

# Strategic Report for Apple Computer Inc.

**Pandora Group**  
**Out of the Box Consulting**

Elia Mrak-Blumberg  
Anna Renery  
Tycen Bundgaard

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## Executive Summary

Founded in 1976 inside a Palo Alto garage by Steve Wozniak and Steve Jobs, Apple blazed the trail for the personal computer (“PC”) industry with its innovative products and marketing strategy. Demand convinced Jobs that there was a distinct market for small computers, and with a clear vision and consumer-friendly product, Apple went public in 1980 and became the most successful initial public offering since Ford Motor Company in 1956. Soon after, Apple hit the Fortune 500 faster than any company in history. Yet, internal rapid growth and stiff external competition from IBM and Microsoft throughout the 1980s nearly forced Apple into bankruptcy by the mid-1990s. To stay afloat, Apple was forced to innovate their PC product lines and expand into the fragmented digital music (DM) industry only to blossom into the industry leader, poised to extend its influence on digital media through a diverse set of distribution channels.

In the last decade, Apple has seen unparalleled success and now designs, manufactures and markets personal computers with its unique applications and a line of portable digital music players with associated iTunes software. Forced to develop a sophisticated distribution strategy to compete with larger companies, Apple now sells its products worldwide through its online stores and its own retail stores, generating annual revenues of over \$21 billion. Apple’s recent release of the software application “Boot Camp” enables the Windows operating system to run on Apple machines, opening Apple’s doors to longtime PC faithful and limitless consumer base. This new flexibility in Apple’s architecture shows the company’s desire to not only compete with Dell, HP and Microsoft, but overtake them through a unique and innovative combination of digital media and personal computer products.

At a crossroads of success, Apple (with analysis from Pandora Group) must now pursue a strategy of expansion to foster organic growth while also looking at possible acquisitions, hoping to create revenue synergies, cross-sell products, and penetrate diverse distribution channels.

## Company Background

### The Founding of Apple (1976-1980)

Steve Wozniak and Steve Jobs had been friends prior to founding Apple, and together approached a local Bay Area computer store, The Byte Shop, and offered to build the first Apple I machines. Jobs secured the parts from Cramer Electronics while Wozniak and another friend assembled them. Eventually, 200 computers were built and paid for on delivery as promised, with enough money to pay the input costs and purchase the next order. Jobs and Wozniak had found a way to finance their future multimillion-dollar company without giving away a single share of stock or ownership.

Building on their previous success, Jobs and Wozniak released the Apple II (an improved version of the Apple I) in 1977 at the inaugural West Coast Computer Faire. This model was immediately popular with home users as well as small businesses because of its innovative spreadsheets. In addition, the Apple II was unveiled with an accompanying keyboard, color monitor and eight peripheral device slots (which made the machine versatile with many third-party add-on devices and software). The Apple II sparked Apple's industry-wide reputation as the innovator of user-friendly machines with its hand on the pulse of consumers. Apple III, tailored towards larger businesses and corporations, was released in 1980 to compete with IBM and Microsoft. In the same year, Apple went public and enjoyed the richest IPO since Ford Motor Company in 1956. In this same three-year span since the Apple II, sales jumped from \$7.8 million to

\$117 million. Yet, despite these major milestones, the PC industry was growing more competitive every day and Apple sensed its early advantages fading.

### Failed Lisa and the Macintosh (1981-89)

In the early 1980s, Apple released the first personal computer available to the public with a graphical user interface. Named “Lisa”, it was a significant technological breakthrough, but was a commercial failure because of its \$10,000 price tag and limited software applications.

In 1979, Jobs and a handful of other Apple engineers had visited Xerox PARC for three days to investigate the Alto computer. In return, Apple sold them one million shares of pre-IPO stock (approximately \$18 million net). Combining the knowledge from Xerox several years earlier with a sudden shift away from the higher-end Lisa, Apple soon launched the more practical computer called the Macintosh. Its release in 1984 was accompanied by the now famous Super Bowl advertisement based on George Orwell’s 1984. Simultaneously (and unfortunately for Apple), Bill Gates, the co-founder of Microsoft, was given several Macintosh prototypes for software development. Two years later, Microsoft launched Microsoft Windows for IBM computers, using many of the elements that made the Macintosh operating system so innovative. A long legal battle ensued between Apple and Microsoft, culminating in an out-of-court settlement that granted Microsoft access and unlimited use of the Macintosh OS.

Shortly thereafter, an internal power struggle at Apple led to Jobs’ dismissal as CEO and the board promoted John Sculley. Jobs’ then founded NeXT, a computer company that built machines with futuristic designs and used the UNIX operating system, but it never caught on and the company soon failed.

## The PowerBook and Apple's Short-term Decline (1990-97)

In 1991, Apple released its second attempt at a portable Macintosh. Allying with Sony, which at the time was the innovator in designing small, durable and functional electronics, the PowerBook had a smaller battery, a smaller (physically) hard drive and a smaller 9-inch screen. The PowerBook was a landmark product and standardized the modern form and ergonomic layout of today's laptops. This reminded both consumers and competitors of Apple's reputation as an innovator, designer and manufacturer of quality computing products, which escalated revenues and raised the stock price for several years.

In 1993, Apple unveiled the Newton handheld computer, but its sales were low and earnings fell drastically as overall competition increased in the PC industry. To invigorate declining margins, Apple trimmed its workforce and began licensing clones of its operating system, hoping a plethora of cheaper Mac-alikes would encourage software developers to compete with Windows. Then, in 1994, to everyone's surprise, Apple allied with its archrival IBM in the AIM alliance. The goal was to revolutionize the computing platform with the new PReP, fusing IBM hardware and Apple software. The hope was that PReP's outstanding performance would supplant the PC and challenge Microsoft, Apple's other nemesis. Out of the PReP invention came the Power Macintosh, able to run old Macintosh software and PC software on one computer.

By 1997, Apple decided to purchase the operating system NeXT, but its market share was shrinking and sales kept declining, so Apple cut 30% of its workforce, canceled projects, and trimmed research costs. At the same time, Apple's board brought Jobs back aboard to manage as CEO and he immediately forged a surprising alliance with Microsoft, which included the release of a Macintosh version of Microsoft's popular

Office software. To protect market share, Jobs also stripped the cloning license from chief imitator Power Computing and put it out of business. Just in time, Jobs had grabbed the reins and sparked an incredible restructuring of the company's product line.

### A New Beginning (1998-Present)

A year after Jobs returned as CEO, Apple released its all-inclusive iMac in 1998 alone, boasting two USB ports. Although not technically impressive, its transparent design and colorful options caught customers' eyes and Apple sold 800,000 units in 1998. The iMac was also released with its unique server software, operating system Mac OS X. This product line generated a \$309 million profit, Apple's first positive year since 1995, and again put the company back in the consciousness of consumers, competitors and analysts. To cut costs, Apple stopped production of the Newton PDA's and downsized their pocket PC research department. Shortly thereafter, Apple opened a new chapter in portable computing with the introduction of its iBook laptops and, taking a cue from Dell, began selling built-to-order systems online through Apple's own website.

In 2001 Apple revamped its Mac OS X. With the release of this state-of-the-art operating system, which combined the stability, reliability and power of Unix with the simplicity of a new interface, Apple had created a product for the masses. Hoping to capitalize on the Mac OS X momentum, Apple saw an opportunity to reclaim its slipping share in the education market and purchased software maker PowerSchool. At the same time, Apple opened its first retail store. This vertically integrated distribution strategy proved brilliant. Technical professionals, students and home users flocked to the new Apple retail stores to buy its products. The successful stores were designed for two primary reasons: First, to prevent any further loss of market share in the personal computing industry to companies such as Dell (who already had direct sales channels);

and second, to respond to the previously poor marketing of Apple products by third-party retailers. The introduction of the iPod in late 2001 was a brilliantly timed move, and the splash of the iPod combined with the new chic retail stores had people lined up for blocks.

In 2005, Jobs announced that Apple would begin producing Intel-based Macintosh computers, confirming rumors that the company had been secretly producing versions of its Mac OS X for Intel processors for the previous five years. This alliance with the producer of the fastest processing chip in the world (Intel), presently gives Apple a strategic first-mover advantage into the next era of computing. Furthermore, with the latest release of Boot Camp software, Apple hardware is now compatible with the Windows operating system. This opens Apple's proprietary structure to include the entire PC market and all the consumers previously unwilling to use Apple because of its incompatibility. Apple sits poised to grasp significant market share.

