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Sustaining Growth through Innovation

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Sustaining Growth through Innovation

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Abstract

Sustaining Growth through Innovation

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This thesis seeks to identify a generalized strategy for businesses to follow in order to sustain long term growth. In particular, it focuses on innovation as the catalyst that drives the growth. To establish the foundation for building this strategy, it first looks at the need for businesses to sustain growth in order to remain healthy. After developing this link, existing research in business growth is examined. With this information, the strategy is then formulated. From here, two of the largest companies in the world based on market capitalization are evaluated over time against this strategy to show its ability to drive sustained growth and long term success.

Table of Contents

List of Figures	vii
Chapter 1: Introduction	1
Overview	1
Chapter 2: Why Must Companies Grow?	3
Introduction	3
Analysis	4
Chapter 3: Literature Survey	8
Introduction	8
Types of Innovation	8
Growth Strategy	12
Conclusion	28
Chapter 4: Case Studies	30
Introduction	30
General Electric	30
Background	30
Analysis	37
Conclusion	40
Apple Inc.	41
Background	41
Analysis	46
Conclusion	51
Chapter 5: Conclusion	52
References	54

List of Figures

Figure 2-1: 2 Year Prior to Failure and Failure Year Growth Trends of 25 Failed Companies Compared to the Fortune 100	6
Figure 3-1: Sustaining Innovation	10
Figure 3-2: Disruptive Innovation and Sustaining Innovation	11
Figure 3-3: Product Innovation Life Cycle.....	14
Figure 3-4: Low End Disruptive Business Model	15
Figure 3-5: Diffusion Curve	21
Figure 3-6: Strategy Canvas for Widget Market	26
Figure 3-7: New Value Curve for Widget Market.....	27

Chapter 1: Introduction

As the world slowly climbs out of the global economic recession that began in 2007, the strength of businesses large and small has been severely tested. Those that have survived, are trying to move forward past the difficult times, leaner, stronger, and better positioned to succeed than ever before. However, those that failed to keep the doors open are left to wonder what went wrong. For many of these companies, the answers will uncover problems that were years in the making; problems that were not created by the recession but simply accelerated by it. In fact every year, recession or not, hundreds of companies are forced to close the doors or are purchased by another company because they can no longer maintain profitability and create growth providing the products or services that they once did so well. They fail to supply their customers with what they demand at a price that allows them to remain profitable. They fail to innovate. Innovation is the key to growth, as this thesis will show, and as the saying goes, “If you aren’t growing you are dying.”

OVERVIEW

This thesis will seek to identify how the most successful companies have stood the test of time. Particularly, how these highly successful companies have innovated their way through difficult times and continued their growth even when their future seemed bleak and uncertain; a condition which at some point every company will face. This thesis will look at the causes behind the growth stalls and then identify a general business strategy for companies to follow that if executed correctly will provide sustained growth and continual success. In order to accomplish this several key concepts must be explored.

Chapter 2, Why Must Companies Grow, will first investigate the need for a company to sustain growth to be successful. This chapter will look at the failures of

Fortune 100 companies to better understand the growth rate of these businesses leading up to their failure. This study will establish a link between growth and success, which in turn will create a strong case for the development of a repeatable growth plan.

In Chapter 3, Literature Survey, several books, articles, and professional publications will be reviewed to better understand what research has already been conducted in this field and to develop a better understanding for how innovation ties in with business growth. Based on this research, the generalized growth strategy will be developed.

Chapter 4, Case Studies, will investigate the information gathered in Chapter 3 in a real life business environment. This chapter will focus on analyzing the growth and growth strategies of two different companies, GE and Apple, in an effort to validate the concepts developed in Chapter 3. Unlike the examples that are contained within the literature review, this chapter will demonstrate the repeatability of the strategy over time and show how these two companies have used it over and over for their sustained growth and continual success.

Chapter 2: Why Must Companies Grow?

INTRODUCTION

To understand why companies must continue to innovate, this part of the discussion is very important. Any executive running a publicly traded company or anyone wishing to run a publicly traded company should know that their mission is or will be to maximize the value to the stockholder. In the end, CEOs are hired by the board and the stock holders to do just that. Ultimately, this should be the goal of any company whether it is publicly traded or not.

To do this, it is important to first understand how a stock is valued. Many different methods exist and are used to value stocks, but no matter which method is used the underlying principals remain the same. Essentially the value of any stock is the value of the dividends it pays plus the net present value of any growth opportunities of the company. Knowing that dividends are a function of a company's profitability, managers can sometimes be led astray and cut corners simply to raise the stock price. Too often corporate executives simply pull the reins in on research and development and many other investments simply to meet the profit targets they have set and appease the stock holders. However, this will more often than not be to the detriment of the company because of its short sightedness. While controlling costs and maintaining a lean organization is important and should not be overlooked, a more robust solution to increase stock price is to focus on creating growth opportunities. While the short term results may hurt profitability the stock will still rise in price and the investors will remain pleased knowing that at some point the company's investments will eventually pay off.

In the high tech industry many companies exist that pay no dividends at all. These companies simply hoard cash in order to pay for new growth opportunities when they come around. For instance, Microsoft was founded in 1975 and did not pay its first

dividend until 2003. This was not because their products were unsuccessful; it was simply because they were growing at a very rapid rate. This was long after Microsoft had become a multibillion dollar company. (Bass)

So, on the contrary, what happens when a company fails to grow? Well according to economic theory the value of the stock would decrease. As the stock continued to fall, the typical first reaction would be at best simply to replace the top level executives to bring in fresh ideas that would restart growth. However, if the company failed to restart their growth the stock would eventually reach a point where the company would become enticing to a competitor that would seek to purchase the failing company for its technology and its assets hoping to strengthen their own portfolio by acquiring them or simply to remove a competitor from the marketplace. Now, because the stock holders invest in a company's stock to receive a return on their investment they would most likely vote to sell the company to the bidding rival expecting that the sale would be their best chance at receiving the return on their investment that they had hoped for. If no bids are made, then the worst case scenario for the business and its investors would be that it would go bankrupt and be forced to close its doors as it failed to meet its obligations.

ANALYSIS

In order to further understand the relationship between growth and success, a review of existing research was conducted. This search revealed a Harvard Business Review article title, "When Growth Stalls." In this research, the Fortune 100 and Global 100 companies were analyzed between 1955 and 2006. What the authors discovered was that 87 percent of the companies analyzed at some time reached a "stall point." (A "Stall Point" is defined in the article as, "that moment when a company's growth rate slips into a prolonged decline.") Of these 87 percent only 46 percent of them returned to moderate

or high growth within ten years, and of the 54 percent that had low growth for over ten years after stalling 67 percent of those companies were acquired, went bankrupt, or were taken private. (Olson, PG. 12) Seeing how devastating a stall can be the need for an effective growth strategy is extremely important.

Now before beginning to define a growth strategy, one other bit of research was conducted to better understand the result of the, “When Growth Stalls” article. While this article was aimed at identifying stalled growth and the subsequent success or failure of the company after the stall, this research looked at the failing companies and then determined the growth of the company leading up to that failure. The study was conducted to determine if mid to high growth firms were equally susceptible to failure.

The study compared the Fortune 100 list from 1995 and 2011. The purpose of this comparison was to determine which companies were no longer on the list in 2011 that were on the list in 1995. From this comparison it was determined that 50 of the Fortune top 100 companies were no longer on the list. After some more in depth research of publically available information it was discovered that 25 of the 50 companies that were not on the 2011 list were still around. These 25 companies had either simply fallen down the money list and out of the top 100 or they had merged with another company in order to form a new stronger company.

With these 25 companies accounted for, this left 25 companies that were no longer in existence. A majority of these 25 companies were purchased by other companies, but a few did go bankrupt and then reemerged as different companies or were subsequently purchased by other companies. With these companies identified, the revenues were compiled for the three years leading up to the failure. Then the growth averages were calculated for the two years prior to the failure and also for the year of the

failure. These results are shown in Figure 2-1 alongside the same growth averages of all Fortune 100 companies for the same years that were calculated for the failed companies.

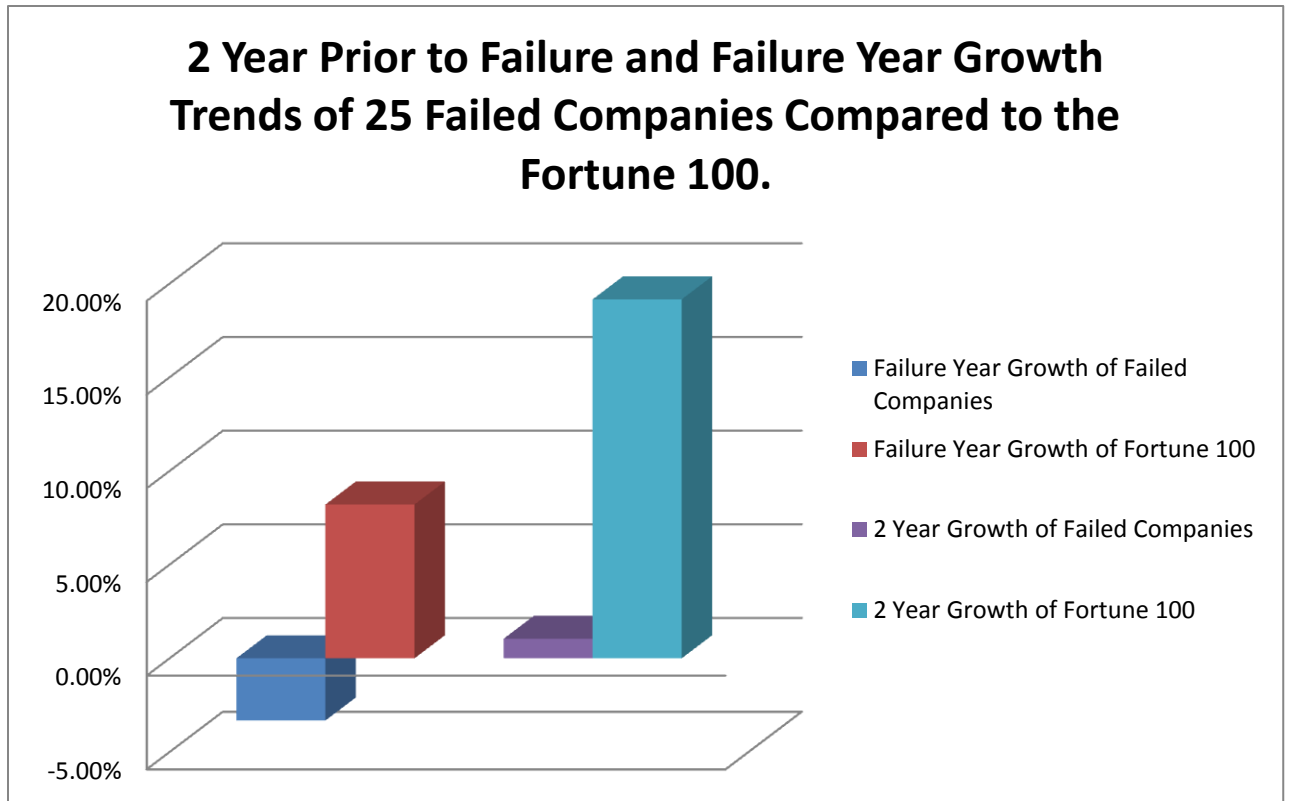


Figure 2-1: 2 Year Prior to Failure and Failure Year Growth Trends of 25 Failed Companies Compared to the Fortune 100 (Fortune)

