THE RAPID SUCCESS OF APPLE’S IPHONE 6 AND THE CHALLENGES

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Abstract—Since the mid of 1990s, the smart phone market began to be full of competitors, many companies racing to release the smarter phone, to occupy the market, and to break the records in the sale, but there is only one company keep going up year after year,” Apple”. iPhone 6 is a smart phone developed by Apple Inc. was released on September 19, 2014. Pre-orders of the iPhone 6 and iPhone 6+ exceeded 4 million within its first 24 hours of releasing, and More than 10 million iPhone 6 and iPhone 6+ devices were sold in the first 3 days, and this is surprising record. Here we argue that the success of the iPhone was based on Apple’s conception of Integrity, this research we will explain and analyze the rapid access of iPhone 6, clarify the reasons and we will touch upon the challenges facing the iPhone.

Keywords: Mobile usage, Apple Product, Smartphone Market

I. INTRODUCTION

Apple consolidated its gains, marked its territory of 30 Million users, +25K applications, +800 Million downloads and built a very deep and wide moat around it. A moat which is so formidable so there’s no single smart phone player capable to overcome it.” (Kontra, 2009)[1]

When the Apple iPhone was proclaimed in January 2007, the response was overwhelmingly. Among 2 months of the announcement, the search term ‘iPhone’ yielded over sixty million online page references in Google. Once iPhone finally launched in June 2007, customers lined up for days for the prospect to buy one and over 500,000 units sold-out on the primary weekend. Since that point, innumerable iPhones are sold-out, arguably creating it one amongst the foremost no-hit portable product ever launched.

iPhone 6 has been released on September 2014, Pre-orders of the iPhone 6 and iPhone 6 plus exceeded 4 million within its first 24 hours of availability. And More than 10 million iPhone 6 and iPhone 6 Plus devices were sold in the first three days, another Apple record.

Why has the iPhone been so successful? The objective of this paper is to provide evidence showing the factors that have contributed to success and the lessons that can be learned from the iPhone. [2]

2. BACKGROUND OF THE RESEARCH

2.1 Specification

2.1.1 Hardware

The design of the iPhone 6 line is influenced by that of the iPad Air, with a glass front that is curved around the edges of the display, and an aluminum rear that contains two plastic strips for the antenna. Each model is available in gold, silver, and "space gray" finishes.

The iPhone 6 has a thickness of 6.9 millimeters, while the iPhone 6 Plus is 7.1 mm in thickness; both are thinner than the iPhone 5S and iPhone 5C, with the iPhone 6 being Apple's thinnest phone up to now. The foremost vital changes to the iPhone 6 line are its displays; both branded as "Retina HD Display" and "ion-strengthened", the iPhone 6 display is 4.7 inches in size with a 16:9 resolution of 1334x750 pixels, while the iPhone 6 Plus includes a 5.5-inch 1920x1080 (1080p) display. The displays use a multiple-domain LCD panel, dubbed "dual-domain pixels"; the RGB pixels themselves are skewed in pattern, so that every pixel is seen from a different angle. This technique helps improve the viewing angles of the display.

To accommodate the larger physical size of the iPhone 6 line, the power button was moved to the side of the phone instead of the top to improve its accessibility. The iPhone 6 features a 1810 mAh battery, while the iPhone 6 Plus features a 2915 mAh battery. In contrast to the previous model, the rear-facing camera isn't flush with the rear of the device, and encompasses a slight "bulge" round the lens. It's a Dual-core one.4 GHz Cyclone Processor (ARM v8-based).

Both models include an Apple A8 system-on-chip, and an M8 motion co-processor—an update of the M7 chip.
from the iPhone 5S. The main difference between the M8 and the original M7 coprocessor is that the M8 also includes a barometer to measure altitude changes. Phil Schiller touted that the A8 chip would provide, in comparison to the 5S, a 25% increase in CPU performance, a 50% increase in graphics performance, and less heat output. [4]

<table>
<thead>
<tr>
<th>Table 2.1 Comparison 6 and 6+</th>
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<tbody>
<tr>
<td>iPhone 6</td>
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<tr>
<td>Dimensions</td>
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<tr>
<td>5.44, 2.64, 0.27 inch</td>
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<tr>
<td>Weight</td>
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<td>129 grams</td>
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<td>4.7 inch (diagonal)</td>
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<td>8-megapixel iSight camera</td>
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<tr>
<td>Video Recording</td>
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<tr>
<td>1080p HD video recording</td>
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2.1.2. Software:

The iPhone 6 line ships pre-loaded with iOS 8 operating system, while the iPhone 5S shipped pre-loaded with iOS 7.

