

A comparative study on iPhone 6 Plus and Samsung Galaxy Note 4 from Vietnamese consumer perception

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Abstract

The objective of this research is to analyze the product innovation aspect in two comparable smartphones and partly illustrate perception and preference of Vietnamese consumers of two smartphone lines of Apple – iPhone 6 Plus and Samsung – Samsung Galaxy Note 4. The research tries to clarify which innovative features in two smartphones are more preferable to a group of consumer in Vietnam. The reason why the research studies iPhone 6 Plus and Samsung Galaxy Note 4 when iPhone 7 and Samsung Galaxy Note 7 have just released is that passing more than one year is enough time for consumers to totally experience both 2 smartphone lines to give the most precise and truthful evaluation for their preferences. Moreover, iPhone 6 Plus launch signed one of the most historical memorable landmark in the development process of iPhone products when it introduced larger-screen iPhone model for the first time. It is such an important change of iPhone which could open a new continuing successful era for Apple and iPhone.

The first phase of this study involves analyzing strengths and weaknesses existed considering the opportunities and threats from the competitive market, then a competitive advantage analysis is implemented for each product. The second phase conducts a survey with Vietnamese participants from different backgrounds, by which a Mann-Whitney U test will be executed to check the significant difference in opinions in different respondent groups by age and by gender to several features of two smartphones. By conducting the survey, some interesting facts revealed with the winner seemingly falling into iPhone 6 Plus. However, it still reveals some significant difference among respondent groups by age and by gender to both iPhone 6 Plus and Samsung Galaxy Note 4 in several comparing features.

Keywords Product innovation, iPhone 6 Plus, Samsung Galaxy Note 4, competitive advantage analysis, Vietnamese customer, Mann-Whitney U test

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1. INTRODUCTION

These days, the development of mobile phones, especially smart phones in the worldwide mobile phone market is undeniable with the substantial increase in mobile phone accounts day-by-day. Hence, the competition among mobile phone providers is consequently more intense. They seem to try to seek and meet the needs and expectation of customers by different ways such as providing better in and after sale service, launching more influential marketing campaign, offering better price, and focusing on enhancing features to create more and more innovative products.

At the final quarter of 2014, two giants in smart phone market, Apple and Samsung, released two most anticipated smart phones in succession, that is, iPhone 6 Plus (Apple, September 19th) and Samsung Galaxy Note 4 (Samsung, October 17th). They are two most anticipated smart phones during the final months of 2014 with several innovations inside which remarkably attract the attention of not only experts, technology lovers, but also other people. The study aims at analyzing the innovation of two smartphone using several analysis tools, via which it expects to reflect the taste and preference of Vietnamese consumers from their real experience.

The study will start with the deep analysis on innovative features of two smart phones to come to a solid comparison on the strengths and weaknesses as well as showing several opportunities considering threats from the competitive smartphone market. After that, a survey is conducted to a sample of Vietnamese customers to draw the point of view of a range of customers about two comparable phones, from which Mann-Whitney U statistic table will be released to reflect the significant difference among respondent group by gender or by age to two smartphones' innovative features.

2. Previous study

Comparative analysis among several products/services has already attracted much attention from scholars, especially in the field of technology.

A complete analysis among different firewall products has initiated by Skybakmoen T. (2014) to test and compare 12 current products from well-known providers such as Dell, Cisco, Fortinet, etc. based on its feature of security, performance, and total cost of ownership. A comparison between smartphone operating systems was also made among four popular smartphone operating systems, namely Symbian, Android, iPhone, and Blackberry based on six comparative categories including supported phones and platforms, development environment, hardware support, power management, multimedia features, and software features (Abdulmageed M. E. M., 2011). Sponga A. (2013) put his interest in the brand rivalry between two smartphone brands (Apple and Samsung) in the aspect of consumer behavior. Through the research, he aimed at reveal the 'lighter

side' of brand rivalry (acknowledgement, word-of-mouth storytelling, word-of-mouth exchange) apart from 'dark side' of oppositional loyalty and brand rivalry (loyalty to the brand, oppositional brand loyalty, brand rivalry). To study on the preference of two smartphone brands (Apple and Samsung) among students, Jyothsna M. (2016) has already implemented a survey questionnaire to 200 students, from which he could highlight the role of brand equity (which measures brand awareness, perceived quality, price, brand association) and brand identity (which measures culture, self image, personality) on students' preferences.

