Customers also participate in evaluating the brand standards and providing suggestions for quality enhancements and the relationship between a customer and brand reflects positive and negative aspects of a product to loyal customers (Nuseir and Madanat, 2015). Ahmed and Rahman (2015) said that product differentiation might lead to the increase in satisfaction of customers. Dhurup, Mafini and Dumasi (2014) quoted that marketing success of business depend much on the ability to continuously improve products with competitive pricing and brand awareness strategies in order to enhance customer satisfaction and brand loyalty.

Price on Customer satisfaction
The factor is used for attracting both existing and potential customers, playing pivotal role in establishing an influential relationship between both a customer and an organization, specifically considering affordability of customers and increasing reputation of organizations in the market (Nuseir and Madanat, 2015). Organizations are required to

carefully balance between maximizing their profits both internally/externally with adequate pricing and maintaining customers (Auh and Johnson, 2005). Ineffective pricing could cost managers opportunities of attracting new customers leading to financial decline (Khouja and Robbins, 2005).

Three popular pricing techniques used to increase customer satisfaction are (1) Cost-based pricing, (2) Customer-driven pricing (3) Market-driven pricing (Collins and Parsa, 2006). Said by Cravens and Piercy (2007), the crucial factor in pricing should based on customer responses of product values (Nuseir and Madanat, 2015).

Factors of overall investment, market influence, pricing predictions of competitors, as well as customer spending behavior also significantly affect pricing strategy (Lancioni, 2005). Price is related to quality as customers want the higher product/service quality for their spending, even it means cost more (Goldschmidt and Chung, 2001).

Place on Customer satisfaction

The supply chain of an organization, including suppliers, manufacturers, wholesalers, retailers and end customers, secures its competitive position, ultimately increases its ability to satisfy more efficiently its customers (e,g, Strydom, 2005; Nuseir and Madanat, 2015). Promptly production, dispatch and delivery of goods require various planning and manufacturing aspects that also should be prioritized to maximize customer satisfaction (Cravens and Piercy, 2007; Bee, 2009; Nuseir and Madanat, 2015). Alom and Haque (2011) have argued the importance of distribution channels for customer satisfaction and retention, emphasizing that strengthening distribution network to ensure efficient and to bring quicker supply of helps in ensuring credibility and increasing customer satisfaction.

Promotion on Customer satisfaction

Promotion introduces and highlights specific features of a product or service to customers, helping to reduce the communication gap between a customer and an organization, influencing the pricing aspect of a product, playing the role of the key factor of business success in domestic and global environment (Hollensen; 2007, Oyekunle, 2010, Nuseir and Madanat, 2015). Organizations now perceive that by sharing information on certain characteristics of

products through advertising, their competitiveness could be enhanced (Chen and Leu, 2011).

Up-to-date, innovative and unique promotional channels (e.g. digital media, internet services, online forums and networks) are different from traditional methods (Sharma, Herzog and Melfi, 2008), helping to broaden customer thinking and establishing efficient communication (Nuseir and Madanat, 2015). Recent integration of online and offline promotional techniques leads to direct and indirect marketing and produces opportunities to customers to directly choose the desired products (Jensen and Jepsen, 2006).

Research gap

There is a gap between theory and reality. Like a Vietnamese saying "*theories are grey and the tree of life is always green*". And this is the gap that researchers are trying to close. Although there are many marketing theories of Marketing Mix and Customer Satisfaction, we seem doing something wrong. We misattribute characteristics to customers. Understanding marketing is understanding human nature, scientifically, and to meet their demand. So, this paper is written with the above mentioned enthusiastic intention.

Objective of the study

Although there are many articles analyzing the relationship between Marketing Mix and Customer Satisfaction, this study aims to (1) close the gap between theories and practices, by deep analysis on previous theories and more effectively, innovatively applies the marketing practices. More specifically, researchers want to (2) indicate the characteristics of marketing mix practices of Google, compared to other companies in other industries or even in the same technological industry, but in different business segments. We totally understand the difficulties of big companies like Google to balance and improve in global business environment nowadays; therefore, this paper is written to (3) support Google to know more about the Vietnamese market as well as themselves, and contribute our efforts to human wisdom. Lastly, with deeply love towards human race and Vietnamese people, we aim to (4) reach to a higher level of knowledge, by trying to understand not only human knowledge, but also human nature.