Apps are able to take advantage of the increased screen size in the iPhone 6 and 6 Plus to display more information on-screen. As it uses an identical aspect ratio, apps designed for the iPhone 5, 5C, and 5S can be upscaled for use on the iPhone 6 and 6 Plus. To improve the usability of the devices’ larger screens, an additional "Reachability" nod was added; double touching the home button can slide the highest half of the screen’s contents all the way down to rock bottom half of the screen. These perform permits users to keep buttons set close to the highest of the screen, like a "Back" button within the top-left corner. [6]

III. Analysis

Smartphone Market Lifetime Index:

Over the last three years, the time a smart phone model remains in the market has been shrinking. If we consider end of life of a model the marker when the device sales per month fall below 10,000, the “months to end of life” has come down from 15 months in 2009 to 12 months in 2012.

The trend is not evenly distributed. As figure (1) shows, Apple models stay in the market for much longer duration compared to rest of the smart phones and they sell much more on average. Apple models stay “active” in the market for almost twice the duration that other models and sell almost seven times the rival models in monthly sales.

3.1. What Really Drives Device Market Performance:

There is no one factor or statistic that helps explain the device sales patterns completely. In this section we discuss the six major variables that make up the formula for Understanding devices market performance.

Market Performance = f (Brand Equity, Marketing and Promotions, Competition, Channel Efficiency, Product Supply Chain).

Figure 1. iphone Models

Each of the six variables has some dependent variable and each of the sub variables has A weight (or importance) that defines the impact of the sub variable over the Overall equation. Each of the variables is informed by either the factual data from the field or the subjective assessment of the relative strengths versus competitors. By taking a deeper look into each of these variables, one can understand why some companies are doing better than others, what will it take to move the needle in terms of market and Profit share, and can some companies even catch-up?

3.1.1. Brand Equity (BE):

This is the loyalty index of any brand that keeps the consumers coming back to it because they feel the affinity to that brand and its products. Historically this has been measured through the dollar value assigned to

Figure 2. Apple, Inc.

3.1.2. Marketing (M):

Advertising works. That’s how the industry, while one can advertise, doesn’t make progress at work and plays an important role in the success and story that behavior. There are so many advertising variables, that the Company is able to advertise through the potency of advertising, into the various channels. Mobile advertising spending has gone up in 2012 and 2013. In fact, if we look at the picture, Samsung outsold Apple.

3.1.3. Competition (C):

The competition varies between competing products and services to device sales. The more differentiation, the more
in 2009 to 12 months in 2014. As figure 1 show, market for much longer smart phones and they too models stay “active” the duration than others due to its significant advantage.

Market Performance? that helps explain the relationship. In this section we will make up the formula of performance:

Equity, Marketing and Efficiency, Product,

models dependent variables show a weight (or the sub variables / each of the variables from the field or the strengths versus its importance into each of these factors) companies are ability to take to move the share, and can some part that keeps the users feel the product. Historically this value assigned to

launch all play a role in assessing the probability of device sales for a given Company. Apple has been able to counter any price point segmentation by making its older model available at low cost. It actually sells older model phones than new model iPhone (figure 3). Any new Android model that comes into the market has to compete with iPhones priced from $0-200.

3.1.4. Channel (CH):

In the US, the operator is the most important distribution channel. A good percentage of the devices sold through the operator channel. The relationship with the operator over the long-term helps define how well a Company will do in good times and bad.

![Figure 2. Apple’s brand value](image)

![Figure 3. Sales older model phones than new model iPhone](image)

3.1.5. Product (P):

Product is obviously the most important variable. If one has a bad or inadequate product, no amount of marketing or channel efficiency is going to make up for it. Some of the key sub variables are product portfolio, pricing, the ecosystem, and the subsidy that the OEM is able to garner from the operator to keep the consumer eager to buy a new smartphone. Apple disproportionately benefits from the subsidy model and it has most to lose if subsidies disappear from the US market. However, that is unlikely to happen anytime soon.

3.1.6. Supply Chain (SC):

The control over the industry supply chain matters a great deal not only for revenue to market and margin expansion but also to keep the competitive forces at bay. Apple is able to write big billion dollar checks that freezes the supply chain so that the smaller OEMs are not able to procure adequate component supply in time to hit their targets (HTC) or the pricing of the end product ends up too high (Motorola) that the product introduction doesn’t have the desired outcome.
Figure 4. presents a snapshot of the value of these variables by Competitors (in Q1 2013) in the US market. Apple’s journey of domination began with the iPhone introduction in 2007 but it wasn’t until 2008 that iPhone really started to have an impact on the mobile ecosystem in the US market. The product differential with other competitor was quite large and aided with clever marketing, and supply chain mastery, it was able to suck out the oxygen from the ecosystem.

