



AN EXAMINATION OF SWITCHOVER COSTS

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**Abstract**

This project focuses on firm strategies that target consumer switchover costs of three industries: pharmaceuticals, information technology, and food processing. The project explores those that involve increasing customer dependency, predatory marketing, and hidden fees, which improve firms' bottom line at the expense of their competitors, consumers, and the overall economy.

Companies will divert resources and time concentrating on ways to undercut competition and force consumers into economic situations that make it exceedingly costly to alternate from one business to another. The aforementioned factors are considered across time and analyzed from an economic standpoint to determine the overall effects on the efficiency of markets. Four case studies of modern companies who employ these methods are presented, along with an analysis of the economic welfare cost created by such practices.

INTRODUCTION

In all market economies, commercial enterprises seek to increase their market share. One way they do so is through innovations that raise their customers' switching costs, i.e., the costs—both existing and perceived—involved in shifting one's consumption to some other product or service. Though business strategies that target switchover costs are not a recent phenomenon, the rise of the information technology revolution has created new opportunities for devising strategies that target raising them. Take for example the rise of the electronic book reader. The device enables its user to read the purchased book, at one's leisure, with the caveat that it cannot

be transferred across to another platform. Thus, with each purchased book, the consumer is locked-in further as she would lose all her books if she were to switchover to some other platform. The goal of this business model—from the perspective of the corporation—is to increase consumer retention and market share. Devices used can be as explicit as exit fees or built into the use of the product, such as in a loyalty membership program.

The paper proposes to analyze how these new types of strategies that target ‘switchover costs’ are used in three key industries: information technologies, food manufacturing, and big pharma. Two case studies are discussed from each sector, focusing on their effectiveness on raising the said costs. In the IT sector, these are Skype and Apple—two companies with highly variable marketing structures that represent two polar opposite strategies within IT with respect to switching costs. For the pharmaceutical industry, the discussion focuses on Mylan, discussing recent exorbitant price hikes of their products; and on General Mills for the food manufacturing industry, discussing some of their recent innovations in agribusiness. The paper also discusses the economic welfare costs associated with these business practices, along with the legal remedies that can be used to protect consumers.

## BACKGROUND

Switchover costs or switching costs are defined as the costs that result from switching from one product and/or service to another. A switching cost can also arise from a consumer’s desire for compatibility between a currently used product and a previously purchased one (Klemperer 1991). These costs do not necessarily have to be monetary; they can include physical and psychological dependencies on particular products, as will be analyzed in the section on the food industry. In modern market economies, a saturated field of sellers can leave consumers puzzled given the bewildering differentiation between varieties of products. With inadequate standardization, each product purchased carries with it temporal and psychological

investments. This is particularly true in the field of information technology, analyzed in the next section.

Switching costs can pose adverse effects on sellers, as well. In evermore-competitive market economies, sellers can be pressured to increase switchover costs to maintain brand loyalty and thus retain a customer base that can ensure steady profits. However, this can weaken competition among existing firms and lead to a decline in the general economy. The higher the switching costs, the less likely that a customer will switch sellers. Economic welfare costs are a significant externality associated with switchover costs. Switching costs can exist for firms, although they are more frequently applied to consumers. A firm can face switching costs when entering a new market, increasing production/output, switching suppliers, etc. This paper does not analyze switching costs retained by firms however, with attention paid solely to externalities faced by consumers. Although the definition of switching costs is rather broad, and can incorporate a wide range of practices, there are essentially six categories, in which a majority of switching costs fall under, ranging from economic and, physical ones, to those that are psychological. Each of these categories carries with it a degree of “lock-in,” indicating the effectiveness, which the consumer is prevented from switching away from the product.

The first of these categories is compatible physical equipment. Companies will often sell a product at a lower price, if the product comes with a need for additional components over time (Klemperer 1991). Common examples of this include printers and ink or razorblades and razors. The different components must be compatible, thus the customer is locked-in further. This is especially true with the advent of information technology. For example, the more software programs a consumer buys for her computer, the higher her switching costs, as she would have to purchase those programs anew if she were to switch computer manufacturers.

The second category concerns psychological switchover costs. Consider again information technology companies. As the rate of technological progress accelerates and new products are released to the public at a greater rate, switchover costs will rise, thus there is an incentive for the consumer to remain with the brand she knows more about. The greater the time and effort spent in acquiring knowledge about a particular product, the more the consumer is locked-in to that product. There may be no fundamental difference between the computers offered by Firm A and Firm B; however, the consumer will choose to remain with the brand they already know more about, and continue to purchase software or products released by the same brand. This is analyzed further in the case study for Apple, Inc.

The third category of switching costs concerns psychological switchover costs that are related to uncertainty. In much the same way, they remain with a product they have learned more about, consumers also remain with a product, if they are wary of its seller's competitors. A consumer is risk adverse and thus will not take a chance on a new product, if the one they use already works for them, even if the products are identical. Such situations are common among big pharmaceutical companies, who capitalize on a product's brand recognition among consumers by raising the price exorbitantly and preventing and/or suppressing other pharmaceutical companies' generic brands. This was especially true with the pharmaceutical company, Mylan, who raised prices on the epinephrine auto-injectors, known as EpiPen, by acquiring the patent and raising the price of the drug exorbitantly. Mylan and big pharma's employment of the said switchover costs are analyzed in greater depth in the big pharma section.

