

How the adaptation of evolving technology can cope with the ever changing demand of consumers?

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Abstract- *As technology is evolving at a very fast pace, some consideration has to take place in order to meet its customers' demands. Companies in technology industries have to be able to cope with the demand of the consumers as they slowly progress at their stage of advancement. In this study, it is known that the survivability rate of a company in the technology sector would be based on how capable they are in meeting consumers' demand. Understanding the demand of the consumer allows them to properly sustain in the market or perish as a result of ignorance. What the study seeks is to understand how they would be able to achieve so.*

Keywords- *Technology; Adaptation; Consumers' demand*

1. INTRODUCTION

In recent tough times, the market is filled with the heavy atmosphere of competition. In the world of business, the only thing a person can be certain are the feeling of uncertainty. It is mainly because the ever changing market demands have forced business managers in their respective fields to rethink their perspective of the market while pushing boundaries to their competitive limits (Massey, 2002)[18]. It shows whether the companies are able to adapt or not. As Herbert George Wells quotes "Adapt or perish, now as ever, is nature's inexorable imperative." The concept of "adapt or die" refers to as how the industry makes effort to adapt to the market environment or perish not progressing with updated technology. The demand flow technology is a process of which company produces or manufactures products according to the demand of the customers. It is a demand-driven manufacturing process as manufacturers trying to match supply to demand more effectively (Fwhite, 2008)[7].

According to Brady (2011) as cited by Cohalan (2012)[4], a customer buys dreams and experiences rather than the products and services itself. The basic necessities of the people never change, just that their taste and satisfaction changes (Auslander, 2012) [1]. Therefore, customers will evaluate the different alternative when deciding a purchase. However, there are factors that influence consumer behaviour – environment, information and motivation. The environmental factor is influenced by the demographic segmentation in terms of culture, social norm and personal characteristics. Information that is available to the consumers influences their purchasing decision. According to Court et al. (2009) as cited by Cohalan

(2012)[4], brand awareness, opinions from friends and family, and experiences between the products are the consideration a consumer makes when deciding to make a purchase. Kotler et al. (2009) cited by Cohalan (2012) brought in the Maslow's theory of motivation to explain about the human needs to purchase. They are arranged accordingly at the hierarchy of importance from psychological, safety, social, esteem and lastly self-actualisation.

2. COPING WITH MASSIVE CONSUMER DEMAND

Everywhere throughout the entire world, consumers are growing in power (Harrington, 2014) [9]. Things are constantly changing all the time; companies should prepare to expect the unexpected (Walhout, 2014) [23]. The rise in population of consumers that is willing to splurge their money on technology products, especially on smartphones and tablets that have a high demand for it. Still, as companies are adding newer features to their products, consumers yet demand for additional offers for their devices. Therefore, the responsibility of the supply chain management is to respond according to the demand of the consumer and be ready to execute the next delivery. Under Hudson et al. (n.d.) findings, it is suggested that the demand of goods and services is affected by the value consumers' perceived. A quote by Robert Schofield as cited by Hudson et al. (n.d.) "Customers want good value, but they want great quality. They're choosing where they wish to shop to get good value." It can determine that customers are looking for value for money on goods and services.

3. ADAPT OR DIE

Adapting to the changes in the market environment today is the key to survive in the world of technology. As technology has been vastly improving and progressing, it has always been an adapt or die situation (Auslander, 2012) [1]. Experts in bankruptcy administrations have seen many successful big companies along with smaller companies that failed to adapt which were eventually forced out from the market (Auslander, 2012) [1]. It is however reasonable to assume smaller companies are adapting more easily to the advancing technology compared to larger companies but larger companies have better capital to further invest in upgrading their technology (Auslander, 2012) [1]. The potential let down reasons why companies aren't able to leverage well to maximize profit and success in the business market is mainly due to their traditional mind-set of going through the same plan as though they expect to pull through as they previously did. According to Hoque (2014), the modern economy is in a constant state of change – fast and dynamic. Therefore, the challenge organizations and leaders faced now are to be flexible in responding to the changes in the market. As Steven Pressfield once said “No industry is immune and no occupation is safe. All of us need to begin to think in terms of our own inner strengths, our resilience and resourcefulness, our capacity to adapt and to rely upon ourselves and our families.” Relevant to the quote itself, the thirst for change required by the company for a better sustainability are these four criteria qualities – Resilience, Innovation, Agility, Adaptability (Hoque, 2014). Resilience is defined for its ability to recover from difficulties. Innovation is the process of developing new ideas of product line that surpasses beyond the competition. Agility is the quick thinking pace to seize opportunities. Adaptability is the ability to sustain and advance in the present market. Bosworth (2014) [2] emphasized that customer engagement is much more important compared to maintaining existing customers. In this era, it is very convenient for a customer to make purchase, perform financial transaction, and interact with their social media, all in one or multiple mobile devices. As a result, selective brands between competitors are chosen by customers within a microsecond at ease. Hence, the digital era is revolutionizing, disrupting the traditional industries with their traditional ways (Bosworth, 2014) [2]. Internet enterprise lies within the digital era; where companies are born in the digital age fused data driven customers' information with traditional customer data into their infrastructure, so that they are able to deliver the capability and flexibility to triumph over their competitors. The reason as to why they are progressing effectively in the market is mainly due to their efficient usage of customer data to provide captivating user experiences that enables customers to take action and return again (Bosworth, 2014) [2].