Organizations also conducted several technical reports on the issue of comparative products/services. Typically, Kasavajhala, V. (2011) studied price and performance aspect between solid state drive and hard disk drive with the objective of providing the best recommendation to customers on drive type for some applications. Felter W. et al (2014) from IBM Research has conducted an updated performance comparison between traditional virtual machine deployment and Linux container, from which they concluded that Linux containers performed equally or better compared to virtual machine.

3. Methodology

The first concept in this study is SWOT analysis. SWOT stands for Strength, Weakness, Opportunity, and Threat. The main purpose of SWOT analysis is to seek and analyze organization-inside information on key competencies for decision-making process which uses the information to pursue opportunities, connect with organization strengths, consider major threats and minimize weaknesses (Nasri, 2011). In this study, SWOT analysis is narrowed to analyze the two comparable products. The study will apply SWOT analysis to analyze and compare the strengths, weaknesses of each product and to identify the opportunities for them to develop considering threats from the market.

Following it, competitive advantage analysis will be applied. Competitive advantage was first introduced by Hofer, C.W. and Schendel, D. (1978). Porter, M.E. (1998) considered it is the value brought to customers by a company that creates the source of its competitive advantage. A company having competitive advantage means that it has built a "long-term, unique, and advantageous" competitive position compared to its competitors. Normally, there are three competitive advantage strategies suggested i.e. cost leadership strategy, differentiation strategy, and focus strategy (Porter, 1998). Following cost leadership strategy requires a company to apply lower cost for its product compared to other competitors. Differentiation strategy focuses on satisfying customers' needs and applying premium price in return. Focus strategy puts the focus on a specific segment of the market rather than focusing on entire market with the purpose of reaching cost

advantage or differentiation advantage only in that segment. Applying the theory of competitive advantage to the real case of two mobile phones, the study aims at addressing and analyzing the competitive advantage that helps building the own position of each product in particular and each company in general in the market.

Last but not least, a survey with several questions (multiple choice questions, Likert-scale questions, and descriptive questions included) is conducted to collect data from survey respondents with the aim at analyzing the customer preference to two comparing smartphones. To analyze the results collected, SPSS will be used with the Mann-Whitney U Test. SPSS is effective software founded in 1968 for data analysis. It is also known as Statistical Package for the Social Sciences as well as the Superior Performing Statistical Software which offers from basic to more sophisticated statistical procedures (Mills, 2003). Man-Whitney U test is also known as Wilcoxon Rank sum test which is suitable for ordinal dependent variable. It is considered as non-parametric alternative to related t-test and unrelated t-test to compare significant difference between two ordinal data groups. After inputting necessary data and running SPSS, the Mann-Whitney U Test Statistic table will be released with several information on significant difference among several respondents groups when they evaluate five comparing features of two smartphones.

4. Technology innovation and competitive strategy of iPhone 6 Plus and Samsung Galaxy Note 4

4.1 SWOT analysis

When it comes to strengths, both products own the unique features which contribute to creating their attraction. If Apple maintains its position of leading innovator in mobile technology with high brand reputation and high customer loyalty, Samsung also keeps its position as the giant in mobile market with leading position in design features and technology. Both receive much concentration and impression from almost all customers in mobile market. However, when digging deeper into two comparable products of these two famous brands, namely iPhone 6 Plus and Samsung Galaxy Note 4, its own strengths of each product gradually reveal.