It is important to note that "brand loyalty" can be created simply to maintain consistency of choice. Psychological studies demonstrate that individuals will often alter their own preferences in order to justify products they have already chosen and that consumers may often buy different products under the same brand, because they were satisfied by an already

purchased product from that brand (Klemperer 1991). This is especially true in the food industry, whereby consumers will buy a varied host of products from the same company, if they have come to trust them. The benefit to corporations is the manipulation of consumers to believe that otherwise homogeneous products are in some way heterogeneous and thus to manipulate consumers' preferences, to increase retention, at their detriment.

The fourth category of switchover costs concerns transaction costs or fees. For example, an individual may find the need to close their bank account and transfer to another financial institution. If there were a fee associated in closing/opening said account, this would qualify as a transaction cost. This practice is most egregious in world of finance<sup>1</sup>, as a culture of fees has developed since the 1980s, whereby a majority of a banks' revenue is derived through fees, and not loans, as was the case during pre-1980s. It is important to note that in this category, there is no fundamental difference between the products offered by competing firms. The switchover costs arise out of the transaction costs, as consumers will be less likely to transfer firms, if they know they will face such costs. This presents a low-level locking-in for the consumer, as the switching cost is a purely economic one and can be overridden, based on the individual consumer's economic position (Klemperer 1991).

Another economic switchover cost concerns rewards or perceived rewards given to the consumer because of their brand loyalty. This is the most common and identifiable form of switchover costs, and represents a wide-range of practices. They can include "frequent-flyer miles," offered by airlines or "rewards points," offered by banks, in order to incentivize return customers to stay with a particular company. This can even include coupons provided by retailers to their shoppers. The goal is to allow the customer to believe that they are getting more with every purchase; the more "points" a customer accumulates, the higher the switchover costs

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<sup>1</sup> See *The Unbanking of America: How the Middle Class Survives*, by Lisa Servon.

and thus the greater the degree of lock-in. This switchover cost presents little difficulty on the part of the company, and research shows that consumers are more likely to increase their purchases and spend money, if they receive some minimal concessions from the company (Klemperer 1991). It should be considered that the benefits a consumer receives do not have to be tangible. For the switchover cost to work, a consumer need only believe that they are getting additional benefits by remaining brand loyal. It is important to note that reward-based switchover costs are not simply based on goodwill of corporations rewarding their customer base. They can be contractual, as well. Telecommunications companies such as AT&T or Verizon offer a discounted price on current smartphones, yet maintain that the user must remain with said carrier for a specific period of time, or risk paying a fine. It should be noted that, this is one category of switchover costs that do not produce negative externalities for the general economy.

An argument can be made that a sixth category exists in switchover costs, that of the inadvertent physical switching costs. This is most prevalent in the food manufacturing industry, whereby consumers can be locked-in to a particular product because they are drawn to its taste, appeal, nutrition, etc. However, recent studies have shown that companies such as General Mills and Kraft Foods deliberately increased the amount of salt, sugar, and fat, in their varied products to increase their appeal and further consumer dependency on their food products. This category of switchover costs will be analyzed in-depth in the food industry section of the paper.

Unfortunately, switchover costs have become the modern building blocks of competitive advantage and pricing power. The examples used highlight the prevalence of switchover costs. They are not industry specific, and have been around for quite some time. However, as market economies have expanded, and the rise of capitalism has led to greater competition among firms, switchover costs have increased in frequency and cost. They arrest the ability of consumers and

to a certain extent other firms, from freely moving between products. This carries with it a host of economic welfare costs and negative externalities that allow for greater consumer concentration and expanded market share among a handful of firms, contrary to the tenets of free-market capitalism. Governmental institutions have not been instrumental in curbing high switchover costs through imposing legal threats of sanctions on firms. Thus, with ever-expanding economies, firms have come to invest heavily in strategies for increasing consumer-switching costs, and such practices are now commonplace in marketing, officially known as, Customer Retention Management (CRM). The goal of these firms then becomes implementing switchover costs and then transitioning the costs from low lock-ins—practices such as fees or reward points—to high lock-ins, such as brand loyalty or learning/uncertainty. The greater the commitment from customers, the more the company has to gain, with greater economic welfare costs.

## INFORMATION TECHNOLOGY

Since the dot-com bubble of the late 1990s, information technology companies have dominated mainstream economics. Over a relatively short period of time, companies such as Apple Computers, Google, and Facebook, among a host of others, have claimed massive consumer bases and large shares of their burgeoning market sector. With the rise of IT companies, came a new series of switchover costs, although the general structure—as discussed in the previous section—was retained. There are essentially two models of locking-in consumers in the IT sector that incorporate a host of the aforementioned switchover cost techniques.

The first is “coexistence,” employed by Apple, Microsoft, and Amazon, among others. The principle of coexistence is the create an environment where a wide-variety of products are at play. The more products a consumer has to purchase and understand, the higher her switching costs will be. A closer examination of this principle will be analyzed with a case study Apple,

Inc., the most successful IT company of the 21<sup>st</sup> century, aided in its ascent by its effective utilization of a network of switchover costs. The second model is “freemium,” a portmanteau of the words free and premium, used by companies such as Skype, Google, and Angry Birds, just to name a few. The concept of freemium is to initially offer a product free of charge, but charge money for additional features or services. Freemium started as a pricing strategy, however has molded to practice of customer retention. Freemium companies such as Google are interested in building greater user bases than their competitors, thus establishing both market share and brand recognition. The greater the number of users, the greater the possibility of revenue further down the line. The freemium model will be analyzed closely in the case study on Skype, which has come to dominate the telecommunications software industry by employing freemium switchover costs.

