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Owning the consumer—Getting to the core of the Apple business model

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ABSTRACT

This paper uses a business model framework to analyze the main limitations of Apple Inc. post-2003, a significant turning point in the company's history. As such, we move beyond an exclusive focus on what makes Apple unique or different by evaluating the mundane and out-dated elements of its business model. To do so, we examine the end-to-end supply chain, from source to store, to present a more holistic evaluation of the Apple business model. Drawing on the existing literature, we argue that the quintessential element of the Apple business model is its ability to 'own the consumer'. In short, the Apple business model is designed to drive consumers into its ecosystem and then hold them there, which has been hugely successful to date and has allowed Apple to wield enormous power in the end-to-end supply chain. We demonstrate this through a detailed evaluation of Apple's physical and content supply chains and its retailing strategy. Moreover, we find that the very business processes that enable unparalleled corporate control bring with them new problems that Apple has thus far been unable, or unwilling, to adequately address.

1. Introduction

The Apple business model affects not only its direct shareholders but also moves markets, which impacts overall macro-economic performance. In April 2012, Apple's shares reached a high of $636.00 and market capitalization surged to $570 billion, more than the value of Google, Microsoft, Hewlett-Packard, Dell and Yahoo combined (Russolillo, 2012). At the time, Apple Inc. comprised four percent of the Standard and Poor's 500 stock index and almost 18 percent of the Nasdaq 100 (Levisohn, 2012), making it able to singlehandedly sway market indices, affecting index-linked mutual or pension funds and all those people dependent on them. Current explanations of Apple's stunning performance and success tend to focus on innovation in product design or marketing strategy. An emphasis on innovation does not devote adequate attention to the tangible limits to growth of this particular business model. One example is the imperative to continually create new and revolutionary products to sustain its current profitability and expand at an above average market rate.

The objective of this paper is to analyze the post-2003 Apple business model to highlight the weaknesses created by its perceived strengths. This requires us to move beyond an exclusive focus on what makes Apple unique or different when evaluating their business model and include the mundane and out-dated elements of its processes that may be undermining its ability to compete and grow in a changing market. To do so, we examine the end-to-end supply chain, from source to store, to present a more holistic evaluation of the Apple business model. First, we begin by isolating the post-2003 business

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model from the many iterations of Apple Inc. since its creation in 1978, which links directly to key conceptualizations of Apple within the business model literature. From here, we explore the space created to more closely consider the limits to growth engendered by this particular business model.

Second, we argue that the quintessential element of the Apple business model is its ability to 'own the consumer'. In short, the Apple business model is designed to drive consumers into its ecosystem and then hold them there, which has been hugely successful to date and allowed Apple to wield enormous power in the end-to-end supply chain. This business model gives Apple the unique ability to maintain a low cost sourcing strategy while maintaining high price points and subsequently locking the consumer in through high switching penalties. We argue that a key facet of the Apple business model is ensuring that Apple content can only be played on Apple devices, as this helps maintain digital download market share and in turn drives sales volume for profitable hardware devices. Apple maintains this multi-channel platform integration through legal and technological means and extends its mantra of control past the multi-platform to all partners in the supply chain, including suppliers and manufacturers.

Third, we show that the power Apple derives from owning the consumer is evident downstream in the supply chain, e.g., with retailers, as Apple designs its own in-store displays and places their own sales staff in big box retail stores to promote Apple products. Access to the lucrative Apple consumer is a prize big box retailers cannot resist, even though it places them at a disadvantage because of direct competition from Apple stores and a consistent loss of content to Apple's online store.

Finally, we consider how the very business processes that enable unparalleled corporate control over its end-to-end supply chain bring with them new problems that Apple has thus far been unable, or unwilling, to address. For instance, Apple clings to an outdated efficiency-based supply chain design, putting it in the firing line of human rights groups, which will only serve to undermine its brand image in the long term. Moreover, Apple has yet to adopt a sophisticated category management scheme that would allow for a more strategic use of the retail landscape. These limitations are made clear by Apple's on-going difficulties competing with emerging rival ecosystems (Android, Symbian) and devices (smartphones and tablets). We conclude by considering how the study of business models allows for a richer evaluation of the strengths and weaknesses of corporate strategic management practices. Moreover, we consider how more detailed research into Apple can help us understand how market leaders are created and, inevitably, decline.