## Competitive Analysis

### I. Personal Computing (PC) Industry

#### Internal Rivalry

Competitive pricing pressure from a flooded market has forced significant consolidation and has shifted the landscape of the PC market and computer hardware industry in recent years. The industry is led by a small, elite group of multinationals that have maintained double-digit worldwide market share for several years. In the PC market specifically, two companies – Dell and Hewlett-Packard – dominate the landscape. They have significantly more market share than their closest competitors (Microsoft, IBM, Sony, Fujitsu, Apple) on a global scale (34% of all PC shipments) and account for nearly half of domestic sales. Much of these new shipments have reflected

the demand for “volume servers” and enterprise servers, often a lower-end and less expensive product that the developing world can afford and large corporations or government agencies can purchase in bulk. Because of their economies of scale, and established distribution channels, Dell and HP are more able to take advantage of this burgeoning developing market and consistent enterprise market than are smaller players in the PC market. To counter this dominance, other companies have looked to merge (IBM and Gateway have, though not with each other) with each other in order to capture cost synergies in departments such as research and development, sales and distribution channels.

Though smaller, second-tier providers provide businesses and individuals with well-known brands, some with annual sales exceeding the billion mark. Including companies such as Apple, there are large Asian PC providers such as Acer that are commonly categorized as second-tier vendors. At the bottom of the PC pyramid lie companies ranging in size from regional systems integrators to single-owner shops offering built-to-order systems. Many of these companies target niches such as high-performance systems for gaming, industrial or military purposes. Yet, recent numbers have shown that companies in all three tiers have seen growth in the market.

Global demand for the PC industry has seen 10 straight quarters of double-digit growth, maxing out at a level of 17% in the 3<sup>rd</sup> quarter of 2005. Usually 8-10 quarters is the maximum level of sustained growth, but industry analysts believe that the PC price points have hit their inflection point with respect to price elasticity of demand and a new global appetite for PC has been discovered. Analysts have forecasted a 9% growth in 2006, though high oil prices could lower consumer spending, depressing this forecast to 6-7%. With a total market of about \$247 billion in 2004, this has increased from 192 in

2005 and is based mainly upon PC sales. Although the industry includes 3 sectors, including PC's, servers and workstations, PC sales have the largest margins and are the best proxy for a company's market influence.

Major-brand PC providers are often referred to as OEMs (Original Equipment Manufacturers), which is a misnomer in the PC industry where established PC vendors increasingly rely on contract manufacturers (CMs). Though not recognized by the average consumer because their brand name is not on the computer, companies such as Flextronics, Solectron and Quanta Computer are often responsible for everything but the final configuration of a PC. OEMs are able to cut costs and minimize risk by allowing CMs to manage the complex component supply chains. This is possible because many CMs utilize cheaper labor overseas and others realize cost synergies because they double as motherboard component manufacturers. Once they are assembled, PC's can travel multiple routes before settling in an office, home or school. Though Dell revolutionized the direct-sales model, resale channels still account for a very significant percentage of the overall market. Most customers look to traditional retailers when shopping for PC's, and businesses in particular rely on local systems and resellers that offer more customized and personal service and support. OEMs usually take advantage of both direct and indirect sales channels, selling straight to end-users and through resellers. Yet, this often creates a sensitive principal-agent relationship because many OEMs who rely on channel partners also pose a threat to their resellers with the OEM's own direct sales operations. Complicating the old sales channels further, some OEMs have introduced their own retail stores, such as Apple, which has been incredibly successful through this vertically integrated distribution strategy.

Currently, most PC's have an Intel processor and run a version of Microsoft's Windows operating system. Because of this, Intel and Microsoft have significant control over PC sales cycles, major software updates and faster processors being primary market drivers. The dominance of both Intel and Microsoft has leveled the field for PC performance, thus creating a commodity market with standard components and little room for innovation. As with any commodity, increasing market share means trimming margins, and companies at the top of the heap with established revenues can more afford to cede profits. Lately, to the benefit of the average customer, Dell and HP have engaged in fierce price wars across consumer, enterprise, government and education markets.

Although the PC market has not seen recent radical technical innovation, the PC industry still looks to new technologies and markets for continued growth. Sales of notebooks, a significant source of revenue for many companies in recent years, have been stimulated largely by the rise of wireless networking. Sales of handheld computers have slowed as competition has increased from lower-end notebooks and higher-end mobile phones, but tablet PC's have been tagged as another possible growth product if they can soon gain traction. Because the industry has become so competitive with significant advantages to scale economies, many OEM's have tried to expand their business into other sectors. No company has done this more successfully and quickly as Apple has done into the DM industry.

This is one area where Apple has a significant advantage over its rivals, given its historic relationship with many small businesses, especially those doing audio and visual graphic design. Demanding higher end and more sophisticated software, these businesses increase Apple's revenue through their brand loyalty and continued

purchases of high-priced hardware and software. Apple, unlike many of its competitors, provides its customers with all the necessary hardware, software and accessories that all interface smoothly with each other. This full implementation of Apple allows it to ensure that it can cross-sell all its different products to a specific business or consumer. This insulates Apple from certain competition because Apple sells to customers directly through retail stores in a cost efficient manner while meeting all the customers' demand (because Apple has already realized cost synergies through efficient distribution and channeling strategies, these new revenues lead directly to greater margins).

Although Apple only controls about 3.3% of the computing market, the short-term future looks bright for Apple's PC sales because it owns three significant advantages over its competitors. First, the company has always realized a large percentage of its revenues from small businesses companies with specialized needs (and the education market) and many analysts believe that the PC industry will continue to see increasing demand from small and medium-sized businesses, especially companies with sophisticated technical needs. Second, in step with this optimistic industry outlook, Apple's new software Boot Camp shows Apple's new flexible architecture and entry into new markets, putting companies like Dell and HP (who are accustomed to monopolizing the enterprise market) on the defensive. Third, because Apple has always been exceptional at innovation, it has recently branched out into the DM market. With the advent of the iPod in the late 1990s' and subsequent development of new generation iPods, Apple has found another entrée into the computing market and has increased its presence there. Using its ability to cross-sell its computers to people who have already bought the iPod, Apple has seen increased revenue in its PC sales because it has gained a new slice of the PC consumer base.

## Entry

Although few substantial barriers prevent a company from simply entering the PC industry, successfully remaining for long is very difficult. Any firm can buy constituent or surplus parts, build hardware and then channel its product to resellers, but the potential of that company to sustain growth and compete with established companies is low. All large and profitable companies in the PC industry face several prohibitive costs that block most entry by smaller companies. The first major barrier to entry is the direct cost of manufacturing, which is high in the capital-intensive PC industry. Most large and successful companies produce their own parts (such as Apple, Dell and HP), and the fixed costs to establish the factories necessary to do this are high. These facilities enable large companies to realize economies of scale. Any firm looking to compete will have higher average costs, making it difficult to create lower costs and higher margins necessary to compete and survive.

The second significant barrier to entry is the input costs from parts not produced by the hardware company. The major producers of input technology, Intel and Microsoft, manufacture industry-standard products and wield significant supplier power. With near-monopoly power, they are able to drive costs up and a smaller firm with little buyer power will struggle to negotiate lower prices. Paying higher input costs makes it nearly impossible for smaller firms to compete. In addition to input costs, having a trained and expansive support is a necessity for any PC company. Most consumers, including individuals and businesses, do not have the technical knowledge to repair software or hardware. The computing company must have and the Information Technology staff able to correct any problems that arise. Without this service, consumers will be frustrated and less likely to buy the company's products. Thus, this

significant service cost creates a barrier to many smaller firms who cannot afford expensive computing professionals to be on-call.

The channeling and distribution strategy is not only one of the most important aspects to any PC company, but it is also one of the largest barriers to entry for new firms. Most established PC companies have infrastructure in place to send its products to resellers or sell its product directly either through retail stores or online. The fixed cost for retail stores are high, including the price of real estate, construction costs and labor costs. Reselling may be cheaper upfront, but only large and established companies are able to negotiate good deals that prevent principal-agent problems and ensure much of the revenue from sales is retained. New entrants to the PC market have a difficult time establishing itself in resell stores and do not have the capital necessary to sell in their own retail stores. The advent of direct sales over the internet has created a cheaper channel, but it is often hard to generate enough brand loyalty to get less-savvy consumers to buy a new product without trying it out online.

This introduces the last two major barriers to entry: advertising and brand loyalty. The cost of advertising to a wide demographic range of consumers (including individuals, small businesses, large corporations, schools, etc.) is very expensive. And entering a market that relies heavily on brand loyalty is hard to do unless the new company has enough capital to spend on promoting its brand name. Often, a new company does not have the resources and it struggles to grasp any market share from established brand names that have the cash flow necessary to advertise. Overall, the PC industry is hard to successfully enter because of the return to economies of scale, the capital necessary to manufacture, advertise and distribute, and the premium and trust that consumers place on established name recognition.