### **Apple, Inc.**

Apple, Inc. was started in 1976 as a consumer electronics company. What is especially noteworthy about Apple, as compared to its competitors, Microsoft, Lenovo, etc., is that it manufactures both software systems and hardware components. As mentioned, Apple engages in a practice known as coexistence. There are four components to the coexistence model, with the first being compatibility. Part of Apple’s success in today’s market, as opposed to its struggles in the 1980s and 90s, is the wide-range of consumer electronics that can be offered to the public, none of them in isolation. Each product informs and cooperates with another. An individual who owns an Apple computer and stores their music on iTunes is more likely to purchase an iPhone than the leading competitor’s smartphone. The value of a product is thus determined in relation to its complements (Hyun & Pae 2005). This is the first switchover cost discussed in the previous section, and its effectiveness derives from its relationality. In the same way that printers need ink or video game consoles need video games, so to do computers need

compatible software. What is interesting about the method of coexistence is the belief among consumers that the full system is greater than its components. Thus, once customers make an initial investment, such as purchasing the latest Apple computer, they are more likely to capitalize on their investment by purchasing a host of software systems, such as Final Cut Pro, iTunes, Safari, etc. Consumers are more likely, therefore, to purchase products that are compatible with their current systems, and the more they invest, the less likely they are to change suppliers. Furthermore, this switchover cost strategy induces a high degree of lock-in, ensuring that once customers are fully integrated with a particular series of products, they are unlikely to transition to alternative ones. It is important to note that corporations induce lack of compatibility. Apple software systems are not designed to work on PC computers and vice versa. The goal once again is to ensure that customers remain locked-in, not necessarily 'brand loyal.' Therefore, it can be deduced that system benefits and compatibility amongst products is positively associated with higher switchover costs (Hyun & Pae 2005). What sets Apple apart in this field, as compared to say Microsoft, is its manufacture of both its own software and hardware. This allows the company to increase its switchover costs by regulating which software systems can operate on its hardware. It prevents consumers from mixing and matching from a wide range of suppliers and once again arrests compatibility in the market. Once an individual buys an Apple computer, they are relegated to the Apple operating system and any other software systems they might desire must come from Apple.

Although compatibility and system benefits are under the direct control of individual corporations, the second strategy employed by Apple is a common byproduct of the IT sector as a whole. In a high-technology environment such as the United States, the pace of technological change is rather rapid. This plays upon two psychological switchover costs discussed in the previous section: learning costs and uncertainty costs. As the pace of technological change

continues to accelerate, consumers can often feel overwhelmed and uncertain about the degree of heterogeneity that exists between different products. In market economics, when such a wide disparity exists between public understanding and technology, there is often an intermediary. For example, with the advent of commercial flight, the Federal Aviation Administration (FAA) was setup to govern safety and procedure for commercial aircraft, so that consumers could be protected and would not have to learn the complexities of aerospace engineering before they got on a plane. No such regulating body exists for consumer electronics, and thus the burden of differentiation is placed on consumers. Rapid technological change, such as the yearly release of new smartphones, can make it difficult for consumers to evaluate new information and ultimately differentiate between seemingly similar products. This encourages consumers to stay with the product they already have or adopt herd behavior—being attracted to certain products, for the simple reason that they are used by others around them. Furthermore, returning to the issue of compatibility, technologies such as iPhones interface better with other iPhones, thus in a strategy appropriated from the ‘freemium’ model, individuals are incentivized to stay with their incumbent technology, or risk losing compatibility with their friends and family. Because information does not stay relevant for long, a consumer is not likely to shift to an unknown technology for fear of it becoming outmoded (Eisenhardt 1989). Thus, it can be inferred that the faster is technological progress, the higher will be consumer.

Additionally, the pace of technological change is related to technological knowledge. When the pace of technological change becomes faster than individuals are capable of understanding it, then the effort that people are willing to put in diminishes. If there is a lack of understanding about technologies, then consumers can be more easily herded under one brand. Lack of information leaves consumers to choose the brands they already know. It is also important to note the rise of ‘apps,’ in today’s economy. Technological fads do not stay

pertinent for long and are in a state of constant flux. As they change, consumers have a desire to remain up-to-date and will constantly swap their existing technologies for new ones. However, when combined with a relative lack of understanding about the technology they are consuming, most customers will choose to remain with their current brand. Apple paved the way for this very trend and still maintains a competitive advantage over its rivals because of it. Apple's marketing strategy is likewise based on the notion of fads and capitalizes on their customer's lack of knowledge on emerging technologies. Apple enjoys considerable brand loyalty from a combination of these switchover cost mechanisms. As Apple continues to increase switchover costs, consumers will become more entrenched in their current technology, which decreases time and effort to research into other brands and limits competition (Hyun & Pae 2005). People can also shift their preferences to match incumbent technologies, encouraging greater loyalty for Apple. All this serves to bolster Apple's standing among information technology companies, as its high degree of customer retention acts as a barrier for new entrants into the IT market. Higher switching costs of its customers bolsters Apple's standing among its competitors, thus, unless a fundamental shift occurs in the technology sector, companies such as Apple will continue to accumulate market share, at the expense of its competitors. This tends to monopolize the IT industry and disincentives innovation. Since switching costs have become the primary mode of customer retention, companies shift their focus from product development to marketing. Since consumers will not be able to tell the particular nuances of one product over another, a company's incentive is to prevent customer switching. Although this might be beneficial for the company in question, it carries with it high economic welfare costs, as competition becomes centered on who "markets" best rather than who can produce the best product. Society pays a price, since companies are no longer as innovative as before and technological change may stagnate.