2. When the 'novelty' wears off

There are many different explanations for Apple's recent success. Some regale the 'return' of Steve Jobs as the decisive factor leading Apple out of the technology wilderness (Harvey & Novicevic, 2006; Strategic Direction, 2008; Swallow, 2011). Others focus on innovation, be it marketing and product design, software and content delivery, or good timing and a hint of serendipity (Dedrick, Kraemer, & Linden, 2009; Reder, 2009; Zott & Amit, 2010). Finally, there are those that point to Apple's ability to extract extraordinary margins due to a low cost manufacturing strategy and an ability to maintain high price points by providing a 'unique' retail experience (Duhigg & Bradsher, 2012; Froud et al., 2012; Sorescu, Frambach, Singh, Rangaswamyd, & Bridges, 2011; Useem, 2012). While each observation has merit, they tend to highlight only one element of Apple's business to explain the entirety of its current success. Here, we use a business model framework to analyze how these different practices combine to create a recognizable Apple business model. The strength of the business model approach is that it frames a system of interdependent activities that transcends the focal firm and spans its boundaries, breaking down the 'inside-outside' distinction when evaluating what constitutes firm activities (Amit & Zott, 2001; Zott & Amit, 2010). The boundary-spanning nature of business models emphasizes activities performed for the focal firm but outside its boundaries by partners, suppliers or customers; for instance, even when key activities, such as product development or manufacturing, are shifted outside the firm, they remain a central part of the business model (Chesbrough, 2006).

Specifically, we analyze the post-2003 Apple business model. Apple has undergone several corporate iterations since its founding in 1978: at the outset, Apple's business model allowed outside companies, such as software and component providers, to use and enhance the base model. In 1978, the Apple II personal computer had an open architecture platform, allowing several new companies to produce specialized hardware and software components to rival the vertically integrated giants IBM, Burroughs and Digital Equipment (Hagel & Singer, 2000). In 1997, Apple devised a more collaborative approach to PC making by fitting Macs with Intel processors and allowing users to run both Mac and Windows operating systems (Strategic Direction, 2008). However, we argue that 2003 marks a decisive turning point in the business model through the integration of two new technological platforms, the iPod and the iTunes Music store (iTMS). By controlling the interface between its hardware and content, Apple was able to gain complete control of the multi-channel platform and realize the first opportunity to truly 'own the consumer'.

Fig. 1 illustrates the significance of 2003 as a turning point: by the end of 1997, Apple's stock price was $3.23. Apple's shares did make some significant gains over the next two years due to the dot-com boom and market excitement over Jobs' return, rising to $29.00 by the end of 1999. However, contrary to enthusiasts who herald the return of Steve Jobs as the firm's turning point, Fig. 1 shows how shares actually plummeted to $7.00 by the end of 2000 as the dot-com bubble burst, a full three years after Mr. Jobs' return. Others see the 2001 launch of the iPod music player as the catalyst for Apple's current success, but a year after its launch, just 125,000 devices had been sold and Apples share price stagnated between $7.00 and $11.00 until 2003 (Lloyd, 2012). It was not until 2003, when Apple launched its third-generation iPod in conjunction with the iTunes Music Store (iTMS), that Apple's share price began its dramatic ascent.

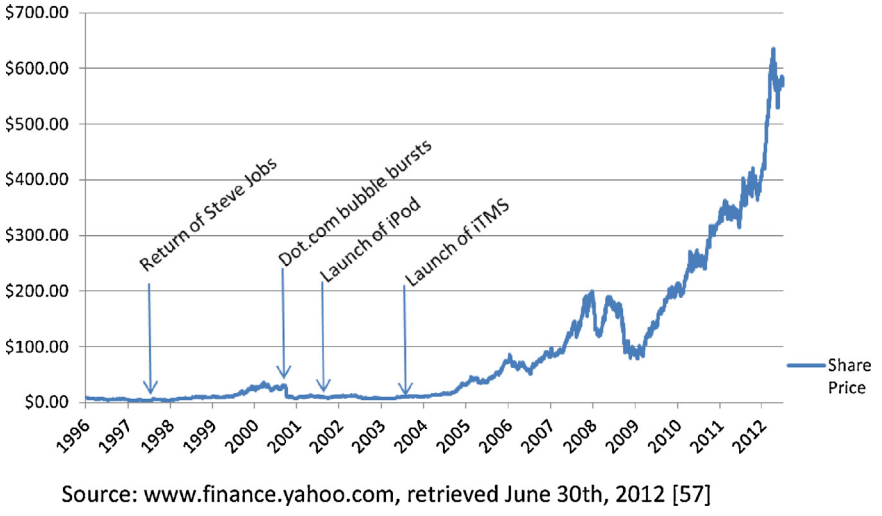

Fig. 1. Apple's share price from 1996 to 2012 (USD).