From this comparison, it can be seen that the failed companies had, on average, a significantly lower growth average than the Fortune 100. In fact, in the year of the company's buyout the average growth of the failed companies was negative. These results, alongside the results from the "When Growth Stalls Article," and the results expected from simple economic theory show that there is a strong correlation between poor growth and failure of a company. With this in mind every company should have a

robust growth strategy and building this strategy will be the focus of the remainder of this thesis.

Chapter 3: Literature Survey

INTRODUCTION

In order to better understand the subject matter of this thesis, a thorough literature survey was performed. Several books, academic journals, and professional publications were examined to gather a wide variety of input. The focus of this literature survey was both on innovation and also business growth strategy. Each of these subjects was studied in depth to better understand them individually as well as how they can work together. Throughout the course of this survey several key themes were brought up over and over, and a clear link between innovation and business growth strategy was established in several of the publications. Also based on the information gathered, an innovation life cycle was developed to better understand how innovation is nurtured and developed within corporations. This life cycle was created with the idea that its exploitation can lead to a repeatable growth strategy. This idea will be introduced and explored further in later sections, but first several different terms will be defined in order to be able to more easily discuss the topic. More specifically, the different terms that will be used to describe innovation will be explored and defined in the next section.

TYPES OF INNOVATION

In studying innovation tens if not hundreds of different terms were used to describe various types. Some of these terms include things such as evolutionary innovation, revolutionary innovation, open innovation, and transformational innovation. However, when talking about innovation in relation to business growth, Clayton M Christensen's terms, sustaining innovation and disruptive innovation describe the process best. Each of these terms is used to describe how a certain innovation affects a market. Without understanding how a certain innovation affects the market it is impossible to

formulate a growth plan around it, and therefore from here on these terms will be used exclusively for the purpose of this thesis to describe different innovations.

According to Christensen, a sustaining innovation is one that is used to further a product within an existing main stream market. Typically, they are used to maintain or improve a product's existing market share, but these products often do not have a significant impact on expanding the market. They are improvements to a product that main stream consumers value. (Christensen, PG. 34) An example of this can be seen in the automotive industry. Every few years many of the various automotive companies produce new versions of their existing fleets. These versions often contain improvements over the previous versions that the targeted consumers will value. These incremental improvements do not typically open up large segments of unserved or underserved consumers, but rather work to better a product so that when an existing consumer looks to replace his or her worn out vehicle he or she picks it over someone else's product. This concept is important and what defines a sustaining innovation, it targets the existing users of a product.

On average companies are typically very good at providing these types of innovations. Primarily because they have a well developed market that knows what they use their products or services for and knows their business well enough to understand what they need. In fact, many companies today often go directly to their target markets and ask them what they would like to see in their next generation products, or ask them to validate decisions that the company has already made. (Tittle) This ensures that the market will value the new technology and reassures the company that their revenue will grow as a result of making the investment in the new technology. In Figure 3-1, a sustaining innovation is shown graphically.

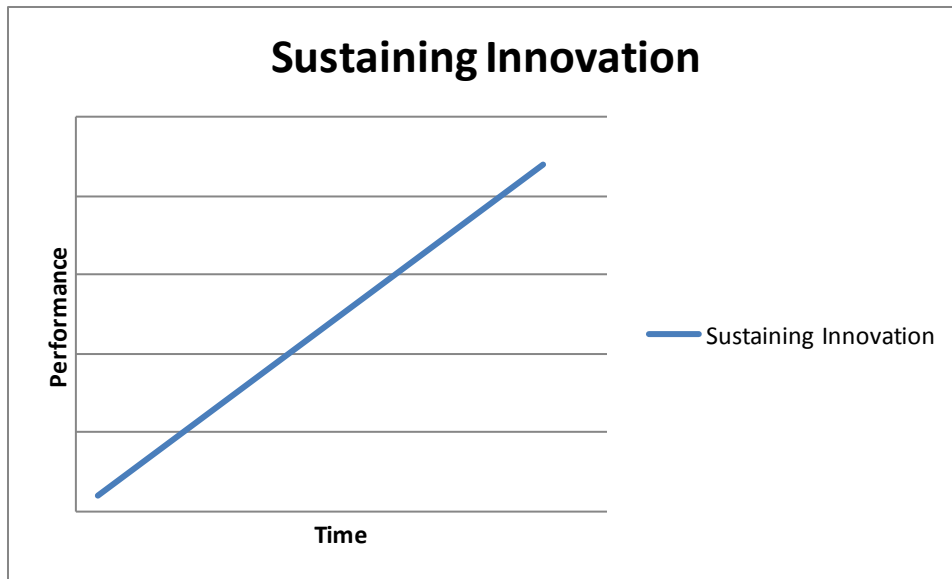


Figure 3-1: Sustaining Innovation (Christensen, PG. 33)

In contrast to the sustaining innovation, the disruptive innovation is one that targets a market segment that has typically been neglected by the mainstream companies. These innovations often exploit the low end of the market by offering technologies that are reduced in capability, but also at a much lower price point and with much less complexity. (Christensen, PG. 34-35) According to Christensen, there are actually two different types of disruptive innovations. The first is a low-end disruptive innovation and the second is the new market disruptive innovation. (Christensen, PG. 43-45) The low-end disruption is one that attacks the bottom end of a market and the most overserved portion of consumers. (Christensen, PG. 43) An example of a low end disruptive technology would be Southwest Airlines. The innovative business model that they developed allowed them to offer airline tickets at prices less than other airlines. However, when developing the business model for the company, they did not target existing airline travelers as their primary competition. These individuals were already being served by the current airlines. Their market was those that were not currently being served by the

existing airline market. These were the individuals who were traveling by other means such as cars, trains, or buses. In order to achieve the prices they offer that were competitive with the other modes of transportation, though, they were forced to sacrifice some of the luxuries that other airlines offer, such as reserved seating and international flights. (Kim, PG. 38-40) This reduced service was not an issue to the car, train, and bus travelers though because they were already not receiving those types of luxuries, and on top of that, the ability to travel at much greater speeds in a price range that they could afford far outweighed the sacrifices that they would have to make. In Figure 3-2, a low-end disruptive innovation is shown graphically along with the sustaining innovation from Figure 3-1.

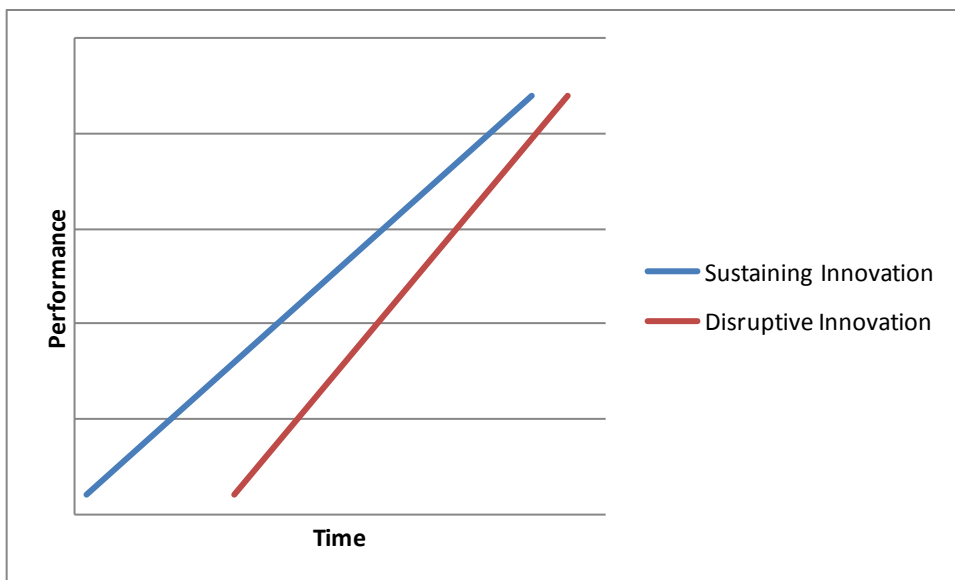


Figure 3-2: Disruptive Innovation and Sustaining Innovation (Christensen, PG. 33)

The two types of innovations are shown on the same chart in Figure 3-2 because independently the two would look identical. However, when they are on the same chart

the low end disruptive innovation curve will start later in time and with reduced performance as compared to the sustaining innovation.

The second type of disruptive innovation, the new market disruptive innovation, creates products for currently unserved markets. These products create new consumers and provide products that these consumers did not or could not typically use in the past. (Christensen, PG 45-46) An example of a new market disruptive innovation would be the all transistor pocket radio. Before this, radios were not easily mobile. With this invention consumers could now begin taking their radio's with them anywhere they went, and so they became extremely successful especially among young people who wanted to be able to listen to their rock and roll music away from their parent's ears. (Tedeschi) The concepts behind these disruptive technologies will be important to keep in mind as growth strategies are explored.