iPhone 6 Plus appears with larger screen compared to other older iPhone designs. Moreover, it is created with high resolution Retina display, which also creates a plus for this iPhone product. With the larger screen and better resolution, it promisingly opens more opportunities for application providers, especially for mobile gaming providers targeting to the users of iPhone 6 Plus.

iPhone 6 Plus is also considered to have other strength of convenient Apple Pay and consistent Apple Ecosystem. Apple Pay was first mentioned when iPhone 6 and iPhone 6 Plus were introduced with the purpose of helping customer to make transactions faster, more conveniently

and safer. Instead of giving the card with all information about name of card owner, card number and CVV number to the cashier, now the user of iPhone 6 and iPhone 6 Plus only need to give the smartphone near to the cashier machine, confirming by Touch ID , then the transaction will be completed without revealing any information of card owner. For the older versions of iPhone before, the function of Apple Pay has not been introduced. Also, Apple Ecosystem is really a plus for Apple product when it allows all Apple products to integrate with each other on an OS level. For example, iPhone 6 Plus could be used to control Apple TV. It is also feature which promisingly bring more convenience for Apple users.

Especially, in this new iPhone product, people with their interest of photography will really be impressed by better and better camera quality (8 megapixel sensor and 1.2 megapixel for front camera). This is the first time technology of optical image stabilization appears in iPhone product, which allows users to shoot better quality photo even in low conditions.

Finally, in comparison with Samsung Galaxy Note 4 which only gives users narrow choice for fix storage of 32GB, iPhone 6 Plus gives users wider range of choice in terms of storage with three options, that is, 16 GB, 64 GB, 128 GB.

Table 1 iPhone 6 Plus SWOT analysis

SWOT	Feature	Reference
Strength	- Leading innovator in mobile industry	Jinjin T. (2013), Wang L. et al. (2011), Grippi B. (2013)
	- Brand reputation	Jinjin T. (2013), Johnson K. et al. (2012), Wallace K. (2016), Federinko B. (2014), Rifat H. et al (2015)
	- Customer loyalty	Wang L. et al. (2011), Usman A. K. et al (2015), Wallace K. (2016)
	- Higher screen with high resolution Retina display	Apple Inc. (2014)
	- Convenient Apple Pay, Apple Ecosystem	Grippi B. (2013)
	- Better camera quality	Apple Inc. (2014)
	- More range of choice for storage (16 GB, 64 GB, 128 GB)	Apple Inc. (2014)
Weakness	- High price	Wouters A. (2014), Usman A. K. et al (2015), Rifat H. et al (2015)
	- Compatibility with only iOS operating system	Wang L. et al. (2011), Usman A. K. et al (2015), Wallace K. (2016)
	- Non-removability of battery	Apple Inc. (2014)
	- Lack of dust and water resistant display	Apple Inc. (2014)
Opportunity	- Increase in new providers of application (e.g. mobile gaming)	Usman A. K. et al (2015)
	- Evolving computing technology	Jinjin T. (2013), Federinko B. (2014)

SWOT	Feature	Reference
	- Growing opportunity in enterprise market and in emerging nations	Wouters A. (2014), Rifat H. et al (2015)
Threat	- Rapid technology change	Federinko B. (2014), Rifat H. et al (2015)
	- Imitation from competitors	Wang L. et al. (2011)
	- Fierce competition with competitors (e.g. Samsung)	Jinjin T. (2013), Grippi B. (2013), Usman A. K. et al (2015), Federinko B. (2014), Rifat H. et al (2015)

Being introduced in a similar period of time, Samsung Galaxy Note 4 also creates its own fame by adding several innovative features in it.

First and foremost, that is the appearance of S Pen which creates the unique position for Samsung Galaxy Note 4. Unlike the S Pen in older version of Galaxy Note line, S Pen in Galaxy Note 4 is enhanced and evolved when it is integrated with Samsung Android. It is said to be more sensitive and more precise, which allows users to do more using it (Samsung Galaxy Note 4 User's Manual, 2014). S Pen is not only the pen with the basic function of "writing" on the screen of the smartphone, but it also allows quick and precise on-screen navigation, on-screen menu to support quick lookup. Even it is said that when the user gets used to using S Pen, it is difficult to go back to use only fingers without S Pen to handle.