From 2003 onward, Apple's exceptional performance derives from controlling the multi-channel platform. Apple hardware can be purchased (at similar price points) in a multitude of retail channels including online, at big-box retailers and in Apple's own retail stores; however, the content for these devices can only be found in one place—the official Apple online store. This multi-channel platform integration was then replicated with the iPhone and iPad devices. Admittedly, prior to 2003 Apple Computer did integrate its in-house operating system with software to allow the company to save on licensing costs and retain a higher share of profits. This was in contrast to other desktop and laptop manufacturers who had to pay licensing fees to Microsoft, thereby reducing their revenue share. However, it was the advent of the iPod and iTMS that consolidated the practice of hardware and software integration into a substantial revenue generator for Apple. Harvey and Novicevic (Harvey & Novicevic, 2006) call it a 'disruptive technology' because it created a new platform that encouraged the interests of studios (SONY, BMG, EMI) and consumers to converge for the first time. Dedrick et al. (2009) emphasize how Apple maintained control over key elements of the iPod, particularly the user interface, and the interfaces between the iPod, iTunes software, and the online iTunes Store. It was through this strategy that Apple was able to capture by far the largest share of profits from its innovation in the iPod. More importantly, Apple was able to protect its integrated platform by refusing to open up the digital rights management (DRM) system, thereby enabling it to protect corporate knowledge on industrial design and user interfaces.

Zott and Amit (2010) use the concept of design themes to evaluate the character of different types of business models. They classify Apple as a novelty-centered design because the development of the iPod/iTunes platform expanded the locus of its innovation from the product to its business model: Apple was the first consumer electronics company to include music distribution as an activity (content novelty), linking it to the development of the iPod hardware and software (structure novelty), and digitizing it, thereby pushing many sub-activities in the form of legal music downloads to its customers (governance novelty). In this case, the business model itself is a source of competitive advantage that is distinct from the firm's product market position (Christensen, 2001; Zott & Amit, 2008). However, this particular characterization of the Apple business model emphasizes the unique at the expense of the mundane. More problematic, singling out the 'novel' does not adequately consider the full array of business processes that make the multi-platform model work, which undermines the very strength of the business model framework. We address this point by awarding greater consideration to the weaknesses of the novelty-centered design more generally and the Apple business model more specifically.

The meteoric rise and return to earth of a novel business model is predictable, as novelty alone is insufficient to ensure a sustainable competitive advantage, especially when it is not properly adapted to the competitive environment (Teece, 2010). We can simply assume the predictable decline of market makers will eventual befall Apple; for instance, other technology giants such as Microsoft in 1999 and Cisco in 2000, enjoyed similarly dominant positions only to steadily decline back to normal rates of growth and performance. More interesting is the specific limitations of the Apple business model itself, in which the very source of its current success will eventually undermine its ability to grow and out-perform its competitors.

3. Owning the consumer

The source of Apple's recent success is a business model that enables the firm to exercise unparalleled control over its multi-channel platform. This business model relies on the integration of content (software, media, and apps) and hardware (laptops, phones, and tablets) to drive growth. According to Reder (2009), Apple software may or may not be profitable, but hardware is profitable (p. 199). Therefore, a lack of interoperability is pivotal to Apple's business model, as it helps maintain digital download market share and delivers high margins by driving sales volume for hardware devices. Apple maintains this

multi-channel platform integration through contract and intellectual property laws along with technological measures as a strategy to govern users' actions regarding the purchase and use of content (Reder, 2009). Controlling the multi-platform allows Apple to dictate terms to both suppliers and customers. Apple dominates the retail landscape by acting as both a primary supplier of hardware to retailers and a major competitor through its own retail stores. Apple then ensures that consumers are "locked-in" to the multi-channel platform by imposing high switching costs, as Apple content can only be played on Apple hardware.

This business model allows Apple to 'own the consumer,' which gives it unparalleled power over its end-to-end supply chain. The integrated platform is crucial because it inscribes profitability into each hardware unit. Specifically, Apple's physical supply chain or the manufacture and distribution of computers (MacBook, iBook), music players (iPod, iPod Touch), mobile phones (iPhones 1–5), and tablet computers (iPads) employs a standard outsourcing model similar to most consumer electronics manufacturers. By contrast, its content supply chain, the procurement and delivery of music, movies, and apps, ties consumers to Apple devices. This integration allows Apple to control how content is used and transferred, ensures interoperability and imposes high switching costs. Non-Apple devices do not tie the content to the device, allowing consumers to own their content and switch devices without additional costs. By producing the device and designing the software that connects it with all other platforms, Apple is able to control the digital marketplace and by extension the consumer.