GROWTH STRATEGY

Throughout the course of the literature survey, one thing that quickly became evident was a company's ability to create sustaining innovations. Companies often times quickly identify their core technologies and they effectively move them up the performance scale as their customers demand it. Eventually, however, all companies will reach a point where their core products or services have exceeded the performance that the customers demand, and any further improvements will not result in an increase in revenue because average consumers do not value it. While there are some consumers at the top end that may still necessitate further improvements the average consumer will turn to price point as their most critical decision maker since anyone of a number of different products can meet their needs. Without an increase in revenue these companies fail to grow. This issue has long plagued companies and leads many CEO's and other

senior executives to ask, “What happens when our core technology matures?” The typical first reaction is to begin improving efficiencies. This means improving design processes, manufacturing processes, selling strategies, etc. All of which are aimed at extracting the most value it can from the core technology. Initially, all of these produce good results as they continue to better the bottom line. However, as the large companies are working on improving efficiencies the door is left wide open for other companies to improve their technologies in order to catch up with the average customer’s demand, and as more and more companies reach the top end of the market the product or service becomes commoditized and companies are forced to compete on profit margin since their technologies are all capable of meeting the demands of the existing market.

At this point, in order to maintain growth, it becomes necessary to compete against non consumption and expand the market or to move into an entirely new market. Without being able to increase revenue within their existing market through sustaining innovations it becomes necessary to find new consumers to generate more revenue. This is the first part of identifying an effective growth strategy. Companies must seek to enter or create new markets and begin the innovation life cycle all over. To better understand this cycle Figure 3-3 shows the cycle graphically.

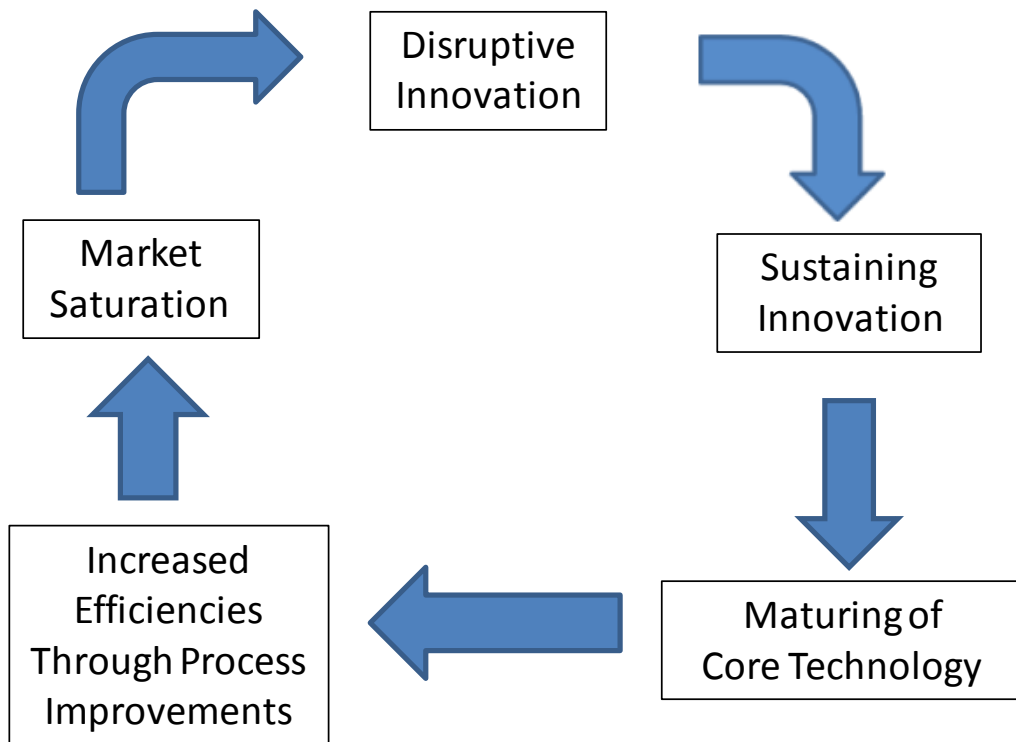


Figure 3-3: Product Innovation Life Cycle

Looking at this figure, it should be noted that companies can enter into the life cycle at any point. In the next few sections this issue will be explored further in order to understand how to better exploit this cycle to establish growth.

As discussed earlier, Clayton M. Christensen defines two different types of disruptive innovations, the low end disruption and the new market disruption. By understanding these different types of disruptive innovations they can be shaped into an effective growth strategy. The low end disruption exists when a competitor enters the market with a product targeted at the low end of the market offering consumers cheaper prices or reduced complexity. Christensen argues that these competitors open up large markets at the bottom end that were excluded by the established firms because they offered products that were more than what the low end consumers needed at too high of a

price, or they were more complex than the low end consumers could handle. (Christensen, PG. 34-35) In Figure 3-4, the disruptive business model is shown graphically.

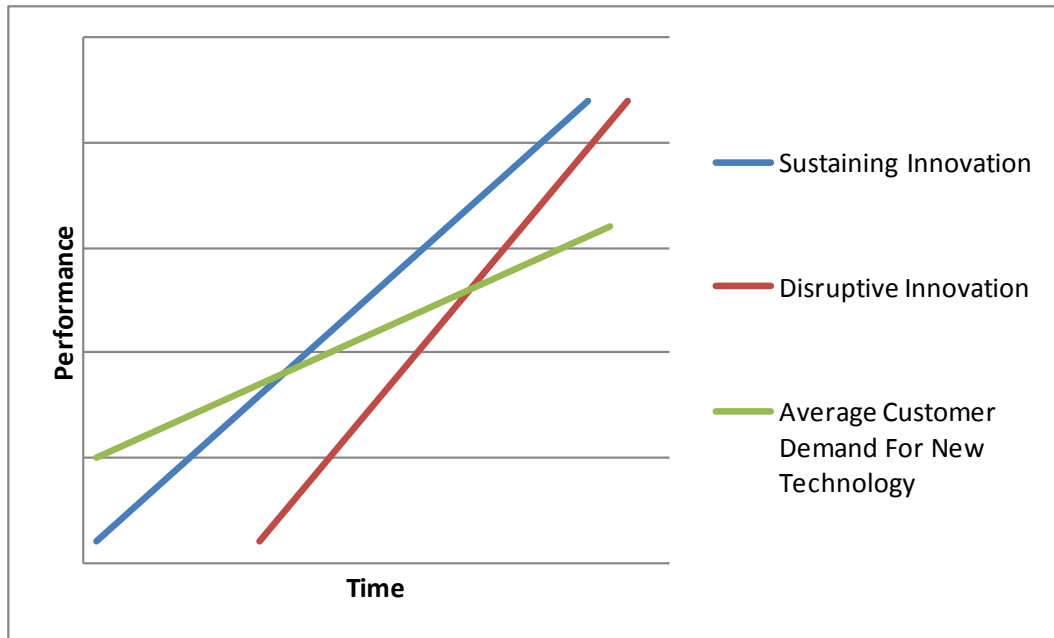


Figure 3-4: Low End Disruptive Business Model (Christensen, PG. 33)

The new market disruption is one in which the disruptive innovation opens up large amounts of consumers excluded by the current market because they do not offer the technology that the consumers value. (Christensen, PG. 45-46) By following one of these strategies, Christensen states that companies had a 37% chance of successfully launching their business, while companies who tried to directly compete with the established firms only had a 6% chance of successfully starting a company. (Christensen, PG. 43) Now what is important to take out of this disruptive business model for the established firms is what happens to them as the disruptive firms grow.

Christensen states that on average, firms improve their technologies faster than the market average demands. (Christensen, PG 32-34) Established companies simply chase after top end customers who are willing to pay a premium for the company's services. These premiums often times carry much higher profit margins for the companies, and therefore they are not discouraged by leaving the bottom end of the consumers behind. Typically however, this has proven to be disastrous. By leaving such a large customer base behind they also leave a potential market for a disruptive company. Typically these disruptive companies are opportunistic and therefore they do not seem to care that they have to work harder for less profit. Their alternative, after all, is to not make anything. However, the large companies are very defensive, and risk adverse because their alternative is to let the market go all together and simply focus their energy on a higher profit margin market. Now, once the established firms have moved up market the lower end market prices typically drop. This leads to an erosion of profit margins as the low end companies try to compete against one another by dropping prices to the lowest acceptable levels. (Christensen, PG. 36)

Therefore, as the established firms leave the lower end market the disruptors must also work to move up market so that they can maintain good profit margins competing with the low end of the established companies. Remember though, as discussed in earlier sections, companies tend to advance their technology at a much faster rate than what the average consumers demand. So what happens as the disruptive technologies continue to chase their way up the technology curve is that eventually the large companies have nowhere else to go. They reach the point where their sustaining innovations do not create value for their customers and therefore do not increase their revenue. At this point, they must compete directly with the disruptors, in which case they often move to process improvements to better their bottom line.

A very notable example of this market disruption can be found in the automotive industry. From the very beginning of the auto industry disruptors can be found. In fact, there is a famous quote by Henry Ford that says, “If I would have asked my customers what they wanted, they would have told me a faster horse.” While Ford may have been stating that he provided his customers with something else, the reality is that he gave his customers exactly what they wanted, a faster horse.

Early automobiles were often very complex machines that were expensive and not rugged enough to travel the rough roads that were available at the time. They also required very specialized mechanics and custom parts to repair when they broke down. All of these downfalls made the horse and buggy a much better alternative to many individuals since these were not issues that plagued them. They were well understood, affordable, and durable enough for the average consumer.

So what Ford did, was target the horse and buggy as his competition. He was not looking to simply compete with the existing automotive manufacturers he wanted to take the market of the horse and buggy as well, and that is exactly what he did. He made a vehicle that the average individual could afford, that was durable enough to withstand the rugged roads, and that had spare parts available when it broke down. He replicated everything that was great about the horse and buggy and then added some things on top. Essentially he produced the, “better horse” that the consumers were looking for.

Over and over this disruptive cycle has shown up in the auto industry, which shows that it does not have to be a once and done event. In the late 1950's, Honda and Toyota launched very small affordable automobile platforms in the United States that allowed people to purchase vehicles that could not buy them previously.(Honda)(Toyota) The vehicles did not provide much performance or luxury features, but those that did not even have a car, didn't care.