Furthermore, companies outside the IT realm, such as software developers, manufacturers, telecommunications companies, will tailor their products to be compatible with what the market deems as standard (Hyun & Pae 2005). This was the case with the introduction of the iPhone, as a majority of application developers designed their products to be compatible with Apple products and not its competitors, primarily Android. A majority of such applications are still only compatible with Apple products. This serves to cement Apple's rule, but is highly detrimental to companies looking to enter the sector. As the economy morphs, the success of a product will not be judged by its merits alone, but by its relation to a network of products. Consumers looking to purchase products must be better informed of that product's connection to a host of others, in order to make sound judgements on what they are investing money, time, and resources into.

### **Skype**

Skype is a peer-to-peer telecommunications application software that specializes in video chat and conferencing. The application was founded in 2003, and in the past fifteen years has amassed a user base of over 650 million people, roughly 40% of the international call market (Worstall 2014). As opposed to Apple, Skype's goal is not to limit compatibility, but to encourage it, and thus its application works on all major operating systems, including Windows, iOS, and Linux. Skype's rise has been explosive, in part because its motive was not to generate revenue, but to generate more users. It has employed a different switchover cost model than Apple. Skype employs the "freemium" pricing strategy. As discussed, the freemium strategy is to offer the initial product free, in the hopes of generating a larger user base, and then introduce extensions to the service for a fee. This is prevalent with mobile games such as Angry Birds or CandyCrush, that allow the user to play the game free, but add-ons within the game come at a price. Other incarnations of this model can be seen with companies such as Google or Facebook,

where a majority of revenue is generated through ad sales or consumer data sales that increase with the size of user base. The success of a freemium company such as Skype is based on Metcalfe's Law, which states that the value of a telecommunications network is proportional to the square of the number of users of the system. In other words, the greater the number of users within a network, the greater the number of connections, and thus the more successful is the provider. However, the drawback of Metcalfe's Law is that the larger the telecommunications company becomes, the higher is customer switching costs.

What made Skype far more successful than its competitors was its creation of intrapersonal participant-driven networks (Hammar 2007). If an individual joins Skype, and gets her friends to join, and her friends convince their friends to join, then the switching costs and the value of Skype rise with the size of their network. An individual is far less likely to leave a service, if their friends and family are members of the service as well. Because Skype is a closed network, leaving the service would mean losing access to all of one's friends and family who use Skype. The value of the product to an individual is thus linked to how many of their friends are using the same network. In this way, consumers perpetuate their own switching costs, as they begin to do Skype's marketing in order to improve their own experience (Hammar 2007). Skype's use of interpersonal networks creates psychological switchover costs for its users that tie it to the software. In a recent study, 70% of all new Skype users said that they only began using Skype after hearing about it from a friend (Hammar 2007). Skype capitalizes on the viral trend discussed in the Apple section. Since consumers are more willing to try products that do not carry economic externalities and Skype is popular among their network, the uncertainty switchover costs are mitigated in Skype's favor. Instead, consumers form psychological brand loyalty, which decreases the chances of switching products.

Skype has benefited greatly by employing switchover costs that are the polar opposite of Apple's. The service does not run into compatibility issues and is designed to be user-friendly, and thus does not run into any learning related switchover costs. As its freemium strategy contends, Skype is a mass-market product, designed to reach a wide audience. Accessibility was high, users needing only a computer and an internet connection to use the service. Other products that employ freemium strategies, but are only tailored for a particular market segment fail much more frequently than their counterparts (Hammar 2007). Skype placed its efforts into cultivating a large user base, and could survive. With a large and devoted customer base, Skype has begun to introduce premium services and add-on features that cost money. When consumers are dedicated to a particular system, and have already invested into it, they are more readily willing to accept new and/or additional charges. Because Skype had low marginal costs, it was able to focus all of its energy on building its customer base. With an expanding market share came brand recognition. Skype became associated as the primary video chat platform, which allowed it greater psychological switchover cost potential, as users are unwilling to switch from what they perceive to be the leader or standard of a particular industry.