Typically, consumers of Apple products are analyzed in terms of their brand loyalty and the power that bestows on Apple; by contrast, we isolate Apple's ability to control its consumers as a distinguishing factor of its business model. For example, Muñiz and O'Guinn (2001) characterized the fierce loyalty of Macintosh computer owners as "a specialized, non-geographically bound community, based on a structured set of social relationships among admirers of a brand" (p. 412). Schouten and McAlexander (Schouten & McAlexander, 1995) called such groups 'subcultures of consumption' that share a commitment to a particular product class, brand, or consumption activity. Characteristics of a subculture of consumption include, "an identifiable, hierarchical social structure [based on status]; a unique ethos; . . . and unique jargon, rituals, and modes of symbolic expression to facilitate shared meanings in consumer goods and activities" (Schouten & McAlexander, 1995) (p. 43). Boorstin (1973) called such groups 'consumption communities,' a more encompassing term than subcultures. He argued that in consumption communities, Americans' sense of unity and commonality is increasingly based on common consumption patterns rather than daily interaction (for additional information, see: Belk and Tumbat (2005)). Yet, having a loyal consumer base did not necessarily help Apple expand and grow (see AAPL share price pre-2003). Instead, it was Apple's ability to 'own the consumer' that allowed it to translate its dedicated consumer base into meaningful revenue streams.

3.1. Physical supply chain

In contrast to the usual emphasis on Apple's innovative business model practices, we begin with the more mundane element: the physical supply chain. In this respect, Apple operates similarly to most consumer electronics companies but combines a luxury brand pricing and marketing strategy. Apple seeks end-to-end control of its physical supply chain to minimize costs from sourcing to store. The configuration of the physical supply chain is unremarkable relative to its competitors; for instance, several of Apple's contract manufacturers also assemble an estimated 40 percent of the world's consumer electronics for customers such as Dell, Hewlett-Packard, Motorola, Nintendo, Nokia, Samsung and Sony (Duhigg & Bradsher, 2012). As is the case for the majority of consumer electronics companies, Apple's manufacturing and assembly is done in South East Asia, mainly China, and shipped half way around the world to European and American distribution centers, where the stock is stored until ordered by retailers. Supplier relations are based on strict control of product information, instant responses to new parts or product failures and a mandated two weeks of parts inventory within a mile of assembly plants in China. This policy allows Apple to handle massive product launches without having to maintain large and costly inventories (Satariano & Burrows, 2012). Apple exercises its power by having a contingency plan where a product can be slightly tweaked or a new component used, meaning that within 18 months even a key supplier can be replaced (Jacobides, Knudsen, & Augier, 2006). Moreover, Apple places electronic monitors (RFID) in some boxes to allow observers in the U.S. to track them through Chinese factories. These tactics exert downward pressure on prices, leading to lower profits and margins for its suppliers; for example, Apple only allows its suppliers a few weeks to manufacture hundreds of thousands of devices in advance of a new product launch (Satariano & Burrows, 2012).

Apple combines the low-cost manufacture and assembly model of many electronics companies with a luxury brand marketing and pricing strategy. This might be unique among most large consumer electronics companies, but it is widely used in the clothing and footwear industry. The Louis Vuitton Moet Hennessey group (LVMH) manufactures the majority of its goods in low-cost locations and subsequently ships them to large department and boutique stores in developed markets. The advent of the luxury brand no longer is an exclusive claim to craftsmanship or manufacturing quality. Instead, luxury brands, such as Apple and Louis Vuitton, are designed to showcase the brand lifestyle, establish the brand image, and present the product in a stylized shopping environment that makes consumers feel more comfortable paying luxury prices (Barker, 1997).

In many respects, this efficiency-based supply chain strategy is a woefully out-dated aspect of Apple's business model. In the 1980s, outsourcing manufacturing and assembly to the developing world to exploit low labor and material costs was seen as the primary way to gain efficiencies in the supply chain. These assumptions fomented during the long period of global economic stability with low commodity prices (oil and food) and comparatively inexpensive labor as the norm. However, Christopher and Holweg (2011) created a volatility index to show that 2008 was as a turning point where the world left an

almost 30-year period of relative stability and entered an era of global turbulence where several indicators such as oil prices, stock market bubbles, political instability and terrorism, were all elevated in tandem. They argue that the "conventional wisdom" in supply chain management needs radical re-thinking and call for a move to flexible supply chain solutions. It can be argued then that to adapt to commodity price fluctuations, environmental changes and geo-political issues, business models need to embrace the concept of end-to-end supply chain flexibility, not simply a reliance on flexible suppliers, as is the case with Apple. This means manufacturing and assembly now need to be closer to the end consumer to reduce the risks that come with each additional link in the chain (Christopher, Peck, & Towill, 2006; Gattorna, 2006). For example, it might make sense for companies, such as Apple, to have key suppliers in each main market, to ensure that spikes in transportation costs or damage to infrastructure from natural disasters can be offset.