Hypotheses

Ten (10) hypotheses were proposed:

H1: The marketing mix of Google has impacts on Customer Satisfaction.

H2a: There is statistical significance between males and females regarding Customer Satisfaction.

H2b: There is statistical significance among age groups regarding Customer Satisfaction.

H2c: There is statistical significance between single and married respondents regarding Customer Satisfaction.

H2d: There is statistical significance among place-of-residence groups regarding Customer Satisfaction.

H2e: There is statistical significance among qualification groups regarding Customer Satisfaction.

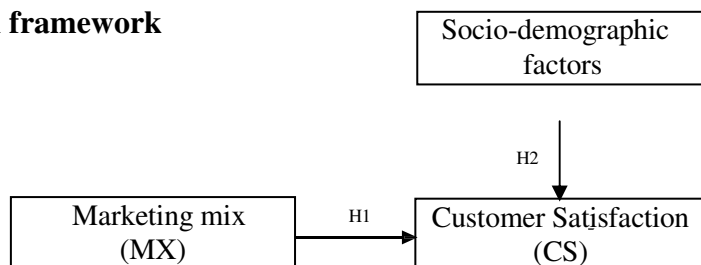*H2f:* There is statistical significance among business sectors regarding Customer Satisfaction.

H2g: There is statistical significance among working positions regarding Customer Satisfaction.

H2h: There is statistical significance among salary groups regarding Customer Satisfaction.

H2i: There is statistical significance among groups with different using experiences regarding Customer Satisfaction

Research methods

Research framework

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                                    ┌────────────────────┐
                                    │ Socio-demographic  │
                                    │      factors       │
                                    └────────────────────┘
                                              │ H2
                                              ▼
┌──────────────────┐   H1      ┌────────────────────────┐
│  Marketing mix   │──────────▶│ Customer Satisfaction  │
│      (MX)        │           │         (CS)           │
└──────────────────┘           └────────────────────────┘
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Research design

The paper applies quantitative methods, deductive reasoning, and large-scale surveying (Johnson and Christensen, 2008; Saunders, Lewis and Thornhill, 2009). As explanatory research, chosen analytical methods are (1) Descriptive and inferential statistics, (2) Regression, (3) Independent samples *t*-test, and (4) One-way ANOVA (Saunders et al., 2009).

In order to encourage respondents to fill in and return (Saunders et al., 2009; Dillman, 2007), a self-administered, short, simple and well-designed questionnaire was conducted between 01/09/2017 and 31/10/2017 to generate data, based on literature review. The questionnaire is designed in English, Vietnamese and an online version for online channels.

Sampling and Measures

Vietnamese customers of Google Inc. in Hanoi, Vietnam are the population. Quota sampling (Jawale, 2012) is utilized; therefore, the sampling frame is not necessary (Crawford, 1997; Gschwend, 2005), and some "quotas" were built, specifically (1) at least 600 responses from 08 urban districts of Hanoi and (2) in both genders: 300 responses from males and 300 responses from females. Random samples will be chosen from subgroups to minimize the bias of availability. The number of sample is raised for high creditability (Kumar, 2011). All responses are treated with high confidentiality and anonymity. Specifically, twenty-eight 4Ps items are suggested based on literature review, while seven Customer Satisfaction items are based on ideas of Fornell, Johnson, Anderson, Cha and Bryant (1996) and Xu, Ye and Zhang (2013). Ten demographic questions are applied for *t*-test and ANOVA.

With the intention of generating accurate data, validity, reliability (Saunders et. al., 2009), normality assessment (Hair, Anderson, Tatham and Black, 1998), EFA, CFA and SEM are required, respectively. Secondly, the regression analysis is utilized to test the hypotheses above. Thirdly, the independent samples t-test was used to evaluate the differences between (1) males and females; (2) single and married respondents in Customer Satisfaction. Final step is using one-way ANOVA to analyze the differences among varied groups of (1) Age (2) Place of Residence (3) Qualification (4) Working sector (5) Working position and (6) Total Salary regarding Customer satisfaction.