## Substitutes and Complements

Recently, the issue of substitutes is a major concern for many firms in the PC industry, but this is not as big a threat for Apple. This is because although many of the largest players, including Dell, HP, Gateway and IBM all use similar operating systems with similar Microsoft software, Apple has developed its own unique operating system and unique software. This means that Apple's largest competitors manufacture products that are close substitutes for each other, enabling Apple to sustain some market share with a stronghold on specific demand markets previously mentioned. Apple, which uses its own operating system, is not a substitute for those who are loyal to Windows and vice-versa. This insulates Apple from some of the fierce pricing wars that have included Dell and Gateway (and eroded their margins in the first 3 quarters of 2005) because Apple's customers are slightly more price inelastic and unwilling to switch away from what they prefer.

At the same time, Apple computers have historically not been compatible with Windows, and this has turned-off many potential Apple consumers (both domestically and internationally) who are partial to the Microsoft operating system. This lack of compatibility has limited Apple's ability to grow has inhibited its pursuit of increased market share. Apple's Boot Camp will allow the Windows operating system to interface with Apple computers, but many customers may still be wary of substituting their Dell or HP machine for an Apple due to consumers' high demand inelasticity. Thus, even with this new software, because Microsoft has such supplier control, Apple is left to develop its own software. And although this ensures Apple certain loyal customers and flexible innovation, it means that Apple has little chance of competing on Microsoft's global level. Furthermore, because Microsoft can underbid Apple in the

developing world and in enterprise and governmental sectors, Microsoft software and non-Apple machines (such as Gateway, Dell and HP) are getting certain large-scale volume contracts that Apple is not.

One important facet Apple has going for itself is that its iPod is a direct complement to its computers. Cross-selling these products to the same customers has opened up an entirely new revenue stream and allowed Apple to enter into untapped demand sectors. Able to now attract both the DM and PC customer, Apple has begun offering volume and package discounts for buying multiple products. They have designed the products in order to interface perfectly with each other and the ease with which one is used with the other facilitates this cross-selling. As discussed in the analysis of the DM industry, because there is not a close substitute for the iPod and iTunes, Apple's ability to sell complimentary products to single consumers insulates its products and revenue from other PC manufacturers of computers and software, who have not developed competing DM products.

### Supplier Power

As briefly mentioned earlier, the PC industry faces strong supplier power, notably from semi-conductor giant Intel and software developer Microsoft. Even though Apple has its own operating system and software applications, all of its computers are compatible with Microsoft software, notably the Office Suite, and nearly all its computers are produced with a chip from one of the big three: Intel, AMD and IBM (Texas Instruments is no longer a major player in the PC sector). Of these three, Intel has a significant market share advantage over the other two, due in large part to its long-term contract with Dell and recently signed contract with Apple (who had previously used IBM chips). Although IBM does have a new contract with Microsoft to install its chips

on the Xbox product line, Intel's chief competitor remains AMD – still too small a company with neither the scale nor distribution channels to rival Intel's market power (1/40 of Intel's market share); and Microsoft has no real competitors in the software sector.

Intel and Microsoft can both extract profits from hardware companies by using their near-monopoly power to raise prices. Still, if each company were pressured in similar fashion, there would be no cost disadvantage to individual hardware company. The higher input prices would be passed onto consumers uniformly and supplier power would not affect hardware manufacturers. However, both Intel and Microsoft price discriminate and do not offer uniform prices to their customers. Larger companies are rewarded for bulk purchases and smaller less-established companies are penalized and charged a premium. Some companies, such as Dell, have been able to form alliances with Intel and Microsoft especially in research and development, creating cost synergies and negotiating lower prices for its inputs which has sparked Dell's rise in market share.

Because Apple is a totally vertically integrated company, it manufactures many of its own products, from its processors to its screens to its iPods. Also, because Apple was able to place its new iTunes software directly into its digital music players, it did not need to find outside software for its iPods. This enabled Apple to control its supplier power and not give up its revenue to any other digital music software provider. With respect to its PC division, Apple saw a strategic advantage in using Intel chips in its new computers and developing "Boot Camp" to make its computers compatible with Windows. Although Apple hopes to increase revenues with faster processors with compatible software and operating systems for people accustomed to Windows, Apple

has taken a risk in venturing away from its vertical integration and is no longer as insulated from the supplier power Intel and Microsoft wield. Thus, Apple must ensure its input costs do not escalate dramatically in the next few years.

## Buyer Power

The PC industry offers little buyer power to consumers because they are strictly price-takers. Consumers rarely buy more than one computer at a time, so there is no incentive for the PC company to offer lower prices in order to capture volume purchases from a single consumer. Sometimes, enterprises or governments buy large quantities of computers, capturing some pricing power for themselves. Yet, most of these large entities do not buy Apple because these entities are more price sensitive (Apple's computers are slightly more expensive) and large bureaucracies with many employees find it difficult to overhaul all their networks and change operating systems. Perhaps this will change with Apple's new software, but now it will not (as of today, Apple is boxed-out of this market).

It might be the case that Apple's smartest move, besides the development of the iPod, was the decision to further vertically integrate and open its own retail stores.

Attempting to eliminate the principal-agent problems that arise from sole distributors and disconnected or lazy retailers, Apple decided that one aspect that made its products successful and its customers happy was a knowledgeable and helpful sales staff that enabled customers to experience (see, touch and feel) the new Apple products. By opening its own retail stores, Apple guaranteed itself the power over informing its customer base and designed the store to reflect Apple's trendy style. Although Apple does sell in other retail stores (including Best Buy, Circuit City and online), the recent

growth and expanding margins emanated from their decision to sell directly through their own stores.

By aligning incentives throughout the company, Apple no longer had to worry about paying retailers to inform their customers (often informing them in a way unsatisfactory to the way Apple wanted), and no longer fell victim to people gathering information at a resell store only to then order it online for cheaper (which angered the retail stores who then charged Apple a higher contract price). Using its own retail store, Apple took control of its own products, enabling Apple to set its own prices.

Furthermore, by selling all their products under one roof, Apple was able to take advantage of the complements mentioned earlier. They could attract a certain customer to a computer and then cross-sell them an iPod that the customer would not normally have bought. Apple relies on name and brand recognition more than other computing and DM companies, and opening their own stores was the best way to ensure their name was well represented.

## II. Digital Music (DM) Industry

### Internal Rivalry

The days of the record store and video stores are numbered if the top companies in the DM industry have their way. Internet music distribution services have seen significant growth due to growing popularity with music fans, especially younger consumers.

Digital music sales topped \$1 billion in 2005, including over 350 million songs downloaded in the US alone. The DM industry also includes ringtones and other music formatted for mobile phones, video, and television downloads – which will soon be as big a market as all other forms of downloadable music. Yet, prior to Apple, the DM industry was fragmented. The knowledge and development of the MP3 player was

present, but no company had successfully launched their product into the mainstream. Companies were scrambling for digital media rights and software contracts when Apple introduced the “category cure” with its iPod and iTunes.

Steve Jobs and Apple have an intuitive understanding of the interplay between the customer, manufacturer and distributor (in any industry) as fundamental as anyone in around. They have an expansive consumer vision and know how to bring all the players to the same table. Mirroring his revolutionary changes to the PC industry in the 1980’s (when he took down Atari and other industry giants through a better understanding of the wants and needs of future consumers), he has brought Apple to the top of the DM industry. Seeing record companies’ CD sales lag and margins suffer due to piracy and expensive litigation, Jobs saw a market opportunity to sign digital music contracts for fairly cheap. Offering to distribute the music for the record companies, Apple positioned itself as the first and largest “middle-man.”

Like most upstart, technology-driven industries, the DM industry favors first-movers and innovators, and rewards them with dominant market power. Apple’s iTunes service, released in 2003 in tandem with the iPod line, currently commands 83% of the online music market. Roxio, one of Apple’s chief competitors, also launched its own service in 2003 under the familiar name of Napster. The other major players in this market include Yahoo!, MSN and RealNetworks. Dell, threatened by Apple’s sudden ascension to the top of the DM industry, recently completed its first M&A deal by acquiring the PC gaming producer Alienware. Straying far from its organic business model, Dell sees similarities between what Apple is doing in the DM market and what Dell has done in the PC market the last decade: flexible architecture and efficient channeling strategies. Dell’s model forced IBM out of the PC market and Dell is

nervous that Apple could translate its successful and flexible architecture in the DM industry to the PC market and capture market share from Dell. Apple already has an advantage over Dell in design, and if Apple can outshine in architecture, flexibility (cross-selling options) and channeling, then Dell is in trouble. Microsoft is also nervous at Apple's DM industry domination and released its own portable digital music player. How Apple will stave off this competition will be addressed in the Strategic Issues and Recommendations section later.