As their cars became extremely successful, they continued to evolve their technology and continued to encroach on large firms such as General Motors, Ford, and Chrysler. Eventually, in 2007, Toyota toppled General Motors as the number one vehicle manufacturer in the world with Honda not too far behind. (Toyota overtakes GM) Then by 2008, General Motors, and Chrysler almost disappeared completely, and were forced to accept huge capital investments from the United States government, and declare bankruptcy in order to survive. (Timeline of Auto Bailout)

However, as Toyota and Honda have climbed the technology ladder, they have once again left the door open for disruptive companies to enter at the low end and take over as they once did. In the mid 1980's and early 1990's, Korean automotive manufactures Hyundai and KIA , respectively, entered the United States automobile market as a low end disrupter and are beginning to show the same successes that brought Honda and Toyota to the forefront. (Hyundai)(KIA)

On a global front, TATA Technologies has launched a vehicle called the Nano which is touted as a vehicle that could bring automobiles to India in great numbers. (Chang) Much like Ford, the Nano is aimed at replacing an entirely different mode of transportation.

In India the primary means by which people travel is scooter. Sometimes entire families will travel by scooter. This can often be very dangerous. However, current vehicles far exceed the needs of the majority of Indian people and come at far too high of a price. The Nano, though, is built as a safer scooter. Exactly, what the consumers are asking for.

By 2014, Tata technologies will be bringing the Nano to the United States and only time will tell if the disruptive model that they follow will provide them with the same successes that others have seen who have followed their same path. (TATA)

The success of these disruptors leads to the second part of the growth strategy, when entering or creating new markets do so as a disruptor. As Christensen discovered, this leads to a much higher success rate.

Before the growth strategy is developed any further, it is first important to warn against a failure mode with the second part of the growth strategy that has been discovered throughout the course of this literature review. Do not abandon your core technologies prematurely. The sustaining innovations that occur in the core technologies are the cash cows that provide funding for all of the other development activities.

While this statement is relatively easy to make, actually determining when to move on is quite a bit more difficult. Several different successful companies have attacked this issue in many different ways, some of which will be investigated further in Chapter 4. However, throughout this literature survey there did not seem to be a sure way of guaranteeing success. Therefore, for the purpose of developing the growth strategy, the recommendation is to hedge against the risk.

To do so, companies must do two things. The first is to ensure that they launch disruptive technologies often in order to make sure that they are fully developed by the time the company needs to rely on them for significant amounts of growth. The second is to launch the disruptive technologies in a controlled manner. This means that the disruptive technologies should not be put in the position of creating significant amounts of growth immediately. While this would be nice, it is often improbable.

On top of launching these technologies at the appropriate scale and running them through the proper channels such as test markets and so on and so forth, these new technologies should also become profitable in a relatively quick manner. (Christensen, PG 246) Ensuring quick profitability means that the technologies life line, a.k.a. its funding, will not be at jeopardy of being cut when the parent business is strapped for cash.

In trying to better understand why disruptive innovations need to be released in a relatively slow manner in order to ensure their success, the book “Diffusion of Innovation,” by Everett Rogers was reviewed. In this book Rogers describes what he calls the “Rate of Adoption” of a particular innovation. The rate of adoptions is defined as “the relative speed with which an innovation is adopted by members of a social system.” Rogers describes this taking place over a given amount of time as an S shaped curve. At the beginning few adopt the new technology, but as time goes on more and more of society adopt the new technology until the s shaped curve reaches its asymptote, at which time the diffusion is complete. (Rogers, PG. 23)

Another important part of this diffusion curve is the point at which the innovation reaches its “critical mass.” The critical mass is the point at which the innovation has been adopted by enough of society that its further adoption becomes self sustaining. (Rogers, PG 344) This point is where the s shaped curve transitions to a much higher slope than its early adoption. The diffusion curve can be seen graphically in Figure 3-5. While Rogers does not explicitly describe sustaining and disruptive innovations, the attributes of each were taken into consideration and their resulting curves were plotted together.

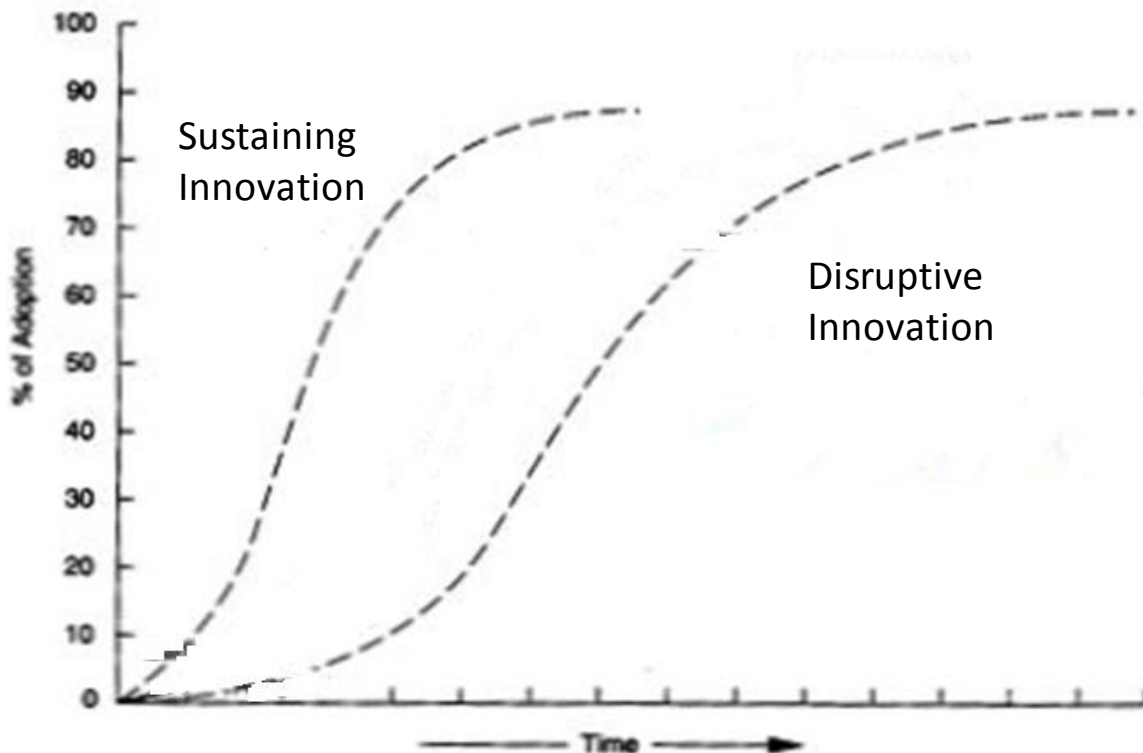


Figure 3-5: Diffusion Curve (Rogers, PG. 11)

What can be observed about the disruptive innovation is that on average it takes much longer for the population to adopt a disruptive innovation than it does for them to adopt a sustaining innovation. So many reasons exist for this, that it would be impossible to list them all, however, some of the more common reasons are as follows: the infrastructure does not exist to support the technology, people do not yet fully understand how to utilize the technology, brand recognition, and finally the value may not be in the technology yet. However, regardless of the reason the technology must be allowed to grow at its prescribed pace and reach its critical mass in due time. Expecting it to move faster by pouring huge amounts of company resources into the technology would be bad business and potentially company suicide. This leads to third part of the growth strategy,

invest in disruptive technologies often, ensure that they are profitable as quickly as possible, and do not expect them to provide significant growth immediately.

A failure of the third part of this business strategy can be seen in spectacular fashion with the launch and subsequent failure of Iridium, LLC. In 1985, an engineer at Motorola named Bary Bertiger, came up with the concept of deploying a constellation of low earth orbiting satellites used for telephone communication. (Finkelstein, PG 2)

This type of communication would allow people to use an Iridium phone anywhere they had a clear view of a satellite. Essentially anywhere around the globe that did not have an obstructed view of the sky.

After initially being turned down by his immediate bosses, Bary finally won the support of a Motorola senior executive named, Robert Galvin. (Finkelstein, PG 2) While satellite phone service itself was not a new concept the Iridium network provided significant advantages, such as smaller phones and less delay due in large part to its closer satellites.

In 1991, Motorola smartly set up Iridium, LLC. (Finkelstein, PG 2) Forming this company would allow Iridium to generate additional funding from other investors as well as allowing it to operate under its own business strategy. However, while Iridium was its own company it still maintained strong ties to Motorola. As part of the deal, Motorola signed \$6.6 billion in contracts with Iridium to design, build, and maintain the satellites, as well as produce a portion of the handsets. (Finkelstein, PG. 2) So with a good start why did the company fail?

Throughout the course of the development of the Iridium network, the company targeted a market of international executives who travelled to remote areas where cell phone service was not available as part of their jobs. While this may have been a valid

plan at the beginning, what Iridium chose to ignore was the rise of cell phone service throughout the 1990's. (Finkelstein, PG. 3)

During this time period traditional cell phone service was greatly improved and provided a much better value to Iridium's target market than the \$3000 Iridium phones with several dollars a minute call plans. In the end, Iridium, LLC would have needed a consumer base of 600,000 individuals to break even, but when they filed for chapter 11, less than a year after their launch, they had only 20,000. (Finkelstein, PG 1) Knowing that the target market had eroded Iridium officials and Motorola officials should have known not to go forward with the most expensive portion of the contract, building and launching the satellites, but they chose to anyway.

As was stated earlier, Motorola had signed a \$6.6 billion contract with Iridium, LLC to develop, build, and maintain these satellites; meaning that all of the money for Motorola was in getting the service off of the ground as quickly as possible. After a long run of declining sales for Motorola in its core businesses during the 1990's they needed to hit the home run bad. They had missed the switch to digital service in the cellular industry and it had cost them greatly. Therefore, they were determined to get Iridium up and running as soon as possible. (Finkelstein, PG. 2) With a significant presence within Iridium, including several board seats, Motorola no doubt had an impact on prematurely launching the satellite phone service in 1998, without all of the hardware to support it and without a viable business plan to carry it into the future.

Had Iridium, LLC been allowed to develop at its own pace and taken the time to redevelop a viable business plan such as one targeting remote areas of the world they may have enjoyed success. Instead though they went down as the largest failure ever at that time, and Motorola was said to have lost around \$1.1 billion. (Finkelstein, PG 9)

Per the third rule of the business strategy companies must invest in new growth opportunities often. Yet sometimes identifying these new growth opportunities can be extremely challenging. This fact leads to the fourth and final part of the business strategy, identifying new growth opportunities.

Throughout this literature survey this is something that has been of particular interest, and much research has been done. The research that will be presented here mainly stems from the work of Christensen and is focused on identifying the disruptive innovations that make launching the new business opportunities much more successful.