Multitasking features are also unique feature which could not deny creating a total new attraction for Samsung Galaxy Note 4. This feature allows users to access and use multiple applications at the same time in split-screen mode. For example, you could access two applications at the same time and could drag and drop text from one to another application easily.

Also, the feature of removable replaceable battery is also a plus for this smartphone. It allows users to remove the cover, change the old used-up battery pack by new one. No matter how full a battery is charged, it will have a limited time period till it is used up; hence this feature becomes totally useful especially for users who often have to travel a lot.

In addition, the appearance of Micro SD Card also creates the uniqueness for Samsung Galaxy Note 4, too. Samsung allows placing a micro SD memory card up to 128 GB beside fix memory storage of 32 GB. Although it does not provide a fixed storage up to 128 GB like iPhone 6 Plus, the Micro SD Card gives users more choices at the more reasonable price. For the users who do not have demand to use too much storage, 32 GB storage could be enough for them. For users who have higher demand for storage, they could choose the solution to buy another Micro SD card to plug into Samsung Galaxy Note 4 to enjoy more storage. So it is considered to give more flexible choices for users. Besides, the fast charging function and better camera with optical image stabilization are also features adding more plus for this smartphone of Samsung (see Figure 3).

Table 2 Samsung Galaxy Note 4 SWOT analysis

SWOT	Feature	Reference
Strength	- High degree of vertical integration (memory, LCD screen, etc.)	Brostoff B. et al (2014)
	- Reasonable pricing strategy for large market capture	Brostoff B. et al (2014), Sheikh F. H. (2016), Gupta A. et al (2015)
	- Appearance of S Pen	Samsung Galaxy Note 4 User's Manual (2014)
	- Unique multitasking features	Samsung Galaxy Note 4 User's Manual (2014)
	- Removable replaceable battery	Samsung Galaxy Note 4 User's Manual (2014)
	- Appearance of MicroSD card	Samsung Galaxy Note 4 User's Manual (2014)
	- Fast charging technology	Samsung Galaxy Note 4 User's Manual (2014)
	- Better camera	Samsung Galaxy Note 4 User's Manual (2014)
Weakness	- Damaging brand image by infringement	Sheikh F. H. (2016)
	- Poor range of choice for fixed storage	Samsung Galaxy Note 4 User's Manual (2014)
	- Lack of water and dust resistance	Samsung Galaxy Note 4 User's Manual (2014)
	- Lack of compatibility with other Samsung products	Brostoff B. et al (2014)
Opportunity	- Growing demand for technologically advanced smartphone	Sheikh F. H. (2016), Widmayer M. (2016)
	- Increase in application providers for Android mobile phones	Android (2016)
	- Emerging market	Brostoff B. et al (2014)
Threat	- Rapid technology change	Widmayer M. (2016), Gupta A. et al (2015)
	- Development of competitors	Sheikh F. H. (2016)
	- Imitated products	Sheikh F. H. (2016), Widmayer M. (2016)

However, every pro often comes with a con. The story is true for both two cases of iPhone 6 Plus and Samsung Galaxy Note 4.

For iPhone 6 Plus, it is complained about its high price. According to Apple data, depending on the capacity (16GB, 64GB, 128GB) the price is set from \$299, \$399, \$499 in contract. To be compared, the price of Samsung Galaxy Note 4 changes following the given price of retailer. For example, AT&T retailer, Verizon, US Cellular, Costco, all offer the 32GB Galaxy Note 4 for \$299.99 with two-year contract.