The rapid growth of the DM industry has been a savior for struggling record companies, but recent legal and technical obstacles might threaten continued growth of the DM market. Trade groups representing both the online media and music industries are fighting to overhaul the arcane provisions in copyright law and enable the licensing of more content, including television shows, movies and a host of other multi-media products. However, the two sides cannot come to an agreement on the licensing fees and royalty contracts. Additionally, movie studios and record companies have been pressuring consumer electronics makers to install anti-piracy technology in their products, a change manufacturers have strongly resisted.

With respect to technology, the DM industry is divided into two distinct camps. The iTunes software and iPod products use a proprietary digital rights management (DRM) system called Fairplay that is purposefully incompatible with other portable music players, including Sony's Digital Walkman. RealNetworks has attempted to bridge this gap by releasing its new software called Harmony DRM translation, but Apple has refused to allow its players to work with the compatible software. The landscape may shift as legislation just passed in France that outlawed Apple from doing this in their

country. If this decision is upheld in US courts, Apple may have to allow its music to be played on non-iPod products, cutting into its primary source of revenue.

## Entry

The DM industry is easier to enter than is the PC industry because there are not as many parts and accessories to manufacture, and the fixed cost of a production plant is not necessary. In addition, it is easier to distribute digital music hardware and software than PC's or workstations because there are fewer parts to assemble and lighter shipping loads. The complex and diversified channeling strategies necessary to target different consumers in the PC deters much entry, but because all of the music is available online, there is only one distribution portal. Furthermore, because this ease of entry into the DM industry, Apple has seen more recent competition in the DM industry from companies such as Rio and Sony (besides the peripheral attempts by Dell and Microsoft), who have entered the industry with iPod clones.

Because this is such a new industry, the first-mover advantage that Apple has enjoyed is not expected to last much longer according to analysts because others have seen the marketing and distribution strategies that Apple has used and has attempted to mimic them. Yet, the iTunes software is harder to replicate because Apple has already signed contracts with many record companies, television companies and movie studios that give iTunes exclusive rights to many multi-media products. A new firm entering the DM industry will have a hard time accessing much of the music and video that consumers have began to demand. As mentioned in the section above, because Apple has manufactured its iPod line so that it will only play iTunes songs and videos, Sony, Rio and other new entrants will have a hard time counteracting that market power. The recent legislation in France outlawing this might be the only way for others to obtain

some of Apple's dominant DM market power. But it still unlikely that US courts will reach the same decision.

## Substitutes and Complements

There are many substitutes for online music and video in the DM industry. Record stores, video rentals and illegal file sharing programs are all direct substitutes. Yet, the online music and video source are preferred because of price, efficiency, and legality. There are close substitutes for iTunes, such as Yahoo!'s Launch software and Roxio's online software, but iTunes has an advantage because it has access to more videos and television shows than either of the other two main competitors. In addition, because the iPod products are only compatible with iTunes, there are no close substitutes for owners of iPod products.

There are many complements to most online digital music and video. There are many portable music players and other products that will transmit multi-media files. Additionally, there are many accessories that accompany iPod products and other digital music players. Apple and other companies have found ways to sell products in packages to increase their revenues. Through their retail stores, Apple has also used their computers and iPod products to cross-sell to the same consumers. Selling the iPod as a complement to a PC has become a strategy that Apple has advertised to increase their revenues and capture both the PC and DM market simultaneously.

## Supplier Power

Depending on the legality of the online music source, there is significant or very limited supplier power. In the legal DM industry, there exists supplier power because record companies and television and movie studios have intellectual property rights to their

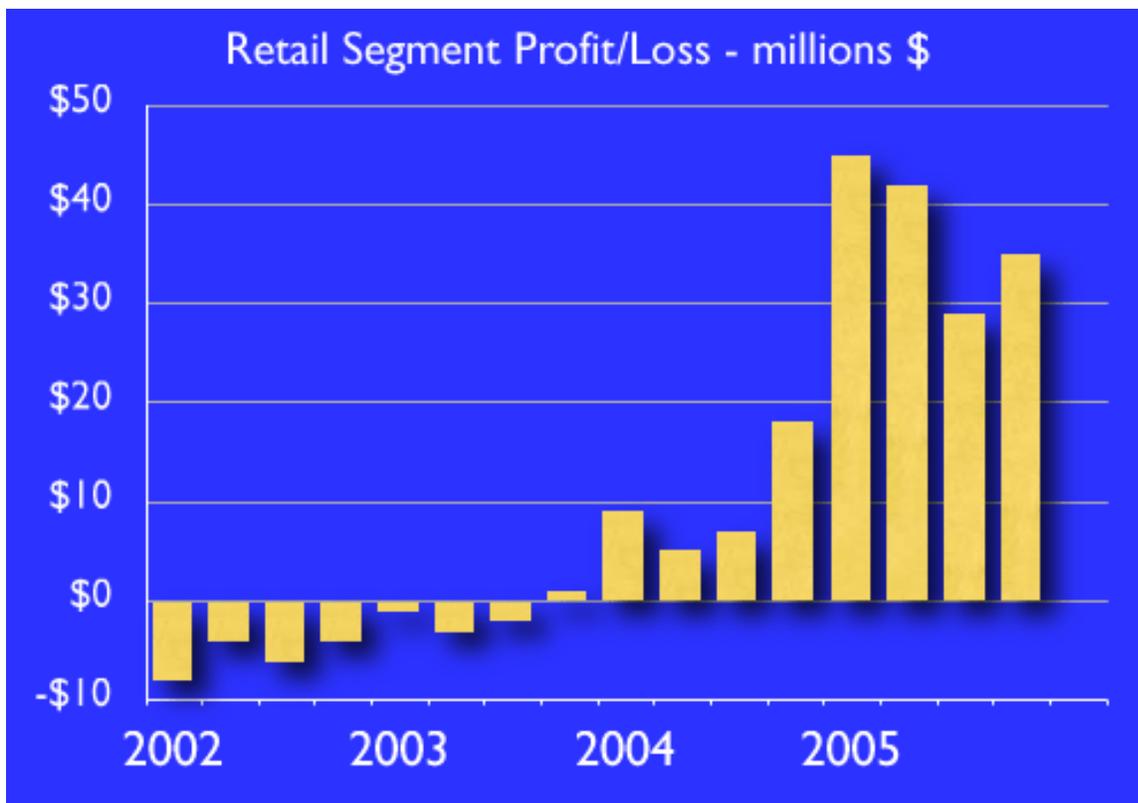
product and can negotiate royalties with online distributors such as Apple; with respect to illegal file-sharing programs, there is obviously no supplier power, by definition. Apple charges a higher price for music because of large kickbacks owed to record companies and Apple also pays a premium to be the sole distributor of certain videos and television shows. Yet, this supplier power might decline as more online distributors surface and customers are able to choose the lowest priced digital media. The ongoing litigation will also affect the supplier power of media companies because if Apple loses its edge on the iPod and iTunes, certain record and visual media companies will lose their sole distributor title and rich royalties they have enjoyed for several years.

## Buyer Power

Depending on the online distributor, some buyers have power while others do not. Customers who purchase their songs and videos from iTunes have very little buyer power because the prices of the digital files are negotiated between Apple and the producers of the media. The consumer has little influence on price. Songs have always cost \$0.99 and that does not appear to be changing soon. Apple as a buyer of the music has some power, as discussed above because it has a loyal customer base and can ensure record and studio executives that it will sell their products to Apple's customers. However, because the media companies have a monopoly over their products and the judicial system behind them, they have ultimate power. Yet, Apple still has more buyer power than its competitors because it has significant market share and the most efficient online distribution infrastructure in place to expand or grow in new direction should the demand change. Buyer and supplier power are both likely to shift dramatically as the DM industry evolves and the legal engagements are decided.