In the book “Seizing the White Space,” author Mark W. Johnson quotes the founder of Intuit, Scott Cook, “For every one of our failures we had spreadsheets that looked awesome.” (Johnson, PG 137) While this light hearted quote draws attention back to the third part of the business strategy, it also sheds some light on finding new growth opportunities and the fact that it is not a simple task. However, this does not have to be nearly as difficult as some would imagine and throughout the literature review several strategies were discovered that were built around a structured repeatable process.

Before beginning this concept though, it is first important to identify the concept by which most of these strategies are built. This is the concept of “job based differentiation.” This concept, discussed by Christensen and first introduced by Theodore Levitt, is built around the fact consumers do not buy products; they hire them to do a job. (Christensen, PG 75) Therefore, it behooves the companies developing new products to understand what type of job the consumers are trying to get done and figure out a way to develop a product that is worth hiring.

Looking back to the example of Henry Ford this can be seen quite clearly. The consumers of the day were looking for a mode of transportation that was rugged, affordable, and convenient. At the time the automobile was none of those, and therefore

the majority of the consumers relied on the horse and buggy. However, Ford recognized what the consumers were trying to do and developed a product that would meet all of those needs. From then on, Ford's automobile provided the best value to the consumers, and therefore was hired by them to complete the tasks at hand.

The process of identifying jobs to be done in the past has been stumbled upon in many different ways. While some CEO's may be waiting for that next big thing to come to them in a dream, a much more repeatable process does exist. That is, "When looking for new growth opportunities expand the existing market boundaries." This is the fourth and final part of the business strategy for sustaining growth through innovation.

In the book "Blue Ocean Strategy," authors W. Chan Kim and Renee Mauborgne explore this topic in greater detail. According to their analytical framework, the first step to developing a new growth opportunity is to develop a "Strategy Canvas" for the existing members in the market.

The "Strategy Canvas" is a tool used to assess how the current market competes. On the horizontal axis all of the factors in which the current market competes on are listed. Then on the vertical axis, the importances of each of the factors are listed from low to high. Finally the different players in the market are graphed by plotting their respective importance of each of the factors. The resulting curves are referred to as "Value Curves." (Kim, PG 25-27) In Figure 3-6, an example of a "Strategy Canvas" is shown for a fictitious widget company.

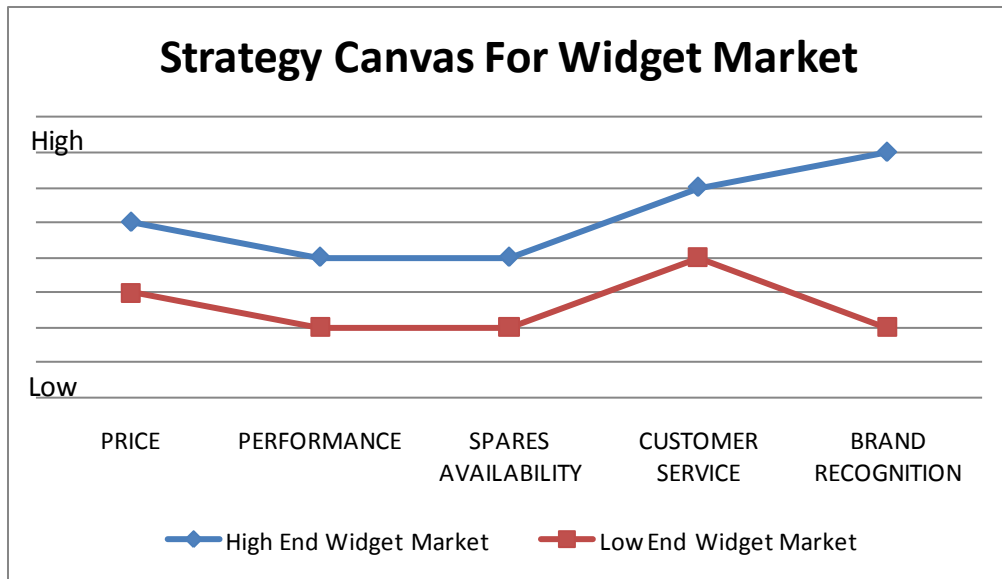


Figure 3-6: Strategy Canvas for Widget Market (Kim, PG. 25)

Based on this strategy canvas, businesses must look for ways to differentiate themselves from the other competitors in the market. Businesses must not seek to beat their competitors at their competitors own game. This is almost always a recipe for disaster. In differentiating their growth opportunities, businesses must seek to compete against non consumption.

In order to do so, Kim and Mauborgne, developed what they call the “Four Actions Framework.” (Kim, PG 29) This frame work is developed to help create a new value curve for growth opportunities. The four actions are as follows:

1. Which of the factors that the industry takes for granted should be eliminated?
2. Which factors should be reduced well below the industry’s standard?
3. Which factors should be raised well above the industry’s standards?
4. Which factors should be created that the industry has never offered?

By answering these four questions, a new value curve can be developed that creates value for a new set of customers looking to hire a product to accomplish a certain job.

To better understand how this works, the widget industry from the previous example was used. To create the value curve it was assumed that a company from the widget industry wanted to expand into markets of non consumption that typically utilized other means of performing the widgets job because the widgets were just too expensive and unaffordable. Based on this a new value curve was created using the “Four Action Framework,” and plotted in Figure 3-7 against the existing industry value curves.

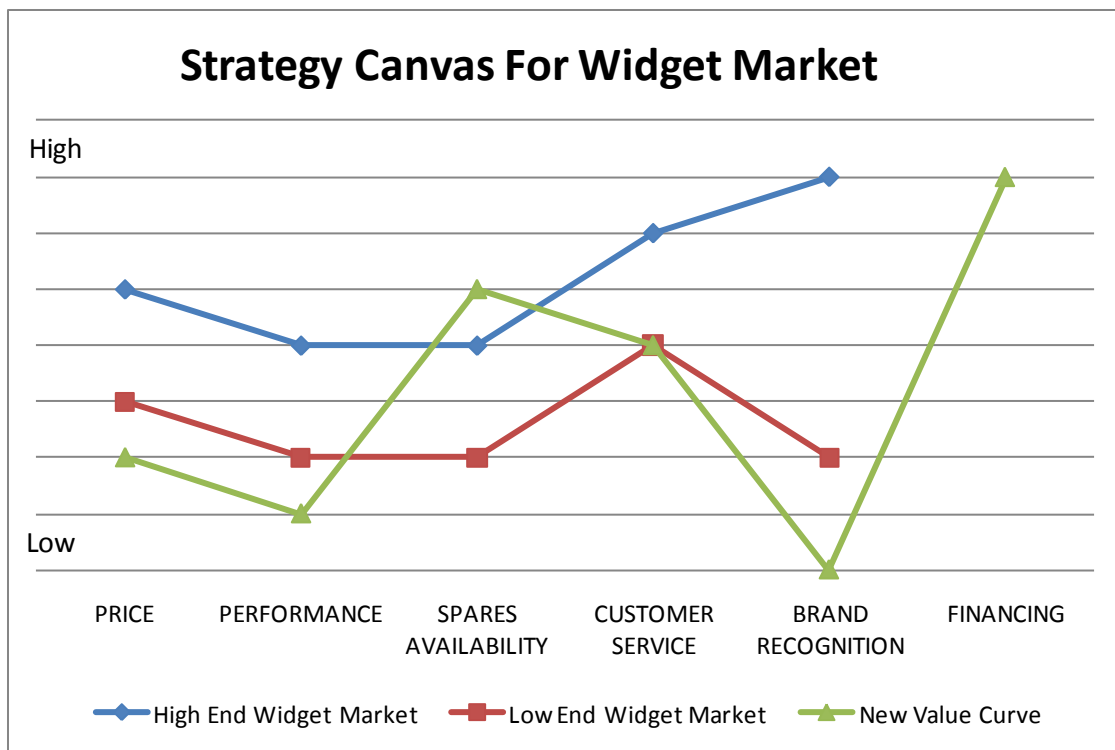


Figure 3-7: New Value Curve for Widget Market (Kim, PG. 25)

In Figure 3-7, this company successfully created a product that will differentiate itself within the market, as seen by the much different looking value curve. In this

company's offering, they reduced price as much as they could by also reducing performance and quality to the lowest acceptable level. They then increased the spares availability in order to ensure that parts would be available if the widget broke so that the consumers could perform the jobs they were hiring the widget to accomplish.

With the widget defined they then tackled some business strategy issues. They first decided to maintain the customer service level offered at the lower end so that they could keep happy customers, they then reduced their marketing since the brand recognition was not of importance to this new consumer, and finally they created a financing scheme to help these new consumers better afford their products since they could only reduce the purchase price by so much.

CONCLUSION

Within this literature survey a foundation was created for the subsequent analysis of Chapter 4. First the concepts of sustaining innovations and disruptive innovations were established to develop the terminology necessary to understand the business strategy for growth. From here the product innovation life cycle was developed for the purposes of developing the business strategy for sustained growth. Finally the strategy was then developed using business theory established by many academic and industry experts discovered throughout the course of the literature survey. The strategy as detailed in the previous section is as follows:

1. To sustain growth, companies must continually create or enter new markets.
2. When entering or creating new markets, do so as a disruptor.
3. Invest in disruptive technologies often, ensure that they are profitable as quickly as possible, and do not expect them to provide significant growth immediately.
4. To find new growth opportunities, expand the existing market boundaries.

By following these four basic rules companies can maintain long periods of success and fortune.

Chapter 4: Case Studies

INTRODUCTION

In this section, two companies will be looked at to investigate the growth strategy developed in the previous chapter. These companies were chosen primarily on market capitalization which is the number of shares outstanding multiplied by the share price. This metric represents the market value of the company, which includes everything from the profits the company is currently receiving as well as the net present value of their growth opportunities. In addition to market capitalization, the other factor that was used was the age of the company. Both old and relatively new companies were chosen to ensure that the growth strategy remained viable. With these factors the first company selected, which is over 100 years old, was General Electric. The second was chosen as a company much less tenured but still with one of the highest market capitalizations in the United states. This company is Apple Inc.

Inside the literature review, several examples were given to provide a better feel for the concepts being developed. This analysis will seek to show the repeatability of the concepts by studying individual companies over long periods of time. While this cannot guarantee success, it will strengthen the foundation in which the business strategy, developed in this thesis, was built.