Even more important to the Apple business model is the degree to which its supply chain management strategy directly undermines its marketing platform and brand image. In the 1980s and 90s, Apple prided itself on 'American production for American consumers,' and until 2002 some of Apple's manufacturing was still based at the iMac plant in Elk Grove, California. Since 2003, Apple moved its entire manufacturing base overseas, as did most other major electronics manufacturers. Apple holds steadfast to principles of end-to-end control, low cost sourcing strategies and an ability to tap only one source of flexibility: its suppliers. It is clear that Apple's motivation to manufacture in China is not simply low labor costs, as China has experienced average annual wage increases of between 9 and 35 percent (Gartner, 2012). In their New York Times article, Duhigg and Bradsher (2012) quote an Apple Executive explaining the advantage of producing in China. The executive cites the example of Steve Jobs' insistence on fitting iPhones with scratch-resistant glass screens just weeks before launch:

> New screens began arriving at the plant near midnight. A foreman immediately roused 8,000 workers inside the company's dormitories and each employee was given a biscuit and a cup of tea, guided to a workstation and within half an hour started a 12-hour shift fitting glass screens into beveled frames. Within 96 hours, the plant was producing over 10,000 iPhones a day (p. 1).

This example makes clear that Apple's business model relies more on strict control over workers than low labor costs. Worker control includes restrictions on their movements and leisure time, monetary penalties for missing productivity targets, and the frequently delayed or failed payment of wages rife within the Chinese manufacturing and assembly sector (Chan, 2001; Lee & Gender, 1998; Pun, 2005). Of course, this system is underwritten by the Chinese state through the fixed-resident system and the dormitory labor regime (Bernard, 2000; Cantin & Taylor, 2008; Tao, 2006).

Openly endorsing these practices puts Apple squarely in the cross-hairs of labor and human rights groups; this directly undermines its consumer brand intended to appeal to the hip, and increasingly socially conscious, consumer. Apple's refusal to heed complaints over its labor practices is a major mistake if they consider how successful the anti-sweatshop campaign was at damaging the Nike and The Gap brands (Harrison & Scorse, 2006; Spar & La Mure, 2003). The contemporary conscientious consumer expresses his or her ideas about everything from local affairs to foreign relations at the point of purchase (Simon, 2011). By ignoring the growing discontent over their labor practices, Apple is dismissing the important relationship between reputation and brand (Ettenson & Knowles, 2008).

3.2. Content supply-chain

The key to Apple's content supply chain is controlling how content is used and transferred. Content is crucial because it inscribes profitability to hardware devices and creates an Apple ecosystem that, together, imposes high costs on consumers attempting to leave. The first element of the content supply chain is the in-house production of the operating system and software for Apple products. For example, by 2005 OS X based products (the operating system that runs exclusively on Mac computers) accounted for nearly half of Apple's profits. By 2010, OS X products made up 22 percent of total margin, whereas Apple's new iOS (iPhone Operating System) was responsible for approximately 70 percent of Apple's gross profits, and by 2010, 92 percent of Apple's profits were generated from platform-based products (Dediu, 2012). The iPod/iTunes platform simply perfected the integrated multi-channel platform by incorporating revenue streams from media content. This was initially accomplished through strict licensing agreements with major record labels such as EMI, Sony and Universal to secure access to thousands of titles. Apple maintained control over key elements of the iPod, particularly the user interface and the interfaces between the iPod, iTunes software, and the online iTunes Music Store (iTMS). The highly specialized iTunes client software was developed internally to inhibit connectivity with other software platforms while also reducing costs on licensing or royalty fees (Dedrick et al., 2009).

Moreover, Apple restricted how content was downloaded from the iTMS by using their "Fairplay" digital rights management system (which is managed as a company trade secret) and made this music only playable on the iPod. This architecture of control is executed from 'top to bottom,' with proprietary systems for selling, playing and protecting music. Apple defends its integrated platform using extreme secrecy, refusing to open up the digital rights management system to others, and its corporate knowledge regarding the product design and user interfaces. By 2009, Apple had captured approximately 70 percent of the global market for legitimate digital music downloads (Reder, 2009). The integration between content and hardware provides customers not only with a seamless user experience, from purchase to use, but also ensures that Apple captures the largest share of profits compared to the suppliers of the actual content (Dedrick et al., 2009).