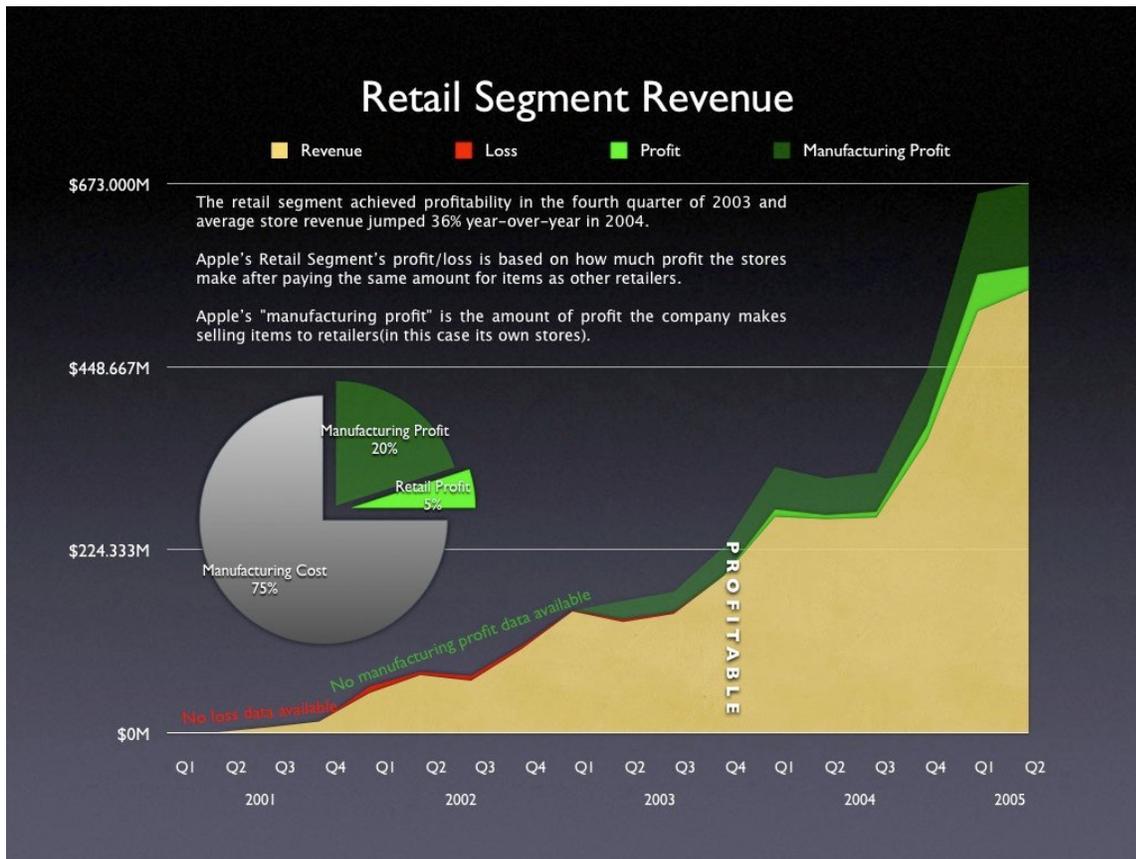
## Financial Analysis

Apple's overall financial situation has become brighter every year since 2001. In the first quarter of 2006, Apple announced record-breaking financial results, including \$5.7 billion in total sales for the company and \$1 billion in sales for the retail stores. This increased revenue resulted in greater margins, and a new record profit of \$90 million. These new milestones are the result of an upward surge in revenue since the start of 2003, when yearly revenue for retail stores was only \$1.18 billion. The retail store sector of Apple's business is quickly becoming one of its largest sources of revenue and profit because many of its products are experience and credence goods (in which customers need to touch and see the products), and Apple has successfully been able to hook customers once they have their attention. As the graph below shows, the retail stores initially saw negative returns, but once the iPod caught hold, customers began using the retail stores to purchase accessories to the iPod and personal computers as well.



Source: Apple Computer Financial Summary

Apple's retail store sector achieved profitability towards the end of 2003 and the average revenue per store increased by 36% every year in 2004. As the graph below demonstrates, once Apple reached a significant level of economies of scale in their retail segment, they were able to increase revenue by more efficiently distributing to their own stores. Their revenues increased simultaneously as their channeling strategy became more efficient. Thus, Apple saw both its manufacturing and retail profit gain significantly from the last quarter in 2003 to the last quarter in 2005. Because of the recent success of Apple's retail stores, they are planning on adding 40 new stores by September 1<sup>st</sup>, 2006. The 11 new stores that were established at the end of 2005 have already seen an average per-store sales increase from \$5.7 million to \$8.3 million in 3 months.



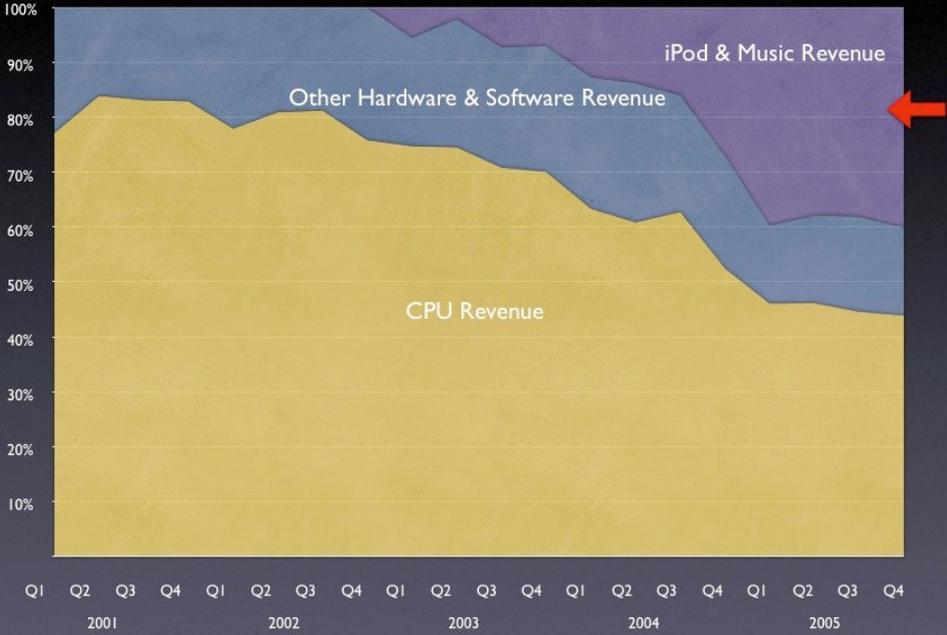
Source: Apple Computer Financial Summary

In addition to the profitability of the retail stores, the decision to shift some of the company's focus from personal computers to digital music has resulted in large revenue increases. Since the first quarter of 2001, Apple has consistently shifted more of their focus to the iPod line, especially the Nano (Apple's new, significantly smaller iPod line). While the iPod totaled less than 10% of their revenue stream in 2002, it now totals over 40% of Apple's total revenue. (The iTunes software and other assorted iPod products accessories are included in this revenue stream). As the two graphs below represent, the innovation of the iPod from generation to generation has ensured that Apple's revenue stream has been consistently increasing. Remaining on top of customer taste and ahead of competition has allowed Apple to continue to see consistently high margins as of late on all their digital music products.