Formula for Smartphone Success

![Graph showing relative score for brand equity, marketing, channel efficiency, supply chain, competition, product.]

Figure 4. Competitors analysis

Android was launched in 2008 but didn’t really become an important (and dominant) part of the equation until Verizon decided that it needs a counter stroke that turned AT&T’s exclusive iPhone deal (which was a master stroke) to AT&T’s fortunes for the better). HTC saw early the potential for differentiation with Android and won acclaim with several product launches.

Samsung warmed up to Android in 2010 and just changed the Android and Smartphone landscape in the US as well as across the globe. Fast forward to 2013, the iPhone and Android devices from Samsung and HTC have significantly narrowed on the product variable. Even Nokia and Blackberry have added creative devices. Windows and Blackberry still suffer from low system strength. Windows will have advantage of a powerful 3 screen strategy however once more missteps within the windows launch cause poor adoption. Even if Microsoft spent a major quantity of advertising greenbacks, the fall 2012 and Q1 2013 sales are unsatisfactory.

Windows sold-out just one.1 million units within the 2 quarters combined throughout identical period, Apple sold-out 36M iPhones.

One of the most fundamental errors Microsoft made was in segmentation. Instead of focusing on the feature phone users (which was an equally big market), it went after the iOS and Android users. The problem was that once consumer invests in an ecosystem, the cost of switching can be quite high.

Customers who tried Windows loved it. The problem was that not many tried it. There were several flaws that didn’t help Microsoft and Nokia like channel inefficiency and lack of brand equity. [7]

3.1.7. Market Performance Score:

Determining the market performance of a player in the mobile device space is a complicated equation as it is a multi-dimensional question. There are many factors that help address the question — how is a smartphone company doing in the market place? Market share, revenue share, profit share, growth across all these variables, competitive landscape, future pipeline, etc. all play a role in getting a pulse of the market. The Market Performance Score attempts at taking all these considerations with the help of variables discussed above.

If we take all the input discussed in the previous sections and feed that into a formula to calculate Market Performance Score, the results are shown in figure 6. Apple clearly is the leader in the US market when it comes to market performance which gives it an indication of the device sales and device profits in the smartphone arena. So, even though Samsung is now the undisputed leader in device sales in the US market, it is more than twice what Apple does, in the smartphone space, Apple has been able to keep its distance though the gap is closing overall (figure 6).

![Graph showing market performance score for Apple, Samsung, Nokia, HTC, BlackBerry.]

Figure 5. Market Performance Score

The business model of iPhone is based on its 3 reasons for success. The strategy cannot fully explain the success of iPhone. It has also been able to explain the success of iPhone, where features are not prioritized, but rather the user interface is key to success. Feature studies focus on the features and the factors that affect the user experience. How to identify and prioritize them on their demographic critical for success.

Finally, since mobile commerce is controlled by government regulations, devices are delivered through infrastructure, the success of a device depends on these environments. We propose a success model where factors that explain the success of a device, figure 1, these success factors present in the consumer (demographics, usage, use of corporate (business model,
service providers) and environmental (regulatory, infrastructure).

This comprehensive model incorporates the relevant factors which can explain the success of the iPhone. Whether overtly, or perhaps in some cases by chance, Apple has been able to capitalize on every one of the success factors, in essence riding a 'perfect wave' of factors and has achieved incredible success with the iPhone product. [9]

IV. CONSUMER FACTORS

Demographics:
Apple made an effort to target the right consumer group. The typical iPhone consumer is more likely to be male, 25-34 years of age, college educated and with an income of greater than $100,000. Another 92 study reaffirmed the age factor, indicating 50% of iPhone consumers are under the age of 30, technologically sophisticated, and usually members of the professional, scientific, arts/entertainment or information industries. In addition 75% are reported to be previous Apple customers.

Again, iPhone has succeeded by focusing on personal use, while technologically ensuring iPhone is appealing to both personal (through gaming and entertainment applications) and business users (through its iPhone in the Enterprise and Microsoft Exchange capabilities).

User Preferences:
Understand and meet preferences: Apple targeted on recreation applications and services instead of business applications, clearly meeting the requirements of their shoppers. By totally understanding user preferences and coming up with content and applications that meet these preferences, there's an outsized untapped market potential in mobile knowledge and net product and services.