Another weakness of iPhone 6 Plus is that like other iPhone products, iPhone 6 Plus is only compatible with iOS. Hence, if users would like to experience other systems, it is impossible with iPhone 6 Plus. Compared to the comparable Samsung Galaxy Note 4, iPhone 6 Plus is also blamed for lack of Micro SD support and non-removable battery. However, Samsung Galaxy Note 4 is also considered to provide a poor range of choice for fixed storage (only 32GB fixed storage), which is

not diverse compared with 3 choices in iPhone 6 Plus. Moreover, it is also considered to have less attractive design although in Galaxy Note 4, many changes are implemented compared to Galaxy Note 3 before. And both iPhone 6 Plus and Galaxy Note 4 are complained about lack of water and dust resistance. It is also expected to be innovated in later product lines.

4.2 Competitive advantage analysis

Apple and Samsung are known as the biggest competitors of each other in mobile market. Hence, each has to build its own strategy to compete to its competitors in a extremely competitive market like mobile market. This study will use competitive advantage analysis to identify the strategy each company used to compete in mobile market with two comparable products, that is, iPhone 6 Plus and Samsung Galaxy Note 4.

According to Porter, M.E. (1998), the source of competitive advantage of each company is the value it brings to its customers. Considering the case of two comparable smartphones, Apple and Samsung have already placed value into each mobile phone product to convey to their customers. Among three competitive advantage strategies, both Apple and Samsung appears to access to the market through differentiation strategy (shown in Figure 4). They did not choose price as the tool to compete with their competitors. In contrast, they both have made effort to innovate to make the totally new products to serve the customer’s needs as much as possible. In return, they could set the premium price without facing the disapproval from their customer.

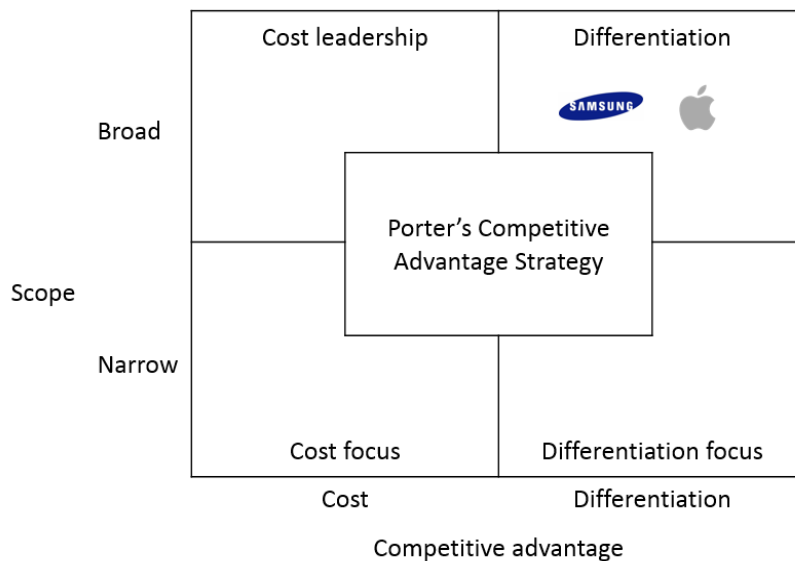


Figure 1 Apple and Samsung competitive advantage strategy

According to Steve Jobs (former CEO of Apple), there are four main characteristics in the strategy which Apple is following, that is, offering a small amount of products, focusing on the high end, giving priority to profits over market share, and continuing creating halo effect (in general, it is a trend to build an impression based on a few piece of knowledge and subsequently positive rating for the whole brand's products (Restko, 2014); in particular, it reflects that the success and popularity of one product could attract customers to buy other products with same brand which they might have never had intention to buy). Continuing with the mindset of Steve Jobs, current CEO of Apple, Mr. Tim Cook, also confirmed that Apple never has purpose of selling low-cost mobile phone. Instead, Apple's premium objective is to sell great phone with great experience provided to customers. Hence, through various lines of iPhone and up to now iPhone 6 Plus, Apple always expresses its continual effort and desire to finish products with as much innovative features to serve increasing needs of customers as possible. For example, in iPhone 6 Plus, to bring greater experience in gaming for customers, Apple has made a breakthrough in improving wider and sharper screen that has never appeared in any iPhone products before. Thinking about the concern of customers in the circumstance of disclosing personal information and even being stolen banking account information, Apple innovated and launched the convenient Apple Pay to make transactions easily and fast, as well as avoiding losing bank card information. Those are some examples of Apple effort to innovate its product to make differentiation in the market and create its own attraction.