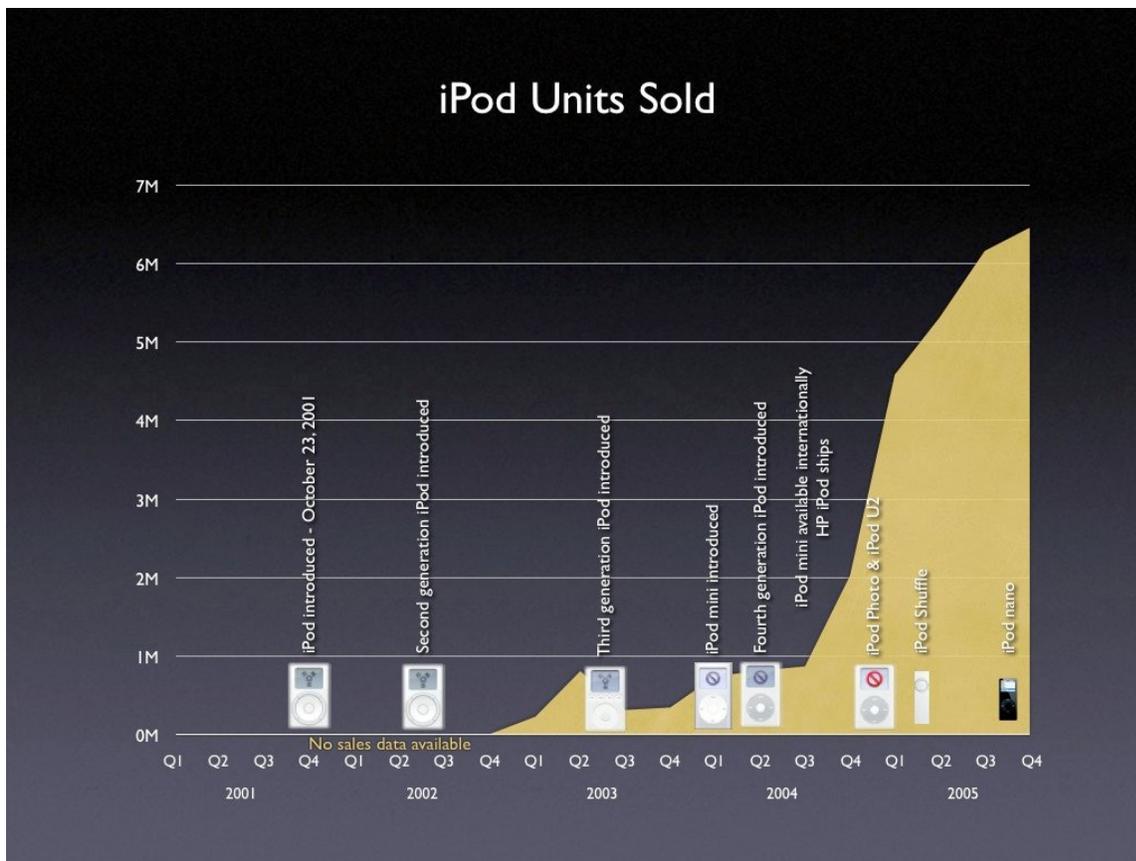
As the iPod became smaller and more powerful, sales increased, totaling almost \$7 billion by the end of 2005. Analysts have all raised their iPod revenue estimates for the beginning of 2006 to reflect data points from suppliers and channel partners that suggest demand, especially overseas, is growing in the digital music industry. From 2004 to 2005 alone, Apple increased its market share in the digital music player industry from 31% to 65%.

In addition, much of the increase in iPod estimates recently has been driven by the demand for the 4 GB Nano. Because Apple can ship approximately twice as many Nanos as compared with iPods (10 million to 3.5-4 million), they save on shipping costs and this is reflected in their margins. Lehman Brothers' report notes that as the global demand continues to increase, this ratio of Nanos to iPods will continue to increase and revenues from the digital music players should continue to increase, ensuring Apple's continued control over this sector of the market.

# Apple's Changing Revenue Streams



Source: Apple Computer Financial Summary



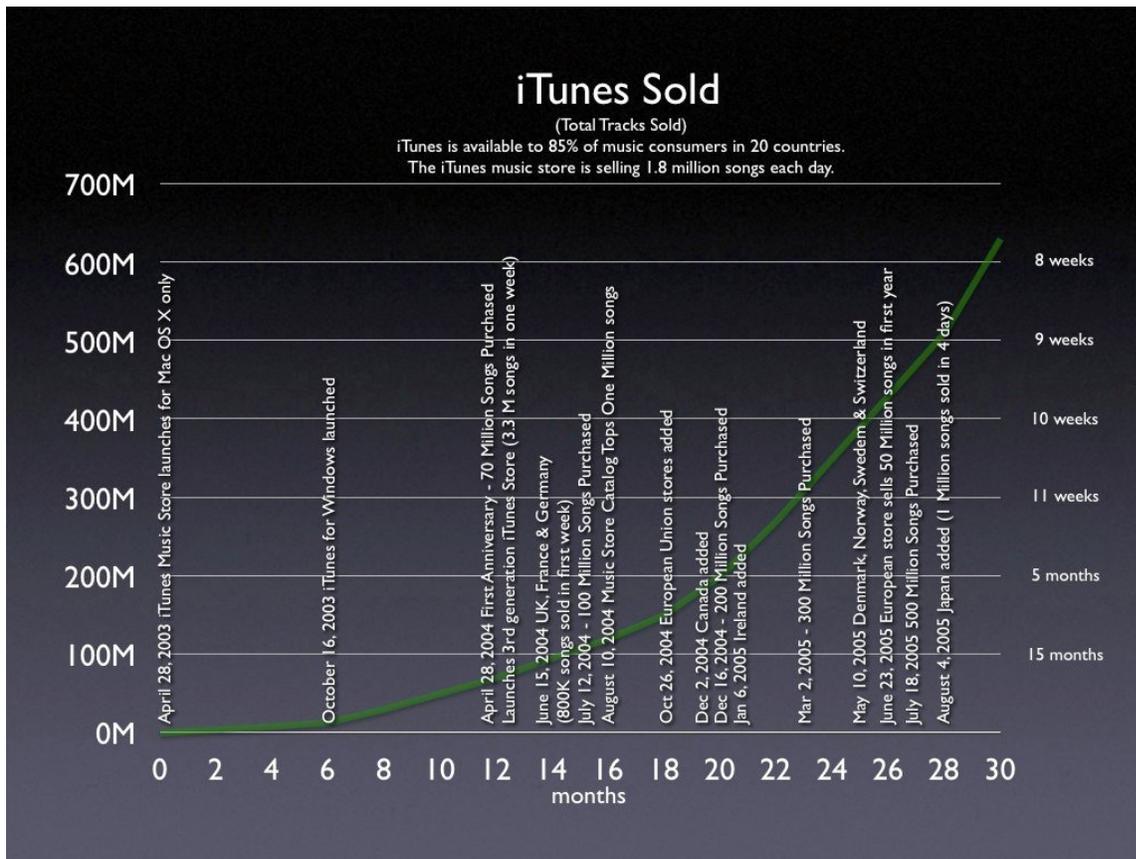
Source: Apple Computer Financial Summary

Accompanying the increased revenue from the iPod and Nano is the iTunes software application. Music accounts for 59% of the company's total revenues, up 145% from last year. Although iTunes is only a few years old, it now controls 83% of the U.S. market for legally purchased digital music and is the second largest online retailer behind Amazon.com. Through iTunes, Apple has sold 850 million songs, 8 million videos, with annual revenues of near \$657 million. Additionally, because Apple has manufactured the iTunes software to only operate with iPod's, they are able to sell both products to the same consumer and widen revenues further than if they only could sell one of them. iTunes currently has 10 million customers, and that number is steadily increasing.

Some analysts have increased their estimates of the iTunes gross margins to mid double-digit gross values because Apple announced its agenda of moving iTunes

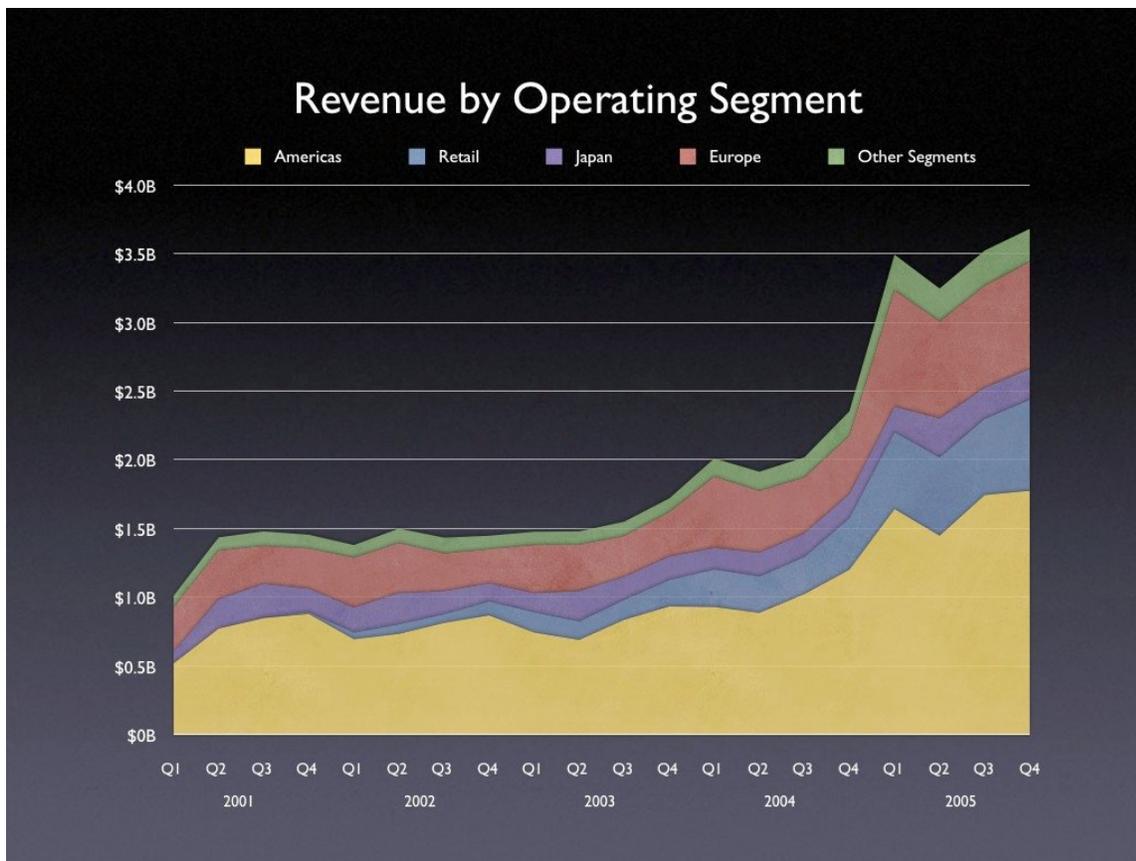
towards a media portal much like that of Amazon.com. Recent partnerships with Disney and NBC have paved the way for iTunes to start offering downloadable television shows for \$1.99 each, in addition to the recent addition of music videos for the same price.