Strengths and Weaknesses

The paper contains following strengths (1) Comprehensive and dependable literature review; (2) Reliable questionnaire with authentic results; (3) Hypothesis testing using SPSS and AMOS is included.

On the other hand, some cons should be noted: (1) EFA, CFA, SEM were basically conducted, but as statistical knowledge and skills are limited, in-depth analysis was not included; (2) Validity and

reliability of secondary sources are not guaranteed; (3) Samples are mostly female youngsters in Hanoi only; (4) Environmental factors (competition, law, finance, etc) are not included.

Results and discussion
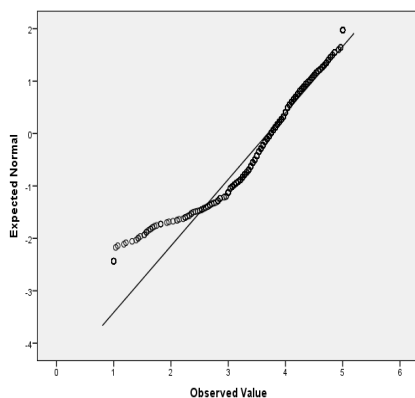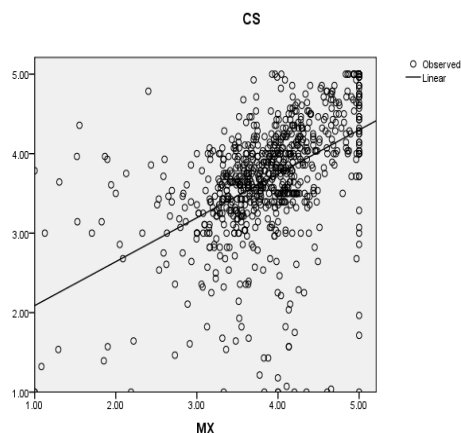
Fig. no.1. Normal Q-Q Plot of CS   **Fig. no. 2.** Simple linear regression model

As a result, after distributing 900 questionnaires over 8 weeks, 847 responses were collected, 42 of which were incomplete, meaning 805 usable (usable response rate 89%). The number (805) meets minimum standard of at least five times the number of variables (Myers, Ahn and Jin, 2013).

Descriptive analysis showed that most respondents are single (87.1%) female youngsters (62.7%) from 18 to 25 years old (80.9%), from Cau Giay, Ba Dinh and Dong Da or Other districts (68.4%), holding undergraduate degrees (86.8%) as students (66.5%), with low salary level of below 20,000,000 VND (65.2%), long time of more than 3 years (85.8%). We can conclude the figures majorly reflect the views of female students in Hanoi, mostly from urban districts above in low-income families of lower or middle class, with means of all responses are over 3.5.

Google's Web-based products (95.1%), Mobile (85.8%) and Desktop apps (78.0%) and Operating systems (49.8%) are undeniably popular among Vietnamese customers in Hanoi, whilst only 16.4%,

10.6% and 2.5% use Hardware products, Services and other products, respectively.

Table no. 1. Frequencies of $Q45UsedGoogleproducts

		Responses		Percent of Cases
		N	Percent	
$Q45UsedGoo gleproducts	Webbasedproducts	764	28.1%	95.1%
	Operatingsystems	400	14.7%	49.8%
	Desktopapps	626	23.0%	78.0%
	Mobileapps	689	25.4%	85.8%
	Hardwareproducts	132	4.9%	16.4%
	Services	85	3.1%	10.6%
	Other	20	0.7%	2.5%
Total		2716	100.0%	338.2%

The factor analysis showed that the Kaiser-Meyer-Olkin value was .930, and the Bartlett's Test of Sphericity was statistically significant at .000 level.

Table no. 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.930
Bartlett's Test of Sphericity	Sig.	.000

Table no. 3 also showed that the alpha coefficients are all over .7, specifically .875, .894, .880, .880, .911, .862, .870, .870, .857, .885, .876, respectively.