As for Samsung Galaxy Note 4, to compete in the market, they also did not choose to compete based on giving much lower price. Although comparing to iPhone 6 Plus, the price is cheaper, its price is still high referred to other smartphones in the similar line of other competitors in the market. However, with the launch of this smartphone, Samsung also integrated with several interesting and useful features to create its own unique position in the market, i.e. S Pen, multitasking screen, Micro SD card, fast charging technology. Through those innovative features, Samsung seems to more and more serve the needs and expectation of its customers as well as attract more and more new potential customers. Hence, with the launch of Samsung Galaxy Note 4, Samsung also chooses differentiation as its competitive advantage strategy to compete with other competitors in the smart phone market.

4.3 Consumer perception analysis

To give the more realistic view of comparison between two smart phones, the study will establish a perception map from the consumers' opinions collected through a survey. The survey was conducted to a convenience sample of family, friends, and acquaintance of the researcher in

Vietnam. A total of 216 people took part in this survey. They are ranged at the age from 18 to more than 45. Below is the summary of data collection after implementing survey (Table 1).

Table 3 Survey data collection result

Characteristics		% (n)
Number of total participants		100% (216)
Gender	Male	54.17% (117)
	Female	45.83% (99)
Age	18-22	24.54% (53)
	23-30	42.59% (92)
	31-45	21.30% (46)
	>45	11.57% (25)
Number of participants heard about 2 products		100% (216)
Number of participants tried using 2 products		91.67% (198)
Types of mobile phones that participants are using at present	iPhones	56.02% (121)
	Samsung products	35.19% (76)
	Others (Nokia, Blackberry, domestic mobile phones, etc.)	8.80% (19)

The survey was implemented during 2 months with the descriptive questions, multiple choice questions, and Likert scale questions. They were aimed at discovering the taste of each person about the two different products and the own viewpoint about features and functions of two ones. Several questions about almost all typical features of two products were given to collect opinions of participants.

Table 4 Descriptive statistics

		Very good (5)	Good (4)	Medium (3)	Bad (2)	Very bad (1)
iPhone 6 Plus	Design	19	145	47	5	0
		8.80%	67.13%	21.76%	2.31%	0.00%
	Screen	34	136	41	5	0
		15.74%	62.96%	18.98%	2.31%	0.00%
	Performance	64	92	47	13	0
		29.63%	42.59%	21.76%	6.02%	0.00%
	Software	51	136	29	0	0
		23.61%	62.96%	13.43%	0.00%	0.00%
	Battery life	20	92	93	11	0
		9.26%	43%	43.06%	5.09%	0.00%

		Very good (5)	Good (4)	Medium (3)	Bad (2)	Very bad (1)
Samsung Galaxy Note 4	Design	16	32	153	9	6
		7.41%	14.81%	70.83%	4.17%	2.78%
	Screen	23	57	136	0	0
		10.65%	26.39%	62.96%	0.00%	0.00%
	Performance	17	43	90	51	15
		7.87%	19.91%	41.67%	23.61%	6.94%
	Software	9	12	107	81	7
		4.17%	5.56%	49.54%	37.50%	3.24%
	Battery life	30	129	57	0	0
		13.89%	59.72%	26.39%	0.00%	0.00%

First, as for gender, the difference between male and female when they have to evaluate five features (design, screen, performance, software, battery life) of iPhone 6 Plus is not significant (p value (Asymp. Sig. (2-tailed) is greater than the specified α level (.05)) (Table 5).