The overall margins on the iTunes product are slightly higher than for Apple's overall product line. Gross margins just under 30% while operating margins for the last quarter of 2005 are between 11% and 12.5%. Because much of the iTunes development costs are fixed (and already accounted for), most of the variable costs consist of licensing contracts with record companies, and continued research and development to keep the website in-step with demand.



Source: Apple Computer Financial Summary

As iPod and Nano sales continue to increase with the help of iTunes, Apple's global presence has also expanded. With two flagship retail stores in Japan and another in London, Apple has used its physical retail presence to bring the Apple brand and product line to many cities worldwide. In addition to the digital music market, one reason Apple has seen such a revenue boost from global sales is that their PC sales have seen a limited but important halo effect on notebooks and a marginal positive impact on desktops; thus Apple's revenues from personal computing sector should remain high for at least the short-term horizon. Shifting their product mix from predominately desktops to an even split between notebooks and desktops, Apple has tapped into the demand for smaller portable computers and personal computers are now 41% of their total company revenues, with 1.245 million units sold last quarter. Apple sold 587,000 laptops last quarter, up 49% from the same quarter one year ago. Non-U.S. global sales of both personal computers and digital music players (including songs purchased from iTunes), represents roughly 50% of Apple's total revenues. The breakdown of revenue by segment is shown in the graph below.



Source: Apple Computer Financial Summary

Apple's stock chart reflects much of what was discussed in the above graphs. The stock price has seen consistent growth in the last 3 years as the iPod, iTunes and notebook revenues have steadily increased. The recent dip in stock price to just under \$60 per share (from nearly \$80 a few weeks ago) is a reflection of recent litigation in France in which iTunes was banned from having sole licensing power over the distribution of its songs. This would allow other online music distributors to put songs on iPods and Nanos, and Apple would lose revenue from iTunes sales. Still, many analysts have kept their raised EPS and price target for the stock price to about \$80 for the next quarter of 2006 due to their forecasts of increased global iPod and Nano sales. Most price targets are between \$78 and \$82 per share, though the litigation in France and introduction of a competing portable music player from Microsoft could alter those forecasts.



#### Five-Component Disaggregation of ROE:

Company	Taxes	Financing	Operations	Profitability	Turnover	Solvency	ROE
Apple	0.74	1.1	11.84%	9.58%	1.41	1.57	29.97%
Microsoft	0.74	1.15	36.21%	30.80%	0.48	1.34	19.93%
Intel	0.69	1.04	31.14%	22.31%	0.81	1.29	23.18%
Gateway	1.04	1.17	1.06%	1.28%	2.09	6.79	18.20%
HP	0.68	1.05	3.88%	2.77%	1.13	2.05	6.42%
IBM	0.65	1.3	10.29%	8.71%	0.84	3.35	24.49%

As the Dupont analysis shows for Apple and its 5 largest competitors, Apple has a higher ROE than others in this industry even though its profitability is not the highest. Especially in the PC and DM industry, it is important that Apple's margins continue to rise, because otherwise their competitive edge is lost. With only 3% of the personal computing market, Apple needs its margins on its notebooks and desktops to be even better than those of leading competitors such as Microsoft, IBM and Gateway. Much of the high ROE is boosted by the DM sector of Apple's business, which has driven the

stock up as well. As long as Apple can continue to increase revenues through continued innovation in the DM market, their margins should remain high and enable them subsidize their personal computing sector as well. This will allow Apple to continue to take advantage of economies of scope, and cross-sell their products in its retail stores.

## Competitive Landscape

### I. PC Industry

Key Numbers	Apple	Dell	HP	Microsoft	PC Industry
Annual Sales (\$ mil.)	13,931	55,908	86,696	39,788	NA
Market Cap (\$ mil.)	53,165.50	68,586.90	94,837	286,183	NA
Employees	16,820	66,100	NA	61,000	
<b>Profitability</b>					
Gross Profit Margin	29.65%	18.50%	25.37%	87.25%	20.25%
Pre-Tax Profit Margin	13.69%	8.18%	4.57%	42.01%	8.68%
Net Profit Margin	9.91%	6.39%	3.05%	31.57%	6.67%
Return on Assets	11.30%	15.50%	3.60%	19.40%	13.40%
Return on Invested Capital	19.20%	77.10%	7.00%	29.50%	38.80%
<b>Valuation</b>					
Price/Sales Ratio	3.28	1.23	1.08	6.92	1.67
Price/Earnings Ratio	33.68	20.36	36.45	22.97	26.12
Price/Book Ratio	6.35	16.61	2.65	6.47	10.37
Price/Cash Flow Ratio	29.55	17.28	19.05	20.26	22.27
<b>Growth</b>					
12-Month Revenue Growth	65.80%	23.70%	7.40%	7.50%	20.50%
12-Month Net Income Growth	215.90%	17.40%	-23.50%	30.60%	78.60%
12-Month EPS Growth	200.00%	23.70%	-21.40%	30.40%	82.20%
36-Month Revenue Growth	34.40%	16.70%	9.70%	8.80%	17.80%
36-Month Net Income Growth	261.70%	18.60%	NA	9.00%	36.20%
36-Month EPS Growth	238.60%	21.60%	NA	9.00%	32.40%

As this competitive landscape illustrates, Dell and Microsoft dominate the industry by their sheer scale and scope, but Apple has the best growth. Apple has the second best

margins in the PC market, due in large part to their DM arm. But as Apple's new Windows-compatible software gets distributed throughout the industry, look for Apple's traditionally small annual sales and market cap (as compared with Dell and Microsoft) to increase and turn Apple from a small player to a mid-size competitor.

## II. DM Industry

Key Numbers	Apple	Napster	RealNetworks	Yahoo!	DM Industry
Annual Sales (\$ mil.)	13,931	46.7	325.1	5,257.70	NA
Market Cap (\$ mil.)	57,035.20	147.9	1,439.70	45,527.30	NA
Employees	16,820	135	826	9,800	NA
<b>Profitability</b>					
Gross Profit Margin	29.65%	40.80%	74.81%	65.61%	52.96%
Pre-Tax Profit Margin	13.69%	-86.40%	NA	50.82%	12.51%
Net Profit Margin	9.91%	-87.81%	96.06%	36.07%	10.76%
Return on Assets	11.30%	-46.60%	28.10%	17.50%	5.40%
Return on Invested Cap.	19.20%	-62.20%	33.20%	20.40%	11.20%
<b>Valuation</b>					
Price/Sales Ratio	3.52	1.74	4.42	8.65	3.37
Price/Earnings Ratio	36.13	NA	5.33	25.09	34.69
Price/Book Ratio	6.81	1.23	1.71	5.32	4.42
Price/Cash Flow Ratio	31.7	-2.48	4.38	19.82	20.49
<b>Growth</b>					
12-Month Rev. Growth	65.80%	-17.20%	21.90%	47.10%	9.70%
12-Month Net Inc. Growth	215.90%	NA	NA	125.80%	20.60%
12-Month EPS Growth	200.00%	NA	NA	120.70%	14.80%
36-Month Rev. Growth	34.40%	-18.00%	22.20%	80.60%	2.50%
36-Month Net Inc. Growth	261.70%	NA	NA	168.80%	111.10%
36-Month EPS Growth	238.60%	NA	NA	148.60%	154.00%

Across the financial board, Apple dominates the DM industry. With over 80% of the legal online music distribution, Apple nearly has a monopoly on the distribution of media files. Combine that with the hottest selling product in portable music history and it is clear why Apple has not only scale economies but growth opportunities as

well, and thus faces no real competition currently. However, Apple will not remain insulated forever; as the “Entry” analysis showed that there are not enough significant barriers to entry to prevent companies from eroding Apple’s share. Thus, Apple must find ways to continue to evolve and grow its distribution channels, yet remain wary of falling into the trap of Sony (becoming too vertically integrated to effectively cross-sell their products and too big and bulky to nimbly of innovate). These issues are discussed in detail in the section below.