Table no. 3. Cronbach's alpha of factors

	Measurement scale	Number of items	Cronbach's
Marketing Mix (MX)	Product	8	.875
	Price	6	.894
	Place	7	.880
	Promotion	7	.880
Customer Satisfaction (CS)	Enterprise/brand	4	.911
	Quality expectation	4	.862
	Quality perception	4	.870
	Value perception	4	.870
	Customer satisfaction	4	.857
	Customers' complaints	4	.885
	Customers' loyalty	4	.876

Table no. 4. Rotated Component Matrix

		Component	
		1	2
Customer Satisfaction (CS)	Quality_perception	.892	
	Value_perception	.886	
	Customer_satisfaction	.873	
	Quality_expectation	.854	
	Customers'_loyalty	.848	
	Customers'_complaints	.812	
	Enterprise_brand_image	.796	
Marketing Mix (MX)	Place		.898
	Price		.886
	Product		.879
	Promotion		.874

Table no. 5. Results of hypothesis testing (SPSS)

No	Path	Method	Results (APA)		Result
H1	MX > CS	Regression	$(F(1,803) = 252.632, p < .000**)$, with an Adjusted R^2 of .238		Supported
H2a	Gender > CS	t-test	Levene Statistic p-value = .056 > α = .05	t = -.024, df = 803, p-value = .981 > .05 = α	Unsupported
H2b	Age > CS	Kruskal - Wallis	$\chi2(5) = 6.677, p = .246 > .05$		Unsupported
H2c	Marital Status > CS	t-test	Levene Statistic p-value = .722 > α = .05	t = -1.544, df = 803, p-value = .123 > .05 = α	Unsupported
H2d	Place of residence > CS	ANOVA	$F(8, 796) = 1.458\ p = .169 > .05$		Unsupported
H2e	Qualification > CS	Kruskal - Wallis	$\chi2(3) = 2.759, p = .43 > .05$		Unsupported
H2f	Working sectors > CS	Kruskal - Wallis	$\chi2(4) = 7.189, p = .126 > .05$		Unsupported
H2g	Working position > CS	ANOVA	$F(5, 799) = 3.784\ p = .002** < .05$		Supported
H2h	Salary > CS	ANOVA	$F(4, 800) = 1.649\ p = .160 > .05$		Unsupported
H2i	Time of using > CS	Kruskal - Wallis	$\chi2(3) = 18.192, p = .000** < .05$		Supported

*P <.05
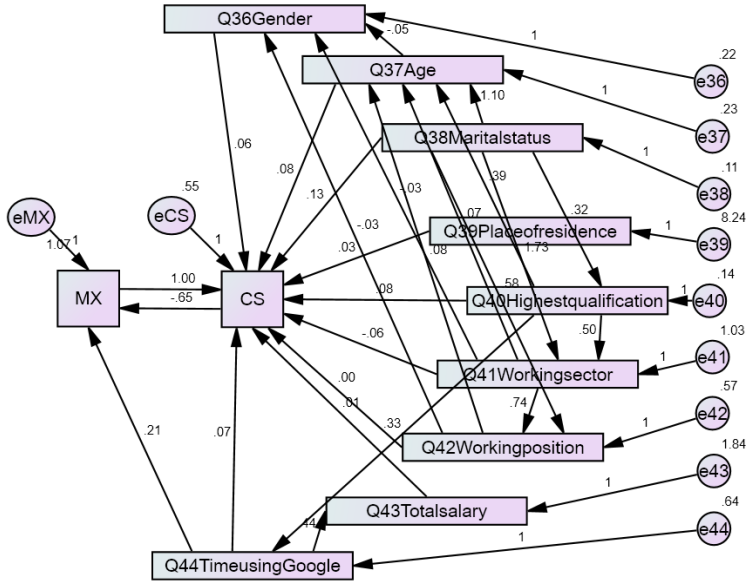**P <.01

Fig. no. 3. Results of Hypothesis testing (AMOS)