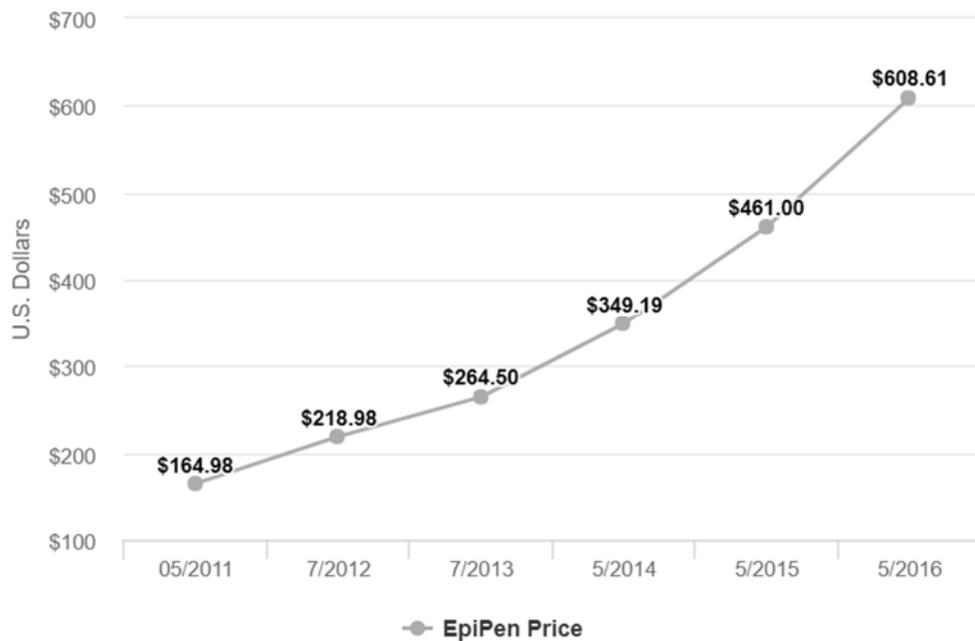
## BIG PHARMA

In much of the world, pharmaceuticals are among the most advanced yet relatively one markets, in part because of regulations that keep competition strong. In the United States, however, pharmaceutical companies act with a greater degree of market power and control over consumers. The Food and Drug Administration (FDA) maintains stringent rules on drug manufacturing, which allows big pharma corporations to seize on particular niche medications and raise their price exorbitantly. Such was Mylan's strategy with the EpiPen, which will be analyzed in the following case study. Other companies, such as Turing Pharmaceuticals or global giant Pfizer have adopted similar pricing strategies when it comes to popular and

necessary drugs. The switchover cost model that many U.S. pharmaceutical companies employ, particularly Mylan, is differentiation. The goal of such a practice is to introduce a product on the marketplace, which is altered in some way from the available generic brands to manufacture brand loyalty, and then raise the price unexpectedly. Since consumers of pharmaceuticals have price inelastic demand, the tactic can reliably generate massive profits for the corporation, whilst keeping the customer base intact. This strategy creates relational and psychological switchover costs for the consumers, as they identify with a particular drug, having the perception that the brand is superior to alternatives.

### **Mylan**

Mylan N.V. is American global generic and specialty pharmaceuticals corporation founded in the 1960s. The company produces a wide range of medications for all manner of ailments, from oncology to euthanasia. Like most pharmaceutical companies, Mylan is relatively unknown by the general public, however, they gained significant media attention and public criticism in 2016 over price hikes for the epinephrine auto-injector, known as the EpiPen. The EpiPen is meant to counteract the allergic reaction known as anaphylaxis, and is thus required for anyone who is prone to a severe allergic reaction, particularly children, and the elderly. Mylan has had the rights to EpiPen since 2007, after acquiring it from German pharmaceutical company, Merck. According to a report by Bloomberg Media, the EpiPen dispenses roughly \$1 of medication into an individual (Koons & Langreth 2015). However, since Mylan's acquisition of the drug, they have raised the price fivefold, settling on \$600 in 2016, which was only \$75 in 2001. Mylan's price hikes for the EpiPen are not the only example of price manipulation it was involved with in the last decade. Mylan has raised the price by 20 percent on 24 products and more than 100 percent on 7 other products (Mangan 2016). The chart below highlights Mylan's aggressive price hikes for the EpiPen:



(Mangan 2016)

By 2015, Mylan had an 85 percent share of the epinephrine auto-injector market and sales of the EpiPen comprised roughly 40% of their revenue stream in 2015 (Koons & Langreth 2015). It is important to note that Mylan's price hikes in 2016 are tied to two events concerning its competitors. The FDA rejected a generic competitor to the EpiPen, produced by Teva Pharmaceuticals, and a leading auto-injector pen, produced by Sanofi Pharmaceuticals, known as Auvi-Q, was recalled, although it is now back on the market. With a near monopoly, Mylan was able to reap profits from consumers, who had no other alternatives. That Mylan could retain a large customer base despite the drastic increase in price also had something to do with its customers considering the EpiPen the seminal epinephrine injector on the market.

As mentioned in the previous discussion, pharmaceutical companies take advantage of a particular pricing strategy known as differentiation, in order to create psychological and relational switching costs. Concerning Mylan's EpiPen, what made it particularly noteworthy and patentable, was its use of the auto-injector. Unlike other epinephrine pens, such as Sanofi's Auvi-Q, the EpiPen possessed a special mechanism that injected the medication into a person's

bloodstream, without the need for a human to press a button. This allows the EpiPen to be classified as a specialty drug and marketed to the public as such. The marketing campaign made a case for the superiority of the EpiPen and raised issues of safety and efficiency about normal injector pens. Unlike the information technology industry, pharmaceutical companies suffer from the distinct disadvantage that consumers are not so much concerned with brand recognition and loyalty, as they are with the effectiveness of the drug. Thus, in order to embed psychological switching costs to its customers, big pharma companies such as Mylan slightly differentiate their products in order to market them as better for the patient. What is remarkable about the United States is that it is one of two countries that allow direct pharma marketing to consumers, with television ads being a common example. All this serves to solidify Mylan's position, because once consumers can identify Mylan's EpiPen and associate it with a particular ailment, they can self-diagnose demanding that particular medication from their healthcare provider. This creates both a relational and psychological switchover cost. Consumers identify with a particular brand and differentiate it from other, regardless of its effectiveness. Secondly, by using the product consumers form a psychological relationship with it, especially if the product is effective. Part of Mylan's marketing campaign upon acquisition of the EpiPen patent was to lobby the FDA and the U.S. Congress to have the EpiPen stocked in public places, such as schools, much like defibrillators (Helfand 2016). Mylan's success is evident in the colloquial use of "EpiPen" as a blanket term for all anaphylaxis remedies, much like the use of "Prozac" to denote all depressive disorder remedies. The goal of these marketing strategies is to make the consumer feel as if there is an absence in their life and in their health without their use. By highlighting a differentiated problem, companies like Mylan can offer their solution, at a price. This once again ties a particular ailment with a particular problem and encourages consumers to associate Mylan's product with its remedy, creating yet another psychological switching cost. This is why