## Strategic Issues and Recommendations

Pandora Group sees the strategic issues applying to three main areas: first, what are the main strategies to ensure that Apple continues to grow and innovate in its current markets, generating steady revenues and high margins for the long-term. Second, it is important to analyze the strategic options outside of organic growth that Apple can pursue, including acquiring another company or diversification. And third, what strategic decisions can Apple make to control costs as the company continues to grow.

Apple’s success is largely attributed to its ability to grow and innovate. It has been a hugely successful company the last five years due in large part to the risks it has taken in developing a new product and marketing it successfully. Strategic theory says that there are three stages of a product, potentially affecting the iPod or iTunes: Product Power, Position Power and Process Power. In every stage, power is defined by two aspects, benefit and barrier. In the first, Apple gained significant product power with the introduction of the iPod generation and the accompanying iTunes software.

Because of the quality of product, ease of use, and catchy marketing, Apple had a first-mover advantage in this market and capitalized. As the iPod and iTunes grew, Apple gained position power in the market. These product innovations had benefit because

sales were high and Apple's name was gaining brand loyalty and recognition among non-Apple users. They also had barrier, because as the iPod caught onto pop culture and became a fad, this made it difficult for Sony and other companies in the digital music player industry to break through and gain market share. Thus, Apple had both product and position power and saw its highest sales, margins and stock price in company history. Gaining the third and final power, process power, is what will determine if Apple's is able to continue to create sustained organic growth, which is the first step in ensuring continued market power.

Pandora Group believes that Apple must successfully continue to grow itself, and recommends that funding for research and development is sustained at current levels, or increased slightly. The infrastructure already in place from the creation of the iPod and iTunes should be expanded and used to further pursue options in other media such as movies and television. Apple should take its momentum and current economies of scale and scope in the DM industry and aim to be the chief distributor of all digital media files in the near future. Looking to sign contracts with movie studios and television contracts, Pandora Group recommends that Apple try and secure the rights to play streaming television shows directly onto iPod's. Surveys have shown that there is a demand market for it, and Apple is better positioned than any other company to offer this service.

One reason for the success of the iPod, iTunes and any future product that Apple releases is its channel of distribution. Apple's new notebooks and digital music products succeeded largely because they were released at the same time that Apple opened their own retail stores around the world. This strategic vertical integration allowed Apple to chose its own store locations, price its own products, and educate

customers on the specifics of their products. Because most of the goods Apple sells are experience (credence) goods, consumers need to touch, see, hear and play with the products to determine if they want to buy it. Especially with less-savvy consumers, opening retail stores allowed Apple to connect with a customer base that they would have never tapped into. In addition, by opening stores in Asia, Europe and North America, Apple has established itself as a global presence. And because all of iTunes is internet-based, Apple is able to expand with low marginal cost, and people far from any store can still purchase Apple's products.

Because it produces a quality product, Apple has the opportunity to grow its market share in the PC market. Some analysts believe that Apple has the potential to reach a 10-15% market share in the next several years, up from 3.3% today. Thus the issue becomes how does Apple get its product in the hands of more consumers. One recommendation that Pandora Group has is for Apple to aggressively continue opening retail stores in different parts of the world. This retail store is a visible statement of Apple's presence and an effective to get the Apple brand name in people's minds before other companies do. Especially in China where the demand is growing the fastest, Apple has a distinctive product advantage in the PC market in terms of its hardware and software (it has won numerous awards), and Apple needs to grab the market before it is saturated with Dell, HP and Microsoft. Because soon after, people will be unwilling to switch their purchasing trends and Apple will have lost the first-mover advantage. Yet, if it can establish its superior product in demand markets that have not already invested both money and time in a competing product, customers will be more likely to try and continue buying Apple PC's and digital music products. Furthermore, two goals of Apple should be to find ways to get its product into the hands of kids (who

are not limited by their familiarity with Windows or Dell/HP computers), and to convince long-time non-Apple adults to switch to a superior Apple product.

One recommendation that Pandora Group has is for Apple to extend its distribution channel of PC into the financial services market. IBM and Dell both have a large presence in this market, and with the release of Boot Camp, Apple is now better poised to establish an enterprise and financial services computing facet to its operations. In addition to the expansion into enterprise markets, Apple should continue to install computer labs with Apple machines and software in schools across the country and in developing nations. Not only does Apple have an advantage in primary and secondary education software, but also if the company is able to familiarize kids with its products at an early age, the kids are more likely to continue buying Apple products.

Convincing people to switch to Apple from their familiar computer and operating system is already a major obstacle for the company, putting the product in the hands of kids who do not yet have ingrained preferences is a way to help alleviate this problem.

Pandora Group recommends that Apple look into a program that allows potential consumers to rent or lease a computer at no charge for a short amount of time. Similar to test-driving a car, Apple should invite people to take a computer home for a week, play with it and then decide. As discussed previously, because computers are experience goods (similar to cars), people need to touch, see and play with it to make a purchasing decision. And because of Apple's aesthetically pleasing designs and graphics, people will be interested in experimenting with the computers. With no charge, no pressure (and possibly even a \$100-\$200 discount if they decide to purchase the computer), people will be able to test-drive the Apple at the own pace. The first step to selling someone a product is to put it in their hands, and because Apple has a

quality product, it is a program that could generate significant revenue and help people overcome their own stubbornness. Apple has just released software that is compatible with Windows, trying to accommodate users worried about switching to Apple and being confused and frustrated. A free-trial program would be another step in alleviating people's stress and creating incentives for taking a risk. Although it is true that some PC companies now offer these programs, Pandora Group emphasizes the importance of Apple doing this because of its historically rigid proprietary architecture. In step with restructuring the framework of the company to create more flexibility, this program is a great public avenue to display it.

Addressing the second strategic issue, Pandora Group recommends that Apple continue to reconstruct its architecture so that it is flexible enough to pursue more drastic growth strategies such as acquisition and diversification. Under the vision of Jobs, there already exists an ecology at Apple of recreation and innovation, and Apple has shown it can withstand downturns in the past and recover. This ecology has created an architectural process that contains five key components: aesthetics, consumer electronics, media savvy, ergonomics and information technology. It is the intersection of these five structures that create new and successful products such as the iPod line and iTunes. It is this ingrained process structure that enables long-term success of previous products, and the continued innovation and introduction of new products, to meet shifting consumer demand. In no industry is this more important than in the PC and digital music industry, where technology and demand change rapidly. The inertia of other companies into both markets with added research and development is inevitable and will erode Apple's market power. So Apple must use its internal structure to remain ahead of the competition. Thus, the Pandora Group recommends

that Apple expand their architecture a bit further and pursue the opportunities of acquiring Pixar and possibly also Disney.

With Jobs already heading Pixar's remarkable rise within Disney, the synergy between Apple and Pixar could not be more direct. Although Pandora Group cautions against following Sony's decision to vertically integrate the entire operation and attempt to cross-sell theme parks with graphic design software, Apple does have an opportunity to create revenue synergies by entering into outside markets. This would provide Apple a unique distribution medium to channel its DM and PC arms. Pandora Group recommends an initial analysis be completed to determine some potential strengths and weaknesses of this venture. The distribution channels is what will make this synergy successful (or not) and the various avenues need to be explored.

Another acquisition that Pandora Group recommends pursuing at the initial level is that of entry into communications industry. Apple has already branched out its iPod line to be included in Cingular phones and Apple is already in production of its own phone. With the hardware already manufactured and the media distribution channels under control, Apple can seize communications with more ease than other entrants, and can cross-sell its phone with music and streaming media. Thus, if it already has the technology for streaming media, Apple can create its own communication channels. Microsoft has been discussing this option for some time, and Pandora Group recommends that Apple take at least a superficial look into this option.

Lastly, Pandora wants to address the control of costs as Apple moves forward with growth and expansion. Although Pandora is not able to dissect Apple's current cost structure at the moment, it is clear from the margins and recently sustained growth that

Apple is operating fairly efficiently. Much of this is due to the excellent management. The main challenge will come as Apple continues to grow, expand and the company becomes less nimble and efficient. In certain areas, scale economies will be created (production plants and in-house accounts or lawyers), but other costs will rise. In addition to checking-in on the progress of other recommendations, Pandora Group will be continually available for analysis and recommendations should any cost issues arise.

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