This practice was replicated with the advent of the App store. App developers license the use of their product to Apple that, in turn, provides the platform to distribute the content. To generate external digital content, Apple opened up their

platform to third-party developers in March 2008 with the release of the iPhone Software Development Kit (SDK). This enabled developers to create applications, initially for the iPhone, and then later for the iPod touch and iPad. SDK allowed Apple's culture of tight control to be extended to Apps because it determined precisely which type of functionality could be made available. For example, applications could not compete against existing platforms, such as Adobe, the most common technology for handling video on Internet (Howcroft, this issue). In September 2010, Apple bolstered their control with the release of 113 review guidelines covering technical information, privacy, religion, sex and trademarks to restrict which applications would be made available for general release at the App Store (Build innovative native apps, 2012). The App Store gives developers a direct link to users and allows them to retain 70 percent of sales and in-app advertising revenue. Apple benefits from not having to pay the labor costs of developers and loses nothing if an app does not sell but profits handsomely if successful. This particular form of outsourcing has been termed 'crowdsourcing' (Brabham, 2008), which has been described by Business Week (Crowdsourcing, 2006) as a novel way of 'milking the masses for inspiration'. Crowdsourcing can be seen as an extension of the supplier outsourcing model used by Apple in that rather than simply sourcing expertise from low-cost locations, Apple can outsource jobs to 'the new pool of cheap labor: everyday people' (Howe, 2012) (p. 1). The process draws upon the abilities and competences of the many, as opposed to a specialized few, expanding the boundaries of the firm to harness expertise on an unprecedented scale (Tiwana, 2012) (for more on crowdsourcing, see Howcroft, this issue).

The advent of the iPad is pivotal to expanding Apple's content-driven business. It was designed to make the user primarily a consumer of content, unlike laptops that allow users to also be producers of content. Moreover, from its inception the iPad was designed with potential revenue streams in mind. It has been successful in fundamentally changing the market for online content providers by creating a greater role for online advertising and requiring users to pay for content they were previously enjoying for free (Guarino, 2010). This is precisely why the media industry called the iPad the 'Jesus tablet' because it allowed the industry to start generating revenue from online content and was seen as the savior of the media business model. USA Today and The New York Times were the first to offer paid subscriptions via the iPad, and large publishing houses such as HarperCollins, Macmillan and Penguin offered titles under the iBooks application. Online content providers have found it challenging to produce sufficient revenue, but tablet computing is seen as essential to providing the necessary platform to generate future revenue from online content (Li & Edgecliffe-Johnson, 2010). Apple's next large project is television, which will have a built-in digital video recorder, connect to the App and iTunes music stores and allow users to store their digital purchases in the iCloud (Flamm, 2011).

Apple's content supply chain is a central pillar of its integrated multi-platform ecosystem, and a key element of its novel business model. Nevertheless, the ability of this business model to continue to succeed and deliver value is by no means certain. Now Apple must not only compete with new and existing electronics companies but also with itself. Over time, we have seen that each new Apple product launch, although propelled by innovation, has a significant downside in that it cannibalizes Apple's own product lines. For example, iPhone sales came at the expense of the iPod because most consumers would not purchase a separate music player when it is built into a mobile phone, in the same way that laptop sales came at the expense of desktops. According to Taylor (Taylor, 2011), it seems likely that the iPad will create further redundancies in Apple hardware lines, as customers are more likely to forgo buying another laptop if they simply require a device for e-mail, web browsing, using apps and listening to music. Further, consumers would be unlikely to pay subscription fees for both the iPad and iPhone, as the iPad can perform all of the same functions, arguably better, except for receiving calls and texts, functions that are far less expensive with a regular mobile phone. Because content is available on multiple hardware devices, the multi-platform actually facilitates greater redundancies in the hardware lines. Therefore, not only does Apple need to continue to launch the next innovative device, it needs to compensate for its own destruction of existing hardware sales.

Moreover, Apple faces new challenges from competing hardware-content ecosystems. Android has already emerged as its main rival ecosystem. Samsung has its line of Galaxy smartphones and tablets, Google is producing the Nexus 7 tablet and Nexus Q home-entertainment player and Microsoft is launching its Surface tablets. Thus far, Apple's only response has been to launch a series of legal battles, in particular against Samsung, which is costly and unlikely to stem the tide of competition. Google and Microsoft have tailored their devices to fit their existing business models. Google will compete on price and sell its tablet for $199 (compared to Apple's $399 for the base model tablet) with the aim of generating revenue from web-based content and advertising. Microsoft's Surface will retail at a higher price but will have the advantage of the Windows 8 software platform that will mean higher margins per device sold and allow for greater integration with other computing devices.

The limits to growth in the Apple business model are most evident in the challenges it faces in emerging markets. Most consumer electronics products were able to successfully expand into emerging economies only by creating low-price models, initially with televisions but more recently mobile phones and laptops. Apple is still unwilling to develop less expensive models or lower price points, as a means of preserving its luxury brand image. This is most clearly illustrated in the world's largest smartphone market: China. Apple's has the smallest share of China's smartphone market compared to Android or Symbian (Nokia's platform) simply because these platforms can run on much less expensive handsets. Instead of lowering hardware prices, Apple is attempting to generate sales by securing an agreement with China Telecom to introduce a cross-subsidized tariff scheme, similar to those in Europe and America. In this scheme, customers sign contracts for 18–24 months, which helps to conceal hardware payments in the subscription fees. Whether Chinese consumers will move away from the familiar prepaid model simply to attain an iPhone remains to be seen, but several American brands have learned the hard way that one cannot simply transpose a brand from one culture to another.