GENERAL ELECTRIC

Background

The General Electric Company, GE, is a global multi industry conglomerate which traces its roots back to the great inventor Thomas Edison, and the Edison Electric Light Company founded in 1878. The name General Electric Company was established in 1892 when Edison merged his company with the Thomson-Houston Electric

Company. Along with the merger, the General Electric Company also began trading its shares on the New York Stock Exchange and in doing so GE began its long career as a leader in growth and innovation. (International Directory of Company Histories)

While the light bulb was not Edison's first invention, it was the one that sparked a multi-billion dollar company and a unique innovation style that has so far provided over 100 years of success. With the development of the light bulb began a new set of challenges for Edison. This challenge was to provide an infrastructure that was capable of providing electrical power to the people using the new light bulbs. Edison's first attempt at this was to produce the dynamo, which was a direct current (DC) generator. These were able to be integrated into businesses and provide power in small, by today's standards, networks. This invention led to the first application of electric lighting onboard the steamship Columbia in 1880. (International Directory of Company Histories)

While Edison continued to further electric technology through DC systems, the engineers at the Thomas-Houston Company developed their Alternating Current (AC) technologies. This power source had the ability to be transmitted over much larger distances and removed the limitations that DC systems were plagued by. The merger of the Edison Electric Company and the Thomas-Houston Electric Company greatly strengthened GE by unlocking the patents restricting the use of the power transmission capability of the Thomas-Houston Company and combining them with the brilliant electrical devices being developed at the Edison Electric Company. One of which was an electric train. (International Directory of Company Histories)

Unfortunately, Edison was not the first to capitalize on this new technology. In 1884, a former Edison Electric engineer named Julian Sprague, spun off his own company and produced the first ever electric street car system in the United States. While Edison failed to make the first electric system, he did recognize its potential and

purchased Sprague's company in 1889. In 1893, after the merger, GE built its first electric railway. This railway was constructed at the fairgrounds of the Chicago World's Fair. (International Directory of Company Histories)

Also in 1893, GE began developing large scale power transmission networks. These networks would create the large scale infrastructure that was necessary for wide use of their consumer electronics. (International Directory of Company Histories)

By the turn of the century what had started as the invention of a light bulb, had sprung into a huge corporation involved in everything electric. By this time, GE had developed generators for electricity production, the equipment necessary to transmit power, as well as electric motors, light bulbs, and trains which utilized the power. As their consumer product line grew so did the need to provide more power. Therefore, that is exactly what GE focused on. By 1901, GE had developed a working prototype of a high speed steam turbine, and by 1903 the generators were developing power for the consumer market. While these turbines were great for creating electric power, GE also recognized their use in other markets, more specifically in the naval and aerospace fields. The further research performed would eventually lead to the first flight of an airplane with a turbine powered supercharger, the first turbine powered ship in 1913, the first turbine powered battle ship in 1915, and then eventually the first plane to fly with a jet engine, the Bell XP-59, in 1942. (International Directory of Company Histories)

As things were progressing on the electric production side of GE, so too was the development of devices which consumed the electricity. In 1913, a man named William Coolidge developed the first x-ray tube. This innovation would again move GE into new territory as they expanded their market into the medical technology field. It should be noted here that Coolidge discovered this x-ray tube while developing a new tungsten filament for the light bulb. While many companies could have chosen not to invest any

further in this non core technology GE rightfully decided that it was worth pursuing. Along with the further development of the light bulb, GE also began launching several new consumer products including a toaster in 1905, an electric range in 1906, and a refrigerator in 1911. All of which were significantly easier to use than the alternatives that they replaced. (International Directory of Company Histories)

By 1912, GE was expanding again, this time with research in the radio market. By 1919, in conjunction with AT&T and Westinghouse, GE formed the Radio Corporation of America (RCA), and in 1922 they even formed their own radio station, WGY in their hometown of Schenectady, NY. Here many breakthroughs were developed, including frequency modulation (FM) transmission. (International Directory of Company Histories)

As the United States, entered the great depression, many companies suffered, but with the innovative spirit of GE they faced the challenge head on. While developing many affordable home appliances they also developed their consumer finance division which made the products easier to pay for. (GE Innovation Timeline)

Eventually the depression would end as World War II began, and along with the rest of the nation, GE began building products in support of the war effort. Throughout this time, GE built over 50 different kinds of radar in addition to supplying the turbine power plants for the Navy's ships. Along with the naval power plants, GE also furthered their research in the aviation sector. (International Directory of Company Histories) This research would create the first turboprop aircraft just after the war as well as the first autopilot system in 1943.(GE Innovation Timeline)

By the late 1940's, GE again was entering new fields, this time in the area of nuclear power generation. In 1955, the US Navy launched the Seawolf submarine powered by a GE nuclear reactor, and in 1957 GE was granted the first license from the Atomic Energy Commission to operate a nuclear power reactor. (International Directory

of Company Histories) Other developments at GE during the 50's included the transistor radio, Barazon, the electric can opener, and Lexan. (GE Innovation Timeline) The latter was developed at the GE plastics division which was started initially to investigate insulators for electrical wiring, but grew through innovations into much more.

In the 1960's, GE joined the space race. Their first venture into this was the building of the Discovery XIII. This was a reentry vehicle that at the time was the first manmade object ever recovered from space. (GE Innovation Timeline) From here, with the help of over 6,000 GE employees the manned space program accomplished its biggest milestone ever, sending the first man to the moon. This was an effort in which GE had a significant part. They built everything from the silicone used for Neil Armstrong's boots to the ship to satellite system that allowed millions of Americans to witness the event on their television sets. (International Directory of Company Histories)

As the company entered the 70's they showed no signs of slowing down. However, at this time the first major reorganization took place. With the abundance of growth they encountered up until this point the number of business units they managed was very large. This reorganization focused on reducing that number and making them more manageable. In the end, the reorganization cut the number of operating units from 200 down to 43, and each of these newly formed units was classified into one of three categories: growth, stability, or no growth. This allowed them to rid themselves of unprofitable business units and better place their research funds into profitable ones. (International Directory of Company Histories)

While the reorganization was taking place, GE continued to make advancements in many of their industries. Some of the most notable advancements during this time were Computed Tomography (CT) scanners in the medical field, digital clock radios in the consumer products division, and the development of the CF6 turbofan engine, which

powers Air Force One, in their aerospace division. (GE Innovation Timeline) The end of this decade also marked 100 years of life. In 1978, they had crossed the centennial mark and continued to march full steam ahead into the decades to come.

The 1980's brought with it GE's most famed CEO and Chairman John (Jack) Welch. As the company grew many investors believed that it was so large and diverse that it could not grow at a rate exceeding the gross domestic product, but Welch was determined to prove them wrong. His first order of business was to ensure that each one of GE's businesses was number one or number two in their field. If they could not be returned to the top spot in the market they were sold. (Welch, PG. 169)

Along with the divestment of unprofitable businesses, Welch continued the expansion of the GE brand by bringing the company into the services industry in full force. While GE had dabbled in the industry in the past their manufacturing sector had always been considered the core. By 1984, GE's credit lending business had doubled its assets and expanded into several new markets such as leasing and selling heavy industrial goods, inventories, real estate, and insurance. Also expanding GE's service foot print was the \$6.4 billion purchase of the RCA Corporation. While they had helped develop this corporation they were forced to cede their shares as part of an antitrust lawsuit in the 1930s. Here they purchased the company back in large part to acquire RCA's National Broadcast Channel (NBC) which greatly strengthened their new consumer service focus. After this merger, GE received approximately 80% of its earnings from the services and high technology industries, whereas, in 1980, these industries only accounted for 50% of their earnings. (International Directory of Company Histories)

While this was going on, GE did not abandon its core. In fact, it began investing heavily into factory automation devices. On top of developing the devices, GE also installed many of these devices into their own factories in an effort to better efficiencies.

They spent more than \$1 billion annually on improving efficiencies within the products developed in the manufacturing sector. Some of the other notable examples are more efficient jet engines, light bulbs, and power transmission devices. (International Directory of Company Histories)

As the decades switched so too did GE looking to expand their markets again to stimulate growth. This time the effort was focused on overseas growth. In 1999, GE opened its first global research center in Bangalore, India. This company was setup with the intent of developing new products for the emerging markets as well as utilizing the highly capable global workforce. (International Directory of Company Histories)

In 1998, GE reached \$100 billion in revenue for the first time. This was a major accomplishment for the company that started with just a simple incandescent light bulb. Also in 1998, GE Capital, the companies financial lending arm recorded 50% of the company's total revenue. This shows how significant the company's investment was in the services sector as the manufacturing sector remained relatively stagnant. (International Directory of Company Histories)

Just before the turn of the century, GE again expanded their market and developed another growth strategy. With the explosion of the internet GE recognized the potential it could have for their business and quickly adopted ecommerce. Early tests of the viability of the ecommerce initiative were targeted at selling appliances on Home Depots website. (International Directory of Company Histories)

With the turn of the century came a new leader. Welch had brought a company from profits of \$1.6 billion on \$27.2 billion in revenue to profits of \$10.72 billion on revenue of \$111.63 billion. At this time GE also had a market capitalization of \$505 billion. This put it just behind Microsoft who held the top spot. (International Directory of Company Histories)

With the new CEO came new focus. While Welch had driven high growth in the financial sector, the problems that plagued the sector in the early 2000's forced GE to shift strategies. These changes included putting renewed focus into high growth areas such as healthcare and entertainment. Also GE began a campaign into alternative and clean energies. So far they have produced several different industrial hybrid vehicles such as earth movers and locomotives. They have also returned to their roots in energy production and transmission by purchasing the assets of Enron's wind farm for energy production and developing an electric vehicle charging station to recharge the new fleet of electric vehicles that will almost surely come in the future. (GE Innovation Timeline)

Analysis

Throughout the history of GE, the business strategy developed in this thesis can be seen over and over. At first, much of the expansion and growth of the company was built out of necessity, but in the latter years, the company recognized the innovative trends that they had developed and capitalized on them to provide the growth that their share holders demanded. In this section, the history of GE will be analyzed and the four elements of the business strategy will be discussed to show how they can be applied over and over to repeatedly foster new growth opportunities.

As the previous chapter defined, the four keys to a repeatable growth strategy are as follows:

1. To sustain growth, companies must continually create or enter new markets.
2. When entering or creating new markets, do so as a disruptor.
3. Invest in disruptive technologies often, ensure that they are profitable as quickly as possible, and do not expect them to provide significant growth immediately.
4. To find new growth opportunities, expand the existing market boundaries.