marketing has become more important to U.S. pharma companies, as opposed to their counterparts in other regions.

Once the brand has started becoming popular and more commonly used, the price hikes begin, as in 2011. Much like Apple or Skype, over time, it becomes less about building an effective product, but rather about building an effective brand. If consumers can be persuaded that Mylan's product is superior, then Mylan's product or the product of any pharmaceutical company will be more successful. Furthermore, unlike IT or the banking industry, consumers of pharmaceuticals generally have more price inelastic demand and are thus more likely to go along with price hikes, albeit begrudgingly. This involves high customer switching, which are often bolstered by loss aversion. The pain of giving up a benefit is much more psychologically significant than the pleasure of gaining that benefit. Thus, if consumers believe that a particular product is working for them, then they are less likely to forgo that product, despite a steep price increase. Additionally, as discussed earlier, people often change their preferences in favor of the product they are using, and becoming even less likely to switch products.

After significant pressure from the media and the United States Congress, Mylan eventually produced a generic version of the EpiPen, which it marketed at 50% of its 2016 value, still far above the actual value of the drug contained in the injector. Mylan relented under public scrutiny; however, it was incredibly successful in generating profits, roughly \$1.5 billion in 2016 alone (Willingham 2016). Mylan's success is part of a trend, with many of the largest pharmaceutical companies having similar strategies for generating profits. Pfizer, Inc., another multinational pharmaceutical giant, has raised the prices on some of their most popular medications on an annual basis. The company is also known for its aggressive marketing campaigns around such products as Viagra, Zoloft, and Lyrica. In 2009, Pfizer settled a lawsuit for \$2.3 billion after it was reported that the company marketed Lyrica, along with several other

drugs, for non-approved uses (Harris 2009). Pfizer has been especially successful in its marketing of the erectile dysfunction drug, Viagra. The company's successful marketing has placed the drug under Medicare coverage and adopted by popular culture as a stand-in for all dysfunction concerns. If Pfizer were to raise the price of Viagra as exorbitantly as Mylan raised the price of EpiPens, their loss of market share might remain limited on account of a series of embedded psychological switchover costs.

## FOOD INDUSTRY

Unlike its counterparts in the information technology or pharmaceuticals sector, the food manufacturing industry is well organized and relatively homogenized. The oligopoly of food manufacturers consists of a few multinational firms: General Mills, The Kraft-Heinz Company, Nestle, Procter and Gamble, and Nabisco. Each of these companies produces a wide range of products, from all corners of the culinary palette, including cereals, sodas, ready-made meals, baked goods, etc. Michael Moss describes in his novel, *Salt, Sugar, Fat*, how these corporations met in 1999 in order to decide how they would divvy up the world's "stomach share." Their tactics involve inculcating psychological, physical, and economic customer switchover costs that have allowed them to continue dominating the food. Their most common and profitable products have three underlying attributes: convenience, cravings, and cheapness. Robert Lustig argues in his book, *Fat Chance: Beating the Odds against Sugar, Processed Food, and Disease*, that each product is scientifically engineered with a balance of sugar, salt, and fat, to maximize its appeal to the public and thus form a committed customer base. Combined with aggressive marketing, low prices, and a high convenience factor, consumers are locked-in to these products. What is most egregious about these switching cost mechanisms is that unlike the efforts of Apple or Mylan, consumers of these goods can become physically addicted to these substances. This physical dependency produces switching costs not seen in other industries and

thus makes food industry companies such as General Mills or Kraft Foods wield large power, over both the market and their customers. These switchover costs are unlike any seen in other industries, and General Mills is used as a case study to address them.

### **General Mills**

General Mills was first founded in 1928, after a merger of the Washburn-Crosby company and 28 other mills in and around Minneapolis. In its 90-year tenure, the company has transformed into one of the largest manufacturers of processed foods, sporting a brand portfolio just under a hundred, with some of the world's most iconic cereals. General Mills' mission statement is "Nourishing Lives," although its history demonstrates that the company is primarily interested in what Michael Moss refers to as "stomach share." What this term refers to is the percentage of control that certain companies can exert on the average daily consumption of an adult, particularly those living in North America. Thus, the goal of a company such as General Mills is to ensure that they are responsible for manufacturing a majority of the food Americans consume. As mentioned in previous case studies, companies such as Apple and Mylan do not have incentive in constant innovation to attract new clientele. Instead, the focus is on making sure the current base is intact, so that the company will remain profitable. The same applies to food processing companies, yet individuals can only consume so much before the point of satiation. The goal then becomes two-fold: marketing, and manufactured cravings.