Culture:
Find and exploit cultural niches: whereas culture varies by country and among countries, it's necessary for the iPhone to seek out cultural 'niches' that it may fill. These cultural niches are stuffed for the foremost half through the applications and services provided, instead of the mobile devices, indicating that regardless of the hardware platform, cultural preferences can be met through software and content

Corporate Factors:
Business Model:
Develop a business model supported core competencies: The device-centric business model of the iPhone has been the strongest consider the success. The iPhone launch went against ancient wireless business models and showed that device makers might with success
management the required parts of the worth chain and permit all players to be profitable and winning.

Marketing and Branding:
Focus on fulfilling consumer needs: For the iPhone, Apple markets the services provided, rather than the hardware, focusing on what the products and services can do for the consumer, rather than the specifications. Key to success is not focusing on products, but rather the fulfillment of consumer needs.

Technology – Hardware
While iPhone understood that applications and content were most vital, part of management over the hardware and technology was necessary for achievement. The iPhone achieved success through Apple’s core ability in product innovation, making certain that iPhone was extremely practical and capable of manufacturing an expensive mobile net browsing expertise. So it's extremely vital to make sure that technology plays a robust supporting role to applications and content.

Service Providers:
Maintain control through content access and distribution: Apple understood that applications and content are best left for third parties to develop, but maintaining control over access and distribution (including security) were the key elements of the value chain where it had core competencies. It proved that you do not need to perform the tasks in every part of the value chain, but rather coordinate and control the value chain to allow success for all players.

Environmental Factors
Regulatory:
Make regulations work for you: Rather than working against regulations, Apple has accepted the regulatory factors, and worked within them to launch products and services that comply yet achieve high levels of success. An excessive amount of company energy will be gone fighting rules, once success will be achieved by operating inside them.

Infrastructure:
Take advantage of the available infrastructure: By working within the infrastructure of the individual countries and exploiting areas underserved due to infrastructure issues, the iPhone has been able to succeed. Due to the strong fixed line infrastructure in the US, Apple stressed richness in its applications, trying to duplicate user expertise with mounted line web. Very similar to the regulative factors, by operating inside and taking advantage of the present infrastructure, companies.

2- Hairdressing
On October 12, 2014, it was reported that certain iPhone 6 Plus owners were losing their hair when making a call, as pressure was given to the seams of the iPhone 6 Plus, resulting in hair loss. People were shocked and the issue was trending on social media.

3- Flash issues
Some users have reported that iPhone 6 and 6 Plus models have an issue with the flash, which sometimes randomly fires when not needed to capture images or videos. This has caused frustration among users.

4- Optical issues
Some users have reported issues with the optical system on the iPhone 6 and 6 Plus, which has resulted in the camera failing to produce clear or perfectly straight images. The looking videos and photos have been blurry and out of focus. The optical systems are used to capture images, and when they fail, it can have a significant impact on the user experience.

On October 1, 2014, it was reported by Axel Telzerow, editor-in-chief of the German technology magazine Computer Bild, that following the posting of a video where a presenter was able to bend an iPhone 6 Plus, an Apple Germany representative informed the publication that it had been banned from future Apple events and that it would no longer receive devices directly from Apple for testing. Telzerow responded by saying that "we congratulate you to your fine new generation of iPhones, even if one of them has a minor weakness with its casing. But we are deeply disappointed about the lack of respect of your company". [9]
Hair ripping:

October 3, 2014, 9 to 5 Mac released a post claiming that a few iPhone 6 and iPhone 6 Plus users complained of a "hair gate" issue when they held the phone close to their ears when making a call or taking a call. This second design flaw is given the term "hair gate". Twitter users claimed that this seam between the glass screen and aluminum back of the iPhone 6 is to blame, with hair becoming caught within it.

Flash storage performance:

Many users reported that 64 and 128 GB iPhone 6 models had experienced performance issues, and that the 128 GB iPhone 6 Plus models would, in rare cases, suddenly crash and reboot. Business Korea reported that the issues were connected to the triple-layer cell NAND flash storage of the affected models. Triple-layer cells can store three bits of data per cell of flash, and are cheaper in dual-layer cell solutions, but at the cost of performance. It was reported that Apple had planned to patch the affected model lines back to multi-layer cell flash, and address the performance issues on existing devices in a future iOS update.

Optical image stabilization issues:

It was reported that the optical image stabilization systems on some iPhone 6 Plus models were faulty, failing to properly stabilize when the phone is being held perfectly still, leading to blurry photos and "wavy"-looking videos.