4. ON-DEMAND FULFILLMENT

Technology advancement has enabled companies to practice digital marketing to fulfil customers' demand on time based on their goods and services (Jaconi, 2014 [14]; Dahlström and Edelman, 2013 [6]). On-demand economy is revolutionizing business behaviour all around the world (Jaconi, 2014) [14]. Ev Williams, co-founder of Twitter, quoted by Jaconi (2014) [14] stated that the internet have made it very convenient in achieving speed and cognitive ease of access; allowing fast access to information and not allowing people to think. On-demand conceptual framework was created back at late 1990s by companies like Webvan and Kozmo. Today's on-demand framework has been improved at the aspect of cost efficiency, operation efficiency, and scalability to satisfy the needs of consumer. The new concept has successfully leverage technology while utilizing existing infrastructure (Jaconi, 2014)[14]. The marketing perspective of on-demand marketing is being responsive to the consumer's desire (Dahlström and Edelman, 2013) [6]. The evolution of technology and consumer expectations has pushed the start of on-demand marketing. As digital capabilities are increasing at an exponential rate, it is expected that consumer demands will increase. Consumers will demand for better ease of access, simpler interactions, obtaining different type of information, and specially personalized needs to their taste.

5. DEMAND FLOW TECHNOLOGY

A demand flow technology is a manufacturing process that incorporates many different ways to efficiently produce products according to customer demand in the least amount of time (Hawk, 2015)[10]. It utilizes concepts such as just-in-time inventory, lean manufacturing, and six sigma efficiency standards to maximize the production quality and speed (Hawk, 2015)[10]. This process is very unique in a way that it requires employees to move across one station to another as it enables the production process to operate smoothly and at the maximum peak all the time (Hawk, 2015)[10]. From this process, it is inclined to specifically meet their current customers' demand instead of keeping inventory in stock for later demand. However, the demand flow technology requires update changes on a daily basis to adapt to incoming sales numbers. Japan had developed a method of improving production processes known as lean manufacturing. The advantages of using the demand flow technology are that it is well suited for company that can rapidly produce different variety of product which it can refer to as a mixed-model production. This enables companies to efficiently manufacture a wide array of different products at a low volume. Despite how it is able to meet its customer demand, the demand flow technology has its drawbacks too. It is highly unlikely to implement the demand flow technology when companies are only just manufacturing one main product at very large volume where each of the workstation is highly specialized. As a result, employees are not able to be easily

cross trained in highly specialized environment. There is also high risk of accidents and shut down of the industry. A demand flow technology is known to reduce lead time of an order to delivery by up to 90% compared to traditional manufacturing methodology. The main reason Japan perfected this concept was to eliminate the manufacturing cost that did not contribute any value towards the end product (Hawk, 2015)[10].

6. DIGITAL ERA OF TECHNOLOGY

According to Cohalan (2012)[4], Digital technology now is not only about spreading information but is also a means for communication. Now, consumers have access to companies and services at any time and day. To reach out to their customers better, companies use internet, social media, and customer relationship management (CRM) (Cohalan, 2012)[4]. Before the internet, customers rely on the traditional method such as brochure information, billboard advertisement, and face to face conversation to enquire for more information. Now, with the presence of internet marketing, consumer rely heavily on the internet to obtain information on the products and evaluate between possible alternatives during decision making. Research conducted by Cohalan (2012)[4] has shown that the usage of social technology is able to improve the company's financial performance and the market share of the company consistently over time. It is categorized into two different types of purposes – internal and external. Internally, company is able to retrieve insights on the market environment, efficiently allocating employees to respective task job and resources, properly manage projects, and assess employee's performance. Externally, they are able to create brand awareness, actively engage and communicate with consumer across social media. For a company, customer relationship is the utmost priority that company seek to build. Therefore, customer relationship management is prioritized so that they are able to understand the needs of their consumer (Cohalan, 2012). As a result, company collects information from their customers and build customer profiles for their customer database. Edelman (2010) as cited by Cohalan (2012)[4], states that customer relationship management enables companies to fulfil customers' ever changing needs, building a strong bonding relationship with their customers and target potential customers.