For companies such as General Mills and Kraft, their products, such as their cereals, are similar nutritionally, thus functionally. Taste differs from person to person, so in order to capture a larger market share than one's competitors, a company has to induce individuals to continue to buy their products. This is where three key ingredients come into play: salt, sugar, and fat. Since the 1950s, food scientists employed by these corporations have been increasing the amounts of the three aforementioned ingredients in order to arrive at a "bliss point," or the

right amount of ingredients to generate the highest amount of appeal among consumers to leave them craving for more (Moss 2013). This is not simply about taste. Every concoction is measured for the right texture, color, smell, feel, etc. The term “processed food” may be a part of our lexicon now, but it is derived from this process, whereby every element of a particular product is meticulously controlled. This process does not simply apply to companies such as General Mills, Kraft, and Nabisco. Practices such as these can be found among even the meat industry, where companies such as Tyson Foods feed their livestock steroids, such as Zilmax, and antibiotics, in order to get larger, safer meat (Leonard 2014). The goal of these practices is to increase the allure of their foods, whilst minimizing the costs incurred by the corporation. Salt, sugar, and fat are relatively cheap products, and once the bliss point is reached then, consumers will continue buying products, without needing to invest in innovation.

All three of these ingredients have adverse effects on the brain, with sugar shown to work on neural pathways in much the same way as cocaine. Sugar can be addictive and consumers are impervious to how much they are consuming in their daily meals. All this serves to increase physical and psychological customer switchover costs. A consumer can have a craving for a particular product, and yet not know why they are craving. Food additives are a recurring phenomenon in the food processing industry. If a corporation wants to add an additive to their foods, they do not have to consult the FDA, but can hire a consulting firm to employ what is known as the Generally Recognized as Safe or GRAS procedure. This is voluntary, and a Pew Research Center study concluded that there could be as much as 1,000 ingredients in common foods that the FDA is unaware of (Bellatti 2013). By enhancing addictive substances, General Mills can reliably ensure that consumers return to their products, as they will develop psychological and physical dependencies. However, what is most egregious about this process is that the largest food processing companies take part in this exercise. Thus, the American

consumer is caught in a cycle of additives, with very little recourse. By presenting a united front, companies like General Mills can ensure that consumers stay dependent on their processed foods, regardless of which company it originated from. It is a switchover cost for society as a whole. This process is started early on with the advent of children's cereals.

In the 1960s, General Mills began two marketing campaigns targeted at children. They placed toys in cereals and began sponsoring children's programs (Heintjes 2013). The goal of such an enterprise was to have children be weaned on sugary products early on, in order to develop a palette for the taste and craving for additional products later on. Today, General Mills is the number one producer of adult and children's cereals, its products are just as sugary and addictive as they were in the 1960s (Moss 2013). Targeted advertising to children creates a culture of dependency on these foods and increases the lock-in power of psychological switchover costs. The role that the colorful cartoon mascot found on most cereal boxes plays is psychological association. Children can identify with the positive character and associate it with the food they are consuming. General Mills' goal is to start the process of high switchover costs at an early age to maintain the customer base into adulthood. Other food processing companies such as Kellogg's, Nabisco, and Nestle have incorporated this tactic as well.

Consider for a moment the role of the grocery store. The grocery store is, today, an almost exact equivalent of the amusement park: a sensory-charged labyrinth wrapped in a particular theme, meticulously designed to promote "gluttony," which the population is too desensitized to treat the phenomenon as ordinary. Much of the design of grocery stores and supermarkets is centered on the transformation of nature into the material; each product is not so much defined by its accessibility or nutritional merits, instead by an aesthetic palette: taste, shape, color, size, etc. Even the shelf-space is designed in a way to draw the eye to the most colorful and attractive products on display. By turning food into an "experience," you increase

the possibility that customers will return. Every detail is designed carefully to appeal to individuals' aesthetic triggers in order to encourage them to return. As previously mentioned, corporations like General Mills do not only control the taste and health content of their varied products, but also seek to maximize its aesthetic appeal, including its texture and color (Moss 2013). All this serves to create psychological triggers for the consumers who will be satisfied by all aspects of the product and drawn to it again in the future through cravings.

There are also the issues of convenience and cheapness. In a modern world, consumers demand convenience from their foods. In response to this, General Mills advertises its food as easy to prepare. Such is the case with their ready-made meal brands like Pillsbury. These are all marketed at low prices to appeal to a large audience. As seen in the case studies for Apple and Mylan, individuals will often change their preferences over time to match the product they begin consuming. If one of General Mills' products aesthetically satisfies an individual, then she is more likely to try other products from the company. This establishes relational switchover costs for the consumer, whereby she is trapped in a cycle of consuming products from the same corporation.

Unsurprisingly, General Mills has found a way to benefit from recent health trends. There has been a societal trend to reject processed foods and stray toward healthier options. General Mills and other food processing companies have incorporated this into their marketing strategies as well. They now create products that are designed with certain words, such as organic, protein, supplements, etc. meant to elicit particular emotional responses—"fat" is inherently bad and "organic" is equated with health. Nestlé's Lean Cuisine brand is one such example of this practice. However, there is no demonstration that these products contain ingredients that are healthier than the other options. The goal here is to once again create psychological triggers between certain words and images and foods, whilst making the foods

themselves as addictive as possible to encourage consumers to return for more. The uniformity of these practices in the food processing industry makes their strategies to raise customer switchover costs particularly malicious and much more difficult for consumers to escape.