3.3. Retailing Apple

Another important element of the Apple business model is the control it exercises over the retail landscape. Apple's recent ascent to the top of the electronics market has disrupted the traditional supplier–retailer relationship because it is both a major supplier to the big box stores and competitor through its Apple branded outlets. Apple is considered a prize for any retailer because of intense customer demand, high price points and content, which creates a need for high margin hardware and accessories. However, with these rewards comes Apple's desire for strict control over display and prices, requests large retailers would not typically acquiesce to from a single supplier. Moreover, Apple is also a direct rival to major retailers because it operates a chain of Apple branded stores and offers online content that retailers had traditionally sold in hard copy format.

Consumer electronics giants such as Best Buy, Circuit City and Radio Shack in North America or Dixons (owner of PC world and Curry's) in Europe have the highest volume turnover and remain central to the distribution of electronic goods, even in the face of online retailers. Most consumers still go to a store to make major electronics purchases, a key reason that Dell Computers is expanding out of its traditional online format to seek some retail presence. Most large electronics retailers are now multichannel firms, where the same customer visits the retailer via different channels for different purposes e.g., obtains product information and reviews online, makes purchases in-store and contacts customer support via telephone (Sorescu et al., 2011). This one-stop-shop model has allowed the large electronics retailers to exercise considerable power over suppliers.

Apple's relationship with big box stores is unlike that of most suppliers, as it retains strict control over display and prices. For instance, large national retailers are required to have an 'Apple Valley' in their stores, an area exclusively dedicated to Apple products. Typically, most retailers will organize their floor space by product type but, when dealing with Apple, retailers give this brand exclusive space to present their entire product range collectively. This developed out of Apple's tumultuous relationship with US electronics giant Best Buy. Since the introduction of the Macintosh computer in the 1990s, Best Buy and Apple have had substantial disagreements, including Apple voicing concerns that product was not presented in the most favorable manner by staff who did not have sufficient product knowledge to sell it effectively (Bangeman, 2005). In 2000, Steve Jobs, former Apple CEO, said: "I started to get scared; the company was increasingly dependent on mega-retailers, companies that had little incentive, never mind training, to position Apple's products as anything unique, we had to do something" (Useem, 2012). Apple will often supply its own employees to staff busy retail outlets and promote Apple products in 'the valley' to ensure that their products stand out in the box store retail environment.

Apple's control over the retail environment seems to have tempered the long-standing power large electronic retailers have enjoyed over suppliers in the past. This is largely because of the loyal and lucrative Apple consumer base that makes purchases at premium price-points in the high margin categories of hardware and accessories. The travel search engine Orbitz uses software to detect whether customers are using an Apple device and then offer more expensive holiday packages because their research shows that Apple consumers will pay more for comparable products (The Economist, 2012). Access to these consumers is essential for large electronics retailers because they are increasingly loosing revenue to price-sensitive consumers through the show-rooming effect, where customers browse in-store only to buy online at a lower price. Apple maintains consistent price points for all of its products because it does not offer discounting schemes as most electronics manufacturers do. This means that online and in-store prices remain homogeneous, protecting large retailers' revenues streams by neutralizing online competition. This is particularly lucrative in the accessories category, as Apple specifically designs its products to prevent universal adaptability, which means that retailers command high margins of between 55 and 70 percent on most accessories.

While hardware and accessories remain the profitable mainstay of the retailer, Apple has eliminated huge segments of the box stores' revenue stream by moving all of its software and content online. Apple's online marketplace accelerated the decline of software, DVD and CD sales in retail stores by making content and applications easily available online at a lower price. These retailers had been able to expect 30–35 percent margins on CD and DVDs, but these are now largely low-margin clearance items. Retailers have had no response to the ease of downloading and lower price points offered to the customer. Apple's continued drive for content is again likely to put it at loggerheads with big box stores. For example, Apple has developed iPad versions of popular video games, which will directly rival other handheld gaming devices such as the Nintendo DS and Sony PSP (Hanai, 2010). This will cut into another large segment of the retailers' business because Apple plans to make video games downloadable directly from the Apple store. Competition from new electronics companies offers some reprieve for large retailers because more devices on the market means that retailers can regain some of the power lost when Apple was the only product in that space.