Table 5 Test statistics with gender as independent value of iPhone 6 Plus

Test Statistics ^a					
	Design	Screen	Performance	Software	Battery_Life
Mann-Whitney U	5289.000	5117.000	5472.000	5592.000	5762.000
Wilcoxon W	10239.000	10067.000	10422.000	10542.000	10712.000
Z	-1.331	-1.714	-.741	-.507	-.070
Asymp. Sig. (2-tailed)	.183	.087	.459	.612	.944

a. Grouping Variable: Gender

As for age, there is a significant difference between age group 18-22 with age group >45 when they evaluate the software feature of iPhone 6 Plus (Mann-Whitney U value is equal to 492.5 with p value is lower than the specified α level (.021 < .05) (Table 6).

Table 6 Test statistics with age group 18-22 and >45 as independent value of iPhone 6 Plus

Test Statistics ^a					
	Design	Screen	Performance	Software	Battery_Life
Mann-Whitney U	655.500	565.000	648.500	492.500	624.000
Wilcoxon W	2086.500	1996.000	2079.500	1923.500	2055.000
Z	-.094	-1.253	-.162	-2.306	-.453
Asymp. Sig. (2-tailed)	.925	.210	.872	.021	.650

a. Grouping Variable: Age

It could be explainable when there is a great difference between age group 18-22 and age group >45. Seemingly the younger could faster learn and adapt with new software compared to the older. As regards other features i.e. design, screen, performance, and battery life, the difference among 4 age groups is not significant.

In short, survey attendants mostly expressed their interest with iPhone 6 Plus and considered it has good design (67.13%), good screen (62.96%), good performance (42.59%), good software (62.96%), medium battery life (43.06%). The difference between male and female is not significant. The same pattern is true when it comes to age group. Only in the feature of software, the difference is remarkably between people in age group 18-22 and people in age group more than 45.

Second, survey attendants express their significant difference when they evaluate five features of Samsung Galaxy Note 4 by gender. Seemingly, to all five features, male expressed the absolute preference compared to female (Table 7).

Table 7 Test statistics with gender as independent value of Samsung Galaxy Note 4

Test Statistics ^a					
	Design	Screen	Performance	Software	Battery_Life
Mann-Whitney U	3120.000	3556.500	3018.000	3201.000	4027.500
Wilcoxon W	8070.000	8506.500	7968.000	8151.000	8977.500
Z	-7.254	-5.675	-6.361	-6.225	-4.391
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

a. Grouping Variable: Gender

As for age, there is a significant difference between age group 18-22 and 23-30 (Table 8) regarding almost all features except software and performance (p value (Asymp. Sig. (2-tailed) equal to .877 and .051 respectively are greater than the specified α level (.05)).

Table 8 Test statistics with age group 18-22 and 23-30 as independent value of Samsung Galaxy Note 4

Test Statistics ^a					
	Design	Screen	Performance	Software	Battery_Life
Mann-Whitney U	1856.000	1478.500	2004.500	2430.000	1674.000
Wilcoxon W	6227.000	5849.500	6375.500	6801.000	6045.000
Z	-2.869	-4.390	-1.954	-.155	-3.730
Asymp. Sig. (2-tailed)	.004	.000	.051	.877	.000

a. Grouping Variable: Age

Comparing age group 23-30 with age group >45, it seems that feature of battery life still gains much concern from both age groups with no greatly significant difference (p value (Asymp. Sig. (2-tailed) equal to .354 is greater than the specified α level (.05)). Design, screen, performance, software features are all differently between two groups. Also, when comparing age group 31-45 and >45, those two groups are significantly different in Battery life feature. Other comparing features are not significant different between age group 31-45 and >45.