### ECONOMIC WELFARE COSTS

The case studies presented on Apple, Skype, Mylan, and General Mills highlight a consistent pattern among corporations of finding methods to raise their customers' switchover costs. Although this is detrimental to consumers, there are implications for the general economy as well. Economic welfare costs are defined as those that decrease social welfare because of various market failures. Switchover costs also give rise to welfare costs, including, but not limited to monopolization, lack of innovation, price hikes, network externalities, and stifled economic growth rates. Allowing corporations to employ strategies to raise customer switchover costs is detrimental to the whole of society and the values of competitive capitalism. Governmental institutions must find legal remedies to curb such business strategies, to not only protect consumers or mitigate welfare costs, but also to ensure a fair and equal economic process for all corporations.

Consider for example the case of Mylan. After the EpiPen debacle of 2016, the company settled a suit brought by the U.S. Department of Justice for \$435 million over the misclassification of the EpiPen as a generic, rather than a proprietary product under the Medicaid Drug Rebate Program. The same year, an analysis performed by the U.S. Department of Health and Human Services found that the U.S. Government had overpaid by as much as \$1.2 billion to Mylan for the EpiPen, since the company's acquisition of the product in 2007 (Thomas 2016). Mylan's profits from the U.S. government alone are roughly three times the amount it paid in its settlement. The only other stipulation of the agreement was the Mylan sign an integrity agreement, stating that they would refrain from such activities in the future. This lax

enforcement by the U.S. government only encourages corporations such as Mylan to continue their unlawful practices, as they can reap far greater profits than the fines they might be forced to pay. Thus, there are minimal deterrents against such practices. Treatment of corporations like Mylan demonstrate that there are minimal repercussions and it is more beneficial for corporations to employ strategies that raise customer switchover costs in order to gain additional market share and retain their customer base. The banking industry experienced similarly lax repercussions after the recession of 2007-08, which has encouraged additional speculative behavior in the years following the economic downturn. A company such as Apple has more to gain from raising switchover costs compared to what it stands to lose from government fines. This situation then encourages other corporations to follow suit, since they expect to face minimal punishment from the government and cannot risk losing additional market power to their rivals, as was the case with General Mills. Thus, a business culture that targets customer switchover costs is created, with corporations constantly outmaneuvering each other, to the detriment of the consumer and the economy.

The economic welfare costs associated with these practices is the monopolization of major industries. The allure of monopoly profits draws corporations to these practices. In a market economy, a corporation with a locked-in customer base can exploit its customers by charging monopoly prices, as was the case with Mylan and the EpiPen (McSorley, et. al. 2003). As corporations lock-in customers, competition among firms is stifled. Once corporations gain monopoly power, they set high entry barriers that make it increasingly difficult for new institutions to emerge and compete (Farrell & Shapiro 1988). This would only motivate existing corporations to continue price manipulation in order to maintain their market share. This can be seen with the case studies on Apple and General Mills. A lack of competition stifles market growth, and the general economy suffers as a result. Furthermore, as was the case with Apple

and Skype, monopolization diminished innovation. Rather than product development, corporations instead place their efforts into marketing. Companies risk valuable R&D funds in order to improve profit-seeking strategies. Additionally, if only a handful of firms exist, then the opportunities of wide-ranging innovation by new corporations are minimized.

In all fairness to the government, some of the switchover costs, particularly the psychological switching costs employed by General Mills or Skype are hard to identify and regulate. Part of the responsibility must lie on the consumers, who can be educated in how corporations can behave in ways that reduce their welfare. The government can help educate consumers on the various products and foods they are consuming. This is particularly relevant in information technology. Companies such as Skype can create network externalities, where the value of their product increases for the consumer with each additional user, entrenching them in its use. As technology continues to become an integral part of the everyday experience, it is paramount that consumers know the particulars of the system they are adopting. Once the network is in place, switchover cost methodology stipulates that it will be difficult to undo.

## CONCLUSION

Switchover costs have become a fundamental part of business strategy and they can be found in industries as wide-ranging as information technology, pharmaceuticals, and food processing. A pattern has emerged, whereby leading corporations are seeking profits more through expanding market share than through innovation and product development. The examples from Apple, Skype, Mylan, and General Mills demonstrate the different ways in which firms strategize to raise customer switchover costs at the expense of their wellbeing. These strategies include not only engineering products to inculcate physical and psychological dependencies, and relational triggers, but also those that involve imposing explicit fees and monetary penalties on consumers who move to another product. Corporations have mastered

tactics that lock-in consumers to their products and services. IT companies, such as Apple or Skype employ business models that focus on customer learning and other psychological costs to retain their customer base. Big Pharma companies like Mylan and Pfizer encourage brand loyalty through relational and psychological connections between their products and various medical conditions. Finally, food-processing giants like General Mills, Nestle, and Kraft Foods tinker with their product ingredients to make consumers physically dependent on their products, and target children in advertising to inculcate dependency early on. All these mechanisms and maneuvers are only a small fraction of the various business strategies that target raising customer switchover costs that exist in the general economy. Corporations from the banking industry to telecommunications adopt switchover cost mechanisms to lock-in their customers and expand their profit and market share.

All these tactics however damage the social welfare of society, adversely affecting innovation and product development, and of course market competition. Legislation, governmental oversight, and consumer behaviors have done little to curb these corporate practices, if not made them worse. But, both governmental institutions and consumers must take a stronger stand in combating them for the health and continued vitality of our market economy.

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