7. EVOLUTION OF TELEVISION ON CONSUMER BEHAVIOUR

Television was once black and white and slowly develops into coloured television. Soon enough, it transitioned into high definition television and seemingly moved into the third dimension known as 3-D television in this present moment. According to Katzmaier (2013) [16], Katzmaier regarded 3-D television as dead. Undoubtedly, this is due to the fact that 3-D technology hasn't been commonly used which caused a lack of presence amongst the public. Even though 3-D fails to reach out to the consumer market,

manufacturers still uses 3-D technology in the television mainly because it's cheap. The reason behind 3-D television failure is mainly because of the hassle where special 3-D design spectacles have to be worn when watching 3-D content video (Walters, 2014) [24]. The hassle of it made the viewer hate 3-D content. Even so, Katzmaier (2013) states that about 5% to 10% of the American population suffers from stereo blindness, the case of being unable to perceive the depth of 3-D content. It causes discomfort such as eye strain, headaches and even worst, migraines when 3-D video is viewed for a very long period of time (Walters, 2014[24]; Katzmaier, 2013[16]). The cause of discomfort is due to the brain not being able to properly interpret 3-D images clearly which causes confusion to the viewer. In reality, we perceive objects across a distance with a certain depth of field where the object is being focused on while the surrounding is out of focus. However, viewing 3-D contents forces the brain to portray everything on screen to be in full focus, thereby which the unnatural depth of field disrupts the perception by the brain.

Orf (2015)[19] considers that 3-D technology in television is a marketing gimmick and is a thing of the past. Consumer Electronics Show (CES) in 2015 brought a new light to the upbringing of television after 3-D. The year 2015 is the year of 4K television (Orf, 2015)[19]. 4K television is known as Ultra High-Definition (UHD) that consists of nearly 4,000 lines of vertical resolution compared to 1080 lines of vertical resolution of standard high-definition television (Walters, 2014)[24]. 4K screen reproduces beautifully rich detailed images (Walters, 2014[24]; Orf, 2015[19]).

8. EVOLUTION OF TABLETS ON CONSUMER BEHAVIOUR

Tablets have become the trend after smartphones. Tablets functions as a personal computer with touch screen interface and the form factor smaller than a laptop while being larger than a smartphone (Rouse, 2014[20]). The tablets of today have been revolutionized by Apple with their iPad line and Microsoft with their Surface line. Tablets now come in a variety of style ranging from convertible tablets that has the functionality of a laptop that the screen can be rotated at the angle of 180 degrees, hybrid tablets that functions as a laptop with removable display that functions independently as a tablet itself, and lastly rugged tablets is designed to withstand strong impact condition due to its thick and shock resistance protection feature (Rouse, 2014)[20].

Tablets serve as a productivity machine as it seeks to overthrow laptops market segments. However, tablets need to evolve to perform better than smartphones (Hoffman, 2014)[11]. Hoffman (2014) explains that tablets with multitasking functionality and bigger screen would be reasonable to compete against laptops. The only distinctive feature about tablets compared to laptops is its portability form factor. The tablet is smaller yet thinner and even

lighter compared to any laptop around. According to the research done at Gartner, there is a predicted increase in favour of tablet sales in 2015 surpassing PC market by 321 million of tablets shipment compared to 317 million of PC shipment (Lunden, 2014)[17].

The negative feedback from Alan Minney, Executive Director of Mobility Product Marketing at AT&T, argues that tablets have yet to replace laptops, mainly due to lack of content development (TabletPCReview, 2014)[22]. In contrast of Hachman's (2014)[8] experience with the tablet from Microsoft, the Surface Pro 3, it has completely replaced his laptop in his workplace. The reasons Hachman (2014)[8] gave was because of its long battery lifespan, windows compatibility, very sturdy keyboard, and its mobility feature. The ergonomics design on the Surface Pro 3 definitely improved the general ease of usage with a flexible kickstand.

9. EVOLUTION OF SMARTPHONES ON CONSUMER BEHAVIOUR

Gone are the days since cell phones came into existence. Over the last decade, smartphones have dramatically changed the way people communicate and make purchases (Saucer, 2014) [21]. It has been years since 2007 when Steve Jobs, CEO of Apple inc., introduced the iPhone 3G; a revolutionary product of that time. From that moment onwards, smartphones are slowly popularized with another presence of the Android operating system supported from various company brands such as Google, Intel, Sony, HTC and Samsung. A smartphone is defined as a mobile phone with normal cell activity which also consists of highly advance features (Janssen, n.d.). The basic features of a smartphone includes touch screen display, Wi-Fi connectivity, GPS location service, web browsing capabilities, access to manage emails, and the ability to run applications (Cassavoy n.d.; Janssen n.d.). Smartphones today support the following operating systems such as Android, iOS, Blackberry OS and Windows Mobile.