The first element of this business strategy can be seen time and time again throughout the history of GE's impressive growth. As stated previously, in the early years, GE expanded out of necessity. The invention of the light bulb required a strategy to be developed in order to deliver the power to the consumers who would use these new devices. After time, however, GE began developing a habit of purposefully entering new markets. Some of which were stumbled upon through breakthrough developments within their research laboratories, but other market moves were made after a careful study of the business as a whole. A good example of this would be the move GE made into the financing market. While the initial concept of financing at GE came from a business strategy developed to spur growth during the depression, the moves to expand the unit far beyond the funding of its own products was done primarily to create growth outside of GE's core businesses. This move was made at a time when GE's core businesses were remaining relatively stagnant.

After decades of success, however, GE Capital suffered significant losses during both financial downturns of the early 2000's. So GE, once again, looked to expand and replace that revenue in other areas. In 2010, GE earned \$20 billion in revenue from areas where they were not present in 2000, just prior to the first financial downturn, and after the second financial downturn they are looking to accomplish the same thing. From 2008 to 2011 they increased their research and development spending by 54%. (GE) This growth will be imperative for the company as it moves into the next decade to restart the overall growth of the company and prevent a large scale failure.

The next element of the business strategy has shared equal success throughout GE's history. Time and time again GE disrupted new markets with innovation. Again these innovations stem all the way back to the light bulb, which disrupted the market for oil lamps. The electric lights were far simpler and safer in operation than the oil lamps

and so too were the future appliances that would be developed. As GE progressed in technology they also increased their ability to disrupt new markets. The invention of the X-Ray tube produced a far simpler way to get a picture of the internal structure of a human being, which prior to the X-ray was only viewable through surgery. This led to a slew of sustaining innovation, which includes Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) scanning. Some of the later disruptions from GE came in the form of factory automation which greatly reduced overhead costs of manufacturing activities, as well as new product development within emerging markets.

The third element of the business strategy within GE is mostly self explanatory. Throughout the more than 100 years of operation and over 67,000 patents, GE's ventures into new technologies are significant. Much of the success of these new technologies stems from their ability to grow these technologies at the appropriate rate. Seen throughout GE's history, many of their products started with just a single customer before growing into the huge successes that they eventually became. One notable example of this was their expansion into emerging markets. GE tested the waters with this new venture by building a single R&D facility in India in 1999. It was then several years later before GE would build another overseas R&D facility, this time in China. A second example can be seen within the venture into ecommerce. While the internet was booming, GE did not bet the house on the success of it selling its products online. GE smartly tested this market as a potential avenue for selling its products, by first selling their appliances on the Home Depot website. After the success of this avenue was proven, they then launched their own ventures into online retailing by launching GE.com. This venture quickly turned into a \$2 billion revenue stream for the company within three years after launch. (GE Innovation Timeline)

Finally the fourth element of the business strategy can also be seen throughout GE's growth. As things developed at GE the majority of their innovations were simply market expansions. While some ah-ha moments did occur, many were simply taking their existing technologies and knowledge and developing them for other markets. Some of the noteworthy examples include, leveraging the steam turbine generator technology and developing the first jet engine for an aircraft, developing an entire plastics division after looking for new insulators for their electric wires, and finally their move into leasing and financing of much more than just their core products which is how the finance division originally began. Part of the reason that this type of innovation is so prevalent at GE is because it was used heavily by Jack Welch to expand. His philosophy was to adjust the market that the company is operating in until the company makes up no more than 10% of the total market space. (Welch, PG 174) From here, Welch would look for how to expand within this new market.

Conclusion

As seen through this case study, GE has demonstrated the business strategy developed within this thesis over and over throughout the 100+ years that they have been in existence, and with no signs of slowing their success is poised to continue for hundreds of more years to come. While they have encountered some recent slumps from the large economic downturn, their past history would indicate that they should be able to recover as they look to expand their presence outside of their existing markets and replace the lost revenue stream with new disruptive technologies. This study builds a strong case for growth in this manner, as GE has long been a contender for the top corporation in the world. While they may not always hold the top spot, they are certainly a perennial all-star in a field that has seen many come and go.

APPLE INC.

Background

Throughout the history of Apple Inc. the company has seen its share of ups and downs. The company began through the hard work and dedication of exhibiting all of the four elements of the growth strategy outlined in this thesis. However, as the company entered its first major change in management Apple departed from the successful strategies of its past and entered a significant downturn. This growth stall would not last though, with the return of one of its founders, Steve Jobs, the company returned to its former glory and has again climbed up the rankings of top companies based on market capitalization. This unique history and quick growth make it an excellent example to study and compare its development with the growth strategy developed in this thesis.

In 1976, Apple was founded by Steve Jobs and Steve Wozniak. Like so many others in this field, both were college dropouts, but each brought a unique set of skills to the company that created its success. Wozniak was a self taught engineer and the mastermind behind the products, while Jobs was a skilled businessman and the brains behind the company's strategy. (Lewis)

The first venture for the newly formed company was the Apple I. While this computer lacked many of the peripherals of today's computers, such as a display monitor and a keyboard, it was an ingenious design using far less parts than others of its day. This allowed Jobs to sell 50 of the devices to a local electronics store, The Byte Shop, and create the foundation for a multibillion dollar company. Eventually, 200 of these devices were built and sold and encouraged the Steve's to develop their next generation computer, the Apple II. (Lewis)

The Apple II was determined to be a much more complete machine than the Apple I. While the Apple I lacked sophistication due to the limited funding used to

develop it, the Apple II, thanks to Steve Jobs would not be forced to suffer the same fate. With grand intentions of building the Apple II with an integrated keyboard and housed in an aesthetically pleasing plastic case, Jobs went on the hunt for capital. Eventually, Jobs would consult Mike Markkula, who was a retired employee of the Intel Corporation and Fairchild Semiconductor. After being convinced of the potential for Apple, Markkula would bring in \$250,000 of capital and receive a one third share of the company in return. With this the Apple II was built, just as envisioned, and debuted for the first time in April of 1977. It was a smash hit. By the end of 1977, annual sales had surpassed the million dollar mark. The brilliance of Wozniak's simplistic design made the computer affordable for the first time to the average consumer, and revolutionized the industry by creating an entirely new market. (Lewis)

As Apple entered the 1980's, it did so as one of the fastest growing companies. This was based largely on the success of the Apple II and its many subsequent variants. With this rapid growth, the company went public. Its initial offering was extremely well received and sold out in just minutes. (Lewis)

Fearing that the Apple II would be quickly outdated, Apple began the development of its successor. This offering, however, was Apples first flop. Putting themselves under intense time pressure with the belief that the Apple III had to succeed quickly the company released the product in 1980 without adequate testing. Multiple failures quickly plagued the company, and even though all of the issues would eventually be addressed, the damage had already been done. Slow sales resulted in the product being cancelled in 1984. (Lewis)

In lieu of the Apple III's failure, Apple was determined to move forward. In 1981, they had tripled their research and development budget, and introduced 40 new software programs in addition to their first hard disk. They also began expanding outside of the US

and opened their first European offices. By 1982, these investments had paid off and the company became the first personal computing company to reach the \$1 billion mark in annual sales. (Lewis)

By 1983, after shrugging off the failure of the Apple III, Apple introduced the LISA. This computer was built around the concept of ease of use. This computer was the first to introduce the concepts, of the mouse, desktop, and icon. All of these were a far different philosophy than the text based systems that had preceded them. Unfortunately, the high price of the LISA led to a relatively small number of sales. Apple was trying to introduce a product that could compete directly with IBM, in the business market, but was unable to ever achieve a foothold. This, however, would not last. (Lewis)

After learning from the LISA, Apple went back to the drawing board. This time determined to build a product that could succeed. Their aim was to build in the easy to use interface and new technologies from the LISA into an affordable platform. By 1984, they had succeeded, and the Macintosh computer was unveiled. This computer was much more successful. In the first 100 days, 70,000 of the computers were sold. By 1988, the company had sold over 1 million with 70% of them going to corporations. (Lewis)

Unfortunately, much of the success of the Mac was enjoyed by Apple, without the division founder. In 1985, Jobs was forced to resign after an internal battle with the then CEO John Sculley. This departure may also have led to the many problems that the Mac line would eventually develop. As Apple, progressed through the 1980's and into the 1990's they had developed a significant number of products within the Macintosh division. These products unfortunately, were not well differentiated between themselves and overcrowded their own market space. They also created confusion for consumers and retailers and therefore were not well received. In addition, the release of Microsoft Windows in the 1990's brought the ease of use of the Macintosh to many other platforms.

To compound matters worse, the company failed to accurately forecast demand. With the belief that they had the right products just not the right marketing strategy they often overproduced their models needing to create revenue, but this strategy simply left the company with huge amounts of unsold inventory. (Lewis)

In July 1997, after Apple acquired Job's company NeXT, the visionary would return to the senior ranks within the company. By September 1997, Jobs was interim CEO, and was quickly taking charge of the fragile Apple. His first order of business was to eliminate 15 of the companies 19 products, many of which were not successful, and focused on restoring the company's core. (Lewis)

To do this Job's entered into a partnership with Microsoft. This partnership would bring the Microsoft Office line of software onto the Apple operating system. This move would open up significant new markets for Apple because of Microsoft Office's wide use among consumers that Apple was targeting. During the 1997 Macworld Expo Job's made the statement:

“If we want to move forward and see Apple healthy and prospering again, we have to let go of a few things here. We have to let go of this notion that for Apple to win, Microsoft has to lose. We have to embrace a notion that for Apple to win, Apple has to do a really good job. And if others are going to help us that's great, because we need all the help we can get, and if we screw up and we don't do a good job, it's not somebody else's fault, it's our fault. So I think that is a very important perspective. If we want Microsoft Office on the Mac, we better treat the company that puts it out with a little bit of gratitude; we like their software.

So, the era of setting this up as a competition between Apple and Microsoft is over as far as I'm concerned. This is about getting Apple healthy, this is about Apple being able to make incredibly great contributions to the industry and to get healthy and prosper again.” (Youtube)

In addition, to the use of Microsoft products on Apple computers, Microsoft also invested \$150 million in the company. This gave Apple the boost it needed to restore its image and release the iMac. This product was extremely well received by consumers and

restored confidence among Apple's investors seeing that they could once again develop successful products. Even though the company was significantly smaller than its former self it was also much healthier. With a renewed health Apple was once again ready to grow, and Jobs was just the man to make it happen. (Lewis)

In 2001, Apple made several advancements. The first of these was the opening of the Apple retail stores. On May 15, 2001 the first two stores opened their doors. One east coast store in Virginia and one west coast store in California. (Ifo Apple Store) By October, of that same year Apple was at it again, this time in a very different market.