Further, Apple's retail stores are direct competitors to big-box electronics outlets. This can be a delicate balancing act because Apple needs both large retailers and its own branded stores to maintain sales volumes. The fact that Apple has its own chain of branded retail stores puts it in a unique position because if the retailer does not cooperate, Apple can sell a product in their own branded stores. Apple is seen as a leader in the 'branded retail' environment in which flagship stores are used to enhance brand image (Ilonen, Wren, Gabrielsson, & Salimaki, 2011). Apple stores have managed to reverse a long-standing trend where an increase in store size led to a rise in sales revenue (Sampson, 2008). By 1996, big-box retailers such as Best Buy, Circuit City and Nobody Beats the Wiz were the top volume leaders, with larger stores averaging between 30,000 and 45,000 square feet; in 2004, chains with smaller square footage, such as Apple, were listed among the top volume

leaders marking a full circle swing back to reduced store sizes (Sampson, 2008). A clear outcome of the success of Apple's retail environment is a higher rate of sales per square foot than any other retailer (Sorescu et al., 2011). In 2007, Apple's retail stores generated annual sales of $4032 per square foot while Best Buy averaged $930.00, the highest of any other electronics retailer (Useem, 2012).

Apple's own-retail environment exemplifies its multi-platform advantage: it creates a space that facilitates inter-linkages between computers, phones, music players and tablets with video, photography, music, software and apps. The first Apple store opened in 2001, which coincided with the launch of the iPod. This allowed a co-specialization of the two assets, as the iPod needed effective sales efforts and attractive displays and the Apple Store needed a hot product to drive traffic to succeed (Dedrick et al., 2009). Since then, Apple stores have sought to 'leverage complementaries' by tying-in services and product knowledge. Customers can receive one-on-one tutorials, participate in workshops and have products repaired at the 'Genius Bar'. These tie-ins increase the customer value proposition because satisfaction will be increased if a customer can fully operate his or her new purchase (Sorescu et al., 2011). By acting as both a major supplier to the big box retailers and a primary competitor through its branded stores, Apple is able to dominate the retail landscape and effectively own the consumer.

Nevertheless, introducing small branded retail stores to compete with big box retailers is not novel, and Apple is not highly innovative in its use of retail stores as part of its business model. For example, Roscoe and Baker (in press) outline how sporting goods brands such as adidas have developed a well-defined segmentation strategy that divides retailers into specific groups and only allows them to purchase particular ranges of products. For example, box stores that adopt a "stack them high, sell them cheap" business model only have access to low to mid-range adidas products, while adidas' own retail stores, located in premium locations such as Oxford Street in London, have access to premium range merchandize. This segmentation strategy allows adidas to control price points across the UK market, but more importantly allows it to maintain brand image by showcasing the best ranges in adidas branded stores (Roscoe & Baker, in press). By contrast, Apple stores offer the same ranges and prices in their branded stores as in big box retailers. Again, this highlights that the retail component of Apple's business model is more closely comparable to luxury consumer brands, such as Louis Vuitton or Coach, which sell premium priced merchandize at large high-end department stores and small boutique stores without product or price differentiation.

4. Conclusion

This paper used a business model framework to analyze what made Apple so successful after 2003, as well as present a detailed examination of its main limitations. This case study sought to advance a more holistic account of Apple's business model as a way of offering a detailed evaluation of its strengths and weaknesses. Specifically, the case study considers how the Apple business model allows it to 'own the consumer' through its multi-channel platform that relies on the integration of content (software, media, and apps) and hardware (laptop, phones, and tablets) to drive growth. Apple's business model enables it to exercise unparalleled control over it end-to-end supply chain. Its physical supply chain relies heavily on supplier flexibility to overcome the inherent limitations of having manufacturing and assembly facilities so far from the primary consumer markets. Moreover, Apple's association with unsafe and inhumane labor practices in China has led to a growing assault against its brand image, a trend that has caused substantial damage to major market leaders in the past. In addition, the content supply chain has been easily replicated by competitors and, as such, facilitated the creation of rival multi-channel platforms. Apple's position is further complicated because it not only faces competition from rival ecosystems but also from itself because with each new product launch previous devices become redundant. Finally, we see that Apple's rather unsophisticated retailing strategy of forcing big box retailers to compete against its own retail stores places important constraints on its ability to grow.

The study of business models in the literature is still at a relatively embryonic stage; the concept only appeared prior to the dot-com bubble in 2001, and there are still many fruitful avenues for future research. For example, a business model framework could be applied to evaluate Apple's entry into new markets to provide a lens on how business models must be adapted to new countries and cultures. In the same way, this framework could be used to contrast Apple with its major competitors, such as Samsung, to provide a more robust understanding of competition in the consumer electronics industry. Another avenue for research would be a more in-depth evaluation of the consumer in Apple's business model and how, or if, Apple plans to innovate their model to meet changing consumer attitudes regarding social responsibility. Finally, more detailed research into Apple has the potential to allow us to understand how market leaders are created and, inevitably, decline.

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