Smartphones these days had become the biggest innovation yet that is able to replace our everyday devices. Crothers (2011)[5] questioned whether smartphones had become our quintessential all-in-one device for our everyday lifestyle. Smartphones are killing almost every devices or objects owned by any person, such as television, tablet, camera, MP3 player, alarm clock, GPS device, personal planner, video camera, newspaper, radio, laptop, desktop computer, gaming device, and books (Crothers, 2011[5]; Zolfagharifard, 2014[25]; Hoffman, 2014[11]). In 2011, Crothers stated that smartphones have now become the digital version similarly of a Swiss Army Knife. It is small, portable, and packs all the functionality stated. Gone are the days since televisions, once an entertainment feature, which have been officially been replaced by smartphones (Zolfagharifard, 2014[25]). Statistics from Flurry Analytics by Yahoo cited by Zolfagharifard (2014)[25] shows the average person spends roughly an average of 2 hours and 57 minutes every day on their

mobile devices in the third quarter of 2014 compared to the consistent 2 hours and 48 minutes of time spend watching television since 2012 until 2014. Smartphones as well are also pushing tablet off the market as the screen size of the smartphone increases every year (Hoffman, 2014)[11]. Smartphone sales increase as the trend of bigger screen started to grow. Android phone had started the trend of bigger phone and followed by Apple after they see the demand of bigger screen phone from the consumers. To justify why bigger screen phone is winning the tablet market is mainly due to the reason of convenience. There's no reason to carry two devices when smartphones have both the functionality as well as portability.

10. DISCUSSION

This research is the study on how technology adapt to the ever changing demand of consumer. To proceed with the research, the understanding of change is of utmost importance as it is correlative to adaptation. Adaptation needs to take place when changes happen. Despite that, change is a never ending process, hence the need to adapt always. If changes are not adapted to, a risk of collapsing may arise. As the concept of adapt or die proves that when a company does not adapt to the changes in consumer needs, they will lag behind the rest of their competitors that are adapting to changes. As a result, if they do not comply with the changes, chances of surviving in the market place are close to none.

The present digital age has made it easy for companies to fulfil customer demands through the ease of internet access. Consumers are now are able to obtain broad and detailed information about their product and customer services online. They are also able to interact with the website seamlessly without any difficulty and getting personalized e-mails on product updates. Thus, this enables companies to spread information and communicate with their consumers. Engagement is simply important to captivate audience's attention to products on whether it fulfils their needs or not.

The research also focuses on three different views of evolving technology – Televisions, Tablets and Smartphones. Consumers have reacted negatively upon 3-D technology that had been implemented on standard television. 3-D technology on televisions was made to enhance the viewing experience but it failed to provide the experience audience expected. Therefore, 4K television was brought up in 2015 to accommodate the needs of consumers through a clearer, rich textured display screen. Under the tablet category, it is viewed as to oppose the laptop in terms of mobility and productivity. Alas, it had failed to outperform the laptop. However, the sales of tablet are increasing over time. From the statistics generated by Gartner, it can be seen that people demanded better mobility over performance instead but newer tablet from Microsoft have solved the performance issue. In addition, the revolutionary smartphones had reigned over

mobile phones in terms of performance, productivity, and entertainment. Smartphones now are now able to function as a gaming console to play games downloaded from the application store, watch videos through the internet, produce word documents, photo editing and GPS to guide the user to the specified destination. Smartphones manufacturer these days are improving the user interface as well to improve customer's satisfaction due to the ease of access on the smartphones. As people are more inclined towards larger screen phones, Apple had taken the opportunity to seize the market share of other Android phone manufacturer by producing larger phones as well. Thus, it shows the fast reaction shift towards a trending demand of the consumers.

11. CONCLUSION

Survival of the fittest is a phrase described as a means of natural selection originated from the evolutionary theory by Herbert Spenser. It highlights the strong willed competitions between the competitors to survive in their current environment. It relates how technology advancing companies needs to have competitive advantages over their competitor to be able to reign superior. Competitive advantages are derived from one of the few main factors that contribute to fulfilling the needs on consumer behaviour. Consumers make up entirely the purchase of a product, so companies would have to focus on their demands to increase their sales. However, companies would have to creatively push their innovative product to their consumers to stimulate the demands as consumers would not know what to demand as there is no such feature available. As how smartphones, tablets, and 3-D televisions came about, smartphones and tablets sales are increasing as well as their demand while 3-D televisions is not in favour by the consumers, so 3-D television had been substituted by the new 4K television. The demand of consumers varies from time to time and changes as new technology approach to the market. Companies do not know whether their new technology would be of favour to the consumers unless they push it into the market. From there, consumers soon the product and their expectations are slowly increasing, demanding changes or addition features to be made. Thus, adapting to changes according to the demand is the main source of success.

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