After a year of development Apple was ready to make their grand entrance into the portable music industry. Their offering was the iPod. It was a small portable mp3 player that quickly dominated the market. While they were not the first to offer a compact mp3 player, they certainly found a way to do it better than anyone else. They stuck to their theme of simplicity, determined to create a device that was user friendly. After, its initial success Apple began expanding the line bringing in new models such as the iPod Nano and iPod Shuffle.

As a follow up to the iPod, Apple continued to expand their market. In 2003 they opened the iTunes online music store. This store allowed users to download songs to be played on their iPods and their computers. By 2006, Apple had sold 1 billion songs through its store, marking another great triumph during the resurgence of the company. (Press Info)

After firing on all cylinders through most of the early 2000's, Apple continued to move into the second half of the decade just as they had completed the first half. By 2007, they were once again expanding their markets. In January of that year, Apple announced that it would be making the iPhone. (Honan) While many smart phones before it were focused on the business consumer, this one was built around the general

consumer, a strategy that would pay off big for Apple. By the end of 2010, Apple had sold over 70 million of their iPhones worldwide. (Kumparak)

Also in 2010, Apple moved ahead of Microsoft in market capitalization and for the first time in 20 years recorded a higher profit. (Helft) This was certainly a huge feat given the significant downturn that Apple had suffered through during the 1990's.

Analysis

The unique history of Apple Inc provides a perfect perspective for the purpose of comparison with the business growth strategy outlined within this thesis. The ups and downs of Apples growth can both be explained and attributed to one of the four elements. Those four elements being:

1. To sustain growth, companies must continually create or enter new markets.
2. When entering or creating new markets, do so as a disruptor.
3. Invest in disruptive technologies often, ensure that they are profitable as quickly as possible, and do not expect them to provide significant growth immediately.
4. To find new growth opportunities, expand the existing market boundaries.

As long as Steve Jobs was there, Apple demonstrated an ability to enter or create new markets. After starting out as a builder of personal computers, Apple quickly set their sights on the business market. After entering this market though, they also lost Jobs for the first time. With his departure the company began their downhill tumble. At first things looked as if they were going well. Sales of the Macintosh and Apple computers continued to climb as they were adopted into their respective communities. However, this success was only temporary. Eventually, Apple's consumers became satisfied with the technology that they were given and Apple reached a point where they were investing in parts of the computer that their consumers did not value. Looking back at the sustaining

innovation curve, this would be the point where the sustaining innovations cross over the average customers demand for new technology. This poor placed development allowed others in the industry to catch up and eventually Microsoft would offer Windows. With Windows creating a similar easy to use interface like the Macintosh computer had, Mac sales began declining. Without anything new to offer consumers, the company's profits began declining as well. They were in essence being disrupted. Apple was losing significant ground to low cost hardware manufacturers that had cloned the IBM PC utilizing Microsoft's Windows software.

In an attempt to reverse this trend, Apple tried licensing their own software to clone manufacturers. However, this simply eroded their own profits because Apple's business strategy was set up around profiting from the hardware while attracting customers with the software. Furthermore, with Microsoft well established in the operating system licensing industry and others well established in the IBM clone market, it was highly unlikely that Apple or its hardware developers would be able to successfully enter either market. They had missed their opportunity. Remember that according to Christensen, companies trying to enter an existing market with a sustaining innovation only had a 6% chance of success while those entering as a disruptor had a 37% chance of success. (Christensen, PG. 43) For Apple to have succeeded in the licensing industry, they would have had to start before Microsoft had become such a dominant leader, or they would have had to devise a disruptive strategy. This is eventually how they would turn the company around again.

In 1997, Steve Jobs returned to Apple. After stopping the bleeding, he began development on a host of new products in many different industries. His first were the Apple Store and the iPod. Then he opened iTunes. Finally he rounded out the decade with the iPhone, iPad, and Apple TV. All of these new products have developed a market

of their own. While some of the markets overlap with one another, the overlap is only slight. The majority of the markets for each of the products remained unaffected by the release of the new products. This expansion of Apples market space has also led to similar expansion in their revenue and profits, thus creating significant amounts of growth.

As Apple, moved from market to market the successful ventures were all based on a disruptive strategy, but unfortunately for Apple not every venture was successful. The most notable failure of a market expansion was the development of the LISA computer. This computer was Apple's first attempt at building a machine for the business market. In this attempt, Apple tried to take on IBM directly. In doing so they created a machine that carried a significant price tag. With the cost being so high, businesses were unwilling to switch from their existing machines to the new Apple machines, and therefore, the LISA did not succeed. With the failure accurately recognized, Apple did successfully make the transition into the business segment. When Jobs began development of the Mac, he did so with the intent of making it a much more affordable machine, but with many of the same user friendly technologies that were present in the LISA. This time Jobs succeeded and the Macintosh generated significant growth for Apple within the business market segment. In 1987, Apple reported a 30% revenue growth based on its expansion into the business market. (Freedman, PG. 9) This would be expected based on the disruptive strategy that the company adhered to.

In addition to the Macintosh, Apple has long followed a disruptive strategy for success. The very first being the Apple I. Its simplistic design allowed it to be produced at a much cheaper price than many of its competitors. In addition to the Apple I the Apple II was built under the same logic. To many the Apple II is credited with creating the personal computer industry because of its affordability.

Outside of the computer industry Apple has also followed a disruptive strategy. One of the most notable in recent times being the launch of the iPhone. While the iPhone was certainly not the first smart phone it did manage to become wildly successful. Much of this success can be attributed to its disruptive launch. Believing that the iPhone was targeted at the same consumers that the other smart phones were targeted at would be inaccurate. Many of the early smart phones were targeted at the business segment, primarily allowing them to check email and do limited web browsing, things that would allow them to be more productive when they were away from their desk. The iPhone, however, was created to provide a mobile web enabled multi function device that could provide access to all of the things that consumers were increasingly relying on the internet for as well as play music and make phone calls. This made it a tool for everyone, not just the business professional. The iPhones expanded capabilities opened it up to a market that was previously unserved by the existing technologies, making it a perfect example of a new market disruption.

To create the many successes within the company, Apple, under Jobs, also placed a lot of importance on investing in new technologies often, and letting the products build at their own pace. Almost all of the products developed and stores opened, have done so in target markets first before being expanded. This ensures that the product will be successful before spending huge amounts of money on the products expecting large returns. In fact, some of Apple's development products never even make it out the door of the company. With this mind set, Apple can move onto the development of new technologies without suffering any severe consequences from their small scale failures. Some examples of failed Apple products would be the first generation Apple TV and the Apple III computer.

During the 1990's, however, this strategy was unwisely abandoned. Apple's development team turned into a research institute that was never held accountable to deliver successful products to market. They fell victim to their own ambitions and looked to develop products that they could never complete. One of these products was the Apple Newton. After spending \$100 million in this handheld PDA, Apple could not fully develop all of the futuristic ideas that were originally planned for this device. One of these was the Dylan programming language that was eventually replaced by NewtonScript. With all of this ambition wrapped up into the price of the Newton, Apple could never generate the necessary sales to make it profitable. Eventually, it was canceled by Jobs in 1998 to focus on growth in more profitable segments. (Eran)

The fourth part of the business strategy is an area where Apple has excelled. They have often made the right moves to expand their market and were subsequently followed by others in the industry. Some of their market expansions have been complimentary in nature, such as iTunes was complimentary to the iPod, while others have been simply focused on accurately defining the job in which the consumers are trying to get done. Under Steve Jobs, Apple so far has addressed those jobs in a manner that is disruptive, and therefore has enjoyed continual success. However, even without Jobs at the top, they still demonstrated a desire to expand their market. Unfortunately, though, they did not always succeed. Much of the great work they completed in the 1990's took decades for others to replicate. While they knew that they had to expand they often failed to accurately assess the market that they were trying to enter and produce a product that cost at or below the value that consumers placed on it.

Conclusion

As seen through this case study, the ups and downs of Apple have provided a unique opportunity to discuss the business strategy developed within this thesis. The downs being explained by a failure to utilize the strategy, and the up being explained through its continued use. This study also showed how quickly a company can grow when effectively implementing the strategy. Unlike GE which has slowly evolved over the past 130 years, Apple has skyrocketed to one of the top spots in the market capitalization ranking in just 30 years. Even more impressive is that the majority of that growth occurred in just the last decade. After being almost written off as a serious computer manufacturer, the return of Steve Jobs and the principles outlined within this business strategy have once again established it as a serious contender even outside of the computer industry.

Chapter 5: Conclusion

Within this thesis, the idea of sustaining growth of a company through innovation was explored. It began by first analyzing the concept of business growth and its effect on success. This analysis provided a strong correlation between failing to grow and the subsequent failure of the company. Knowing the detrimental effect that a growth stall can have, a case was made for further research into this topic.

After developing this case a literature survey of existing research was conducted. This literature review led to a better understanding of how innovations can effect business growth and with this understanding a general business strategy for sustaining growth was developed. The four keys that were identified are as follows:

1. To sustain growth, companies must continually create or enter new markets.
2. When entering or creating new markets, do so as a disruptor.
3. Invest in disruptive technologies often, ensure that they are profitable as quickly as possible, and do not expect them to provide significant growth immediately.
4. To find new growth opportunities, expand the existing market boundaries.

This strategy was then compared to the business strategy of two of the largest companies in the world based on market capitalization. These two companies are General Electric and Apple Inc. Even though every detail of these companies' long histories could not be reviewed, the broad overview provided a look at the repeatability of the business strategy over long periods of time and its ability to provide sustained growth. Also, in the case of Apple Inc. an example was shown of how a violation of the business strategy can lead to a failure of the products and thus a failure to grow.

With the focus of this thesis being to develop a generalized business strategy for every company, the details of each of the four keys still remain to be determined. Several

of these details will require development on a case by case basis. However, after careful consideration as to how to implement each of the four keys and then their subsequent implementation every company will be well on their way to a long prosperous future.

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