Table 9 Test statistics with age group 23-30 and >45 as independent value of Samsung Galaxy Note 4

Test Statistics ^a					
	Design	Screen	Performance	Software	Battery_Life
Mann-Whitney U	762.000	841.500	637.500	685.500	1041.000
Wilcoxon W	1087.000	1166.500	962.500	1010.500	1366.000
Z	-3.640	-2.564	-3.647	-3.415	-.927
Asymp. Sig. (2-tailed)	.000	.010	.000	.001	.354

a. Grouping Variable: Age

Table 10 Test statistics with age group 31-45 and >45 as independent value of Samsung Galaxy Note 4

Test Statistics ^a					
	Design	Screen	Performance	Software	Battery_Life
Mann-Whitney U	475.500	557.500	453.000	438.000	360.000
Wilcoxon W	800.500	1592.500	778.000	763.000	1395.000
Z	-1.834	-.111	-1.458	-1.702	-2.870
Asymp. Sig. (2-tailed)	.067	.911	.145	.089	.004

a. Grouping Variable: Age

To evaluate the features of Samsung Galaxy Note 4, there is a significant difference among groups of respondents considering gender and age. Seemingly, Samsung Galaxy Note 4 with Android operating system still make users feel a little bit difficult to handle and get accustomed. However, the battery life features still gains high evaluation (59.72% evaluating as 'Good'). Other features i.e. Design, Screen, Performance, Software mostly receive 'Medium' evaluation.

From the survey result conducted with the Vietnamese participants, some facts could be highlighted. iPhone 6 Plus appears to receive appreciation about almost all comparing features. It is also not too difficult to understand because iPhone products normally receive much exclamation on their elegant design. Also, the extraordinary bigger design in iPhone 6 Plus may have excited people. Additionally, iPhone with iOS is also appreciated by its user friendliness and ease to get accustomed with. However, the price of this iPhone product is still high in perspective of

Vietnamese participants when comparing to Samsung Galaxy Note 4; hence, it is considered to be less reasonable. For comparable Samsung smart phone, it is highly evaluated by its convenience with multi-functions, memory flexible added to give various choices for different users without a too high price range. The price varies among retailers; however, in general it is still a little lower than iPhone 6 Plus's. Maybe for the people who love technology and diverse functions, they will find out Samsung Galaxy Note 4 could totally satisfy them with more reasonable price. Especially, Samsung Galaxy Note 4 gets high approval on its more long-lasting battery life. Although the study is only implemented within a small sample of people, it still arises some interesting useful facts on opinion of Vietnamese survey participants about two attentive smartphones from two giants in mobile phone industry.

5. Conclusion

This study has analyzed the advantageous and disadvantageous points of two comparable products from Samsung and Apple using several analysis methods. Also, a survey has been conducted to partly express customer tastes and preferences in smartphones. Although both smartphone products contain diverse innovative features to serve the needs of consumers, survey respondents seem to express their preference to iPhone 6 Plus. However, among respondent groups regarding age and gender, there is still some difference among groups. As for Samsung Galaxy Note 4, the different opinions among gender and age groups are more intense. However, in general, the appearance of iPhone 6 Plus and Samsung Note 4 also created a new fresh accent to the active smartphone market in the second half of 2014.

When conducting the research, the main purpose is to dig deeper into the topic of product innovation and broaden knowledge by applying in the real cases of two innovative popular smartphones in the market. Through this study, it also expects to bring an effective understanding about customer taste and preference based on their own experience. Even though it still has some lacks, for example, the survey participants are almost study researcher's acquaintances and the survey sample is rather small to reflect the whole opinion of Vietnamese customers, the study expects to partly contribute to the studies on product innovation and customer perspective in smartphone industry. It also expect to dig deeper on the factors that affect the development of smartphones with the real case studies from the popular smart phones in mobile phone market. From the analysis in two comparable most expecting smartphones of 2014, the study could contribute to both theoretical and practical aspect. Apparently, the experts could draw the expectations about the new innovative features to their next product lines, namely, iPhone product line and Samsung Galaxy Note product line or even formulate the next new generations of

smartphones as well. Also, it could turn into helpful reference to Apple and Samsung in particular and other smartphone manufacturers in general when they consider entering to Vietnamese market.

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