Table no. 6. Model Fit

Model	IFI Delta2	TLI rho2	RMSEA
Default model	.992	.986	.027

Table no. 7. Regression Weights (Group number 1 - Default model)

			Esti-mate	S.E.	C.R.	P	Label
Q40Highestqualification	<---	Q38Maritalstatus	.317	.039	8.085	***	par_19
Q41Workingsector	<---	Q38Maritalstatus	1.726	.111	15.534	***	par_10
Q41Workingsector	<---	Q40Highestqualification	.503	.096	5.233	***	par_16
Q42Workingposition	<---	Q38Maritalstatus	.577	.093	6.225	***	par_11
Q42Workingposition	<---	Q41Workingsector	.744	.026	28.982	***	par_13
Q37Age	<---	Q38Maritalstatus	1.099	.061	18.014	***	par_12
Q37Age	<---	Q40Highestqualification	.385	.046	8.372	***	par_15
Q44TimeusingGoogle	<---	Q40Highestqualification	.334	.073	4.580	***	par_17
Q37Age	<---	Q41Workingsector	.073	.024	3.104	.002	par_20
Q37Age	<---	Q42Workingposition	.085	.022	3.780	***	par_21
Q43Totalsalary	<---	Q44TimeusingGoogle	.438	.059	7.409	***	par_14
Q36Gender	<---	Q41Workingsector	-.031	.023	-1.348	.178	par_23
Q36Gender	<---	Q42Workingposition	-.027	.022	-1.231	.218	par_24
Q36Gender	<---	Q37Age	-.049	.028	-1.764	.078	par_25

			Esti-mate	S.E.	C.R.	P	Label
CS	<---	Q41Workingsector	-.057	.037	-1.544	.123	par_1
CS	<---	Q42Workingposition	-.003	.035	-.099	.921	par_2
CS	<---	Q43Totalsalary	.008	.019	.412	.680	par_3
CS	<---	Q44TimeusingGoogle	.074	.034	2.194	.028	par_4
CS	<---	Q36Gender	.060	.055	1.099	.272	par_5
CS	<---	Q37Age	.078	.055	1.421	.155	par_6
CS	<---	Q38Maritalstatus	.125	.112	1.120	.263	par_7
CS	<---	Q39Placeofresidence	.035	.009	3.806	***	par_8
CS	<---	Q40Highestqualification	.083	.075	1.101	.271	par_9
MX	<---	Q44TimeusingGoogle	.205	.047	4.354	***	par_22
CS	<---	MX	1.000				
MX	<---	CS	-.650	.080	-8.122	***	par_18

Conclusions

As the above SPSS results indicated, we can firmly conclude that there are impacts of Google Marketing Mix strategies on Customer Satisfaction of Vietnamese in Hanoi, Vietnam (H1 supported). However, there are no statistical differences in Customer Satisfaction among sample groups (H2a; H2b; H2c; H2d; H2e; H2f; H2h are not supported), except among groups of different working positions (H2g supported) and using experiences (H2i supported).

On the other hand, the AMOS outputs showed a slightly different result. With the amended model, the relationship between variables are clearly depicted (Fig. no. 3 and Table no. 7). The model is fit with three main indices (Table no. 6), and Marketing mix strategies of Google, Place of residence and Time using Google have impacts on Customer Satisfaction of Vietnamese customers in Hanoi, Vietnam (H1, H2d and H2i are supported), while other factors have no impact (H2a, H2b, H2c, H2e, H2f, H2g, H2h are not supported) (Table no. 7).

Overall, we can say that the model is fit for further studies to be used, meaning Marketing mix strategies of Google has undeniably impacts on Satisfaction of Vietnamese customers in Hanoi, Vietnam, while other socio-demographic factors should be carefully analyzed in specific circumstances.

Some note-worthy suggestions for future researches: (1) Conducting survey on larger population; (2) More varied "quota" will bring more exact results; (3) Analysis between experienced and not experienced participants required; (4) New components (7Ps), or models should be tested and applied; and (5) Other statistical methods

(ANCOVA, etc…) using other statistical soft-wares (R:, Mplus, Stata, LISREL, etc) should be applied for better results.

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