The optical image stabilization system was additionally found to own been tormented by accessories that use magnets, like third-party lens attachments; Apple issued warnings to users and its accredited accessory manufacturers, warning that magnetic or bimetallic accessories will cause the OIS system to malfunction.

V. CONCLUSION

In this research, I used statistics tools for analyzing Apple iPhone's market position and growth situation. We all know Apple is a big company with worldwide reputation. People willing to line up for new products and mostly they are satisfied with results. Nevertheless, Apple has problems too. Technology is a very competitive market. And day by day companies do more developments efforts to make products better than others. We reviewed Apple strength and weaknesses, all the good things like brand loyalty, unique technology, matchless interface and applications, strategic agreements with big companies like AT&T and Weaknesses points like technical problems, retailers controlling problems, vigorous competitor like Samsung. Apple is on top from so many points now, no doubt. But we know there is no certainty in these days market. Brands devour fame and income and willing to do their best.

Apple financial statements say everything is ok and growth is more than satisfactory. But in risks section many items were mentioned to remind investor it is a very hard business to keep the growth up and up.

Future study of the work:

This research contributes to academics as it develops a theoretical success model based on real-life successes of the iPhone. Academics can use the theoretical model generated through this research with the knowledge that they have been proven via the actual successes of the iPhone. Often, theoretical models are developed and then applied to (or authors report that they can and should be applied to) real life business situations. We have taken the opposite approach in this paper and developed a theoretical success model based on actual business successes. This paper provides academics with a framework that can be used to examine the successes of other mobile data and mobile commerce products and services. We would welcome other researchers to do this and expand on and improve the theoretical success model we have developed here. Practitioners will benefit from this research as it provides a ‘roadmap’ of how to achieve success in the mobile data service industry.

Practitioners can like this analysis because it provides a ‘roadmap’ of a way to come through success within the mobile knowledge industry. By applying the teachings learned and elaborated during this paper, mobile knowledge service and mobile ninety-six commerce businesses will have a way higher chance of success. This is applicable to mobile device makers, service suppliers, network operators, platform operators, service aggregators and portal suppliers. This paper has been supported an intensive educational literature review and general net searches. Where potential, educational papers are given priority within the development of the preceding analysis. However, a restricted range of educational references were out there for the iPhone. Thus, a number of iPhone findings are developed supported opinions expressed by business consultants in newspaper or periodical articles, websites or in some cases blogs, whereas this doesn't essentially indicate a scarcity of validity, it will mean that some caution should be exercised within the interpretations of those findings.

While this study has been able to illuminate many of the factors that have made the iPhone successful, there are numerous opportunities for further research.
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Development of Information-Operational Guidelines in Patients with Carpal Tunnel Syndrome

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Abstract This paper investigated systems to improve physical activity after carpal tunnel release surgery. The purpose was to compare the results of physical activity after carpal tunnel release surgery, and after information-operational guidelines in patients with carpal tunnel syndrome. The application of the system will contribute to the development of information-operational guidelines in patients with carpal tunnel syndrome.

Keywords: Information-Operational Guidelines, Carpal Tunnel Release Surgery

1. Introduction

Carpal tunnel syndrome, in which the median nerve travels through the carpal tunnel, causes pain, numbness, and tingling of the hand. The median nerve is located in the carpal tunnel, which is formed by the carpal bones, and the flexor retinaculum. Carpal tunnel syndrome is a common problem, affecting an estimated 2 to 3% of the population. The median nerve is compressed at the point where it exits the carpal tunnel, causing symptoms such as pain, numbness, and weakness. The nerve can be compressed by a variety of factors, including repetitive motion, swelling, and congenital abnormalities. The symptoms of carpal tunnel syndrome include tingling in the hand, numbness in the fingers, weakness in the hand, and pain that radiates from the wrist to the elbow. The surgical treatment for carpal tunnel syndrome is carpal tunnel release surgery, which involves cutting the flexor retinaculum to relieve the pressure on the median nerve. If the symptoms are severe, the nerve may be repaired. The success rate of carpal tunnel release surgery is generally high, with most patients experiencing significant improvement in their symptoms. However, the success rate can vary depending on the severity of the condition and the surgical technique used. The results of carpal tunnel release surgery are often assessed using subjective measures, such as pain levels and functional ability. Objective measures, such as nerve conduction studies and electromyography, can also be used to assess the effectiveness of treatment. However, these measures may not provide a clear picture of the patient's subjective experience.

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