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# *“Living on the Edge”*

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A Case Study of Important Factors  
For the Survival of

# Apple Computers, Inc.

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# - ABSTRACT -

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- Title:** *"Living on the edge"*- A Case Study of Important Factors For the Survival of Apple Computers, Inc.
- Subject:** Master's thesis within the field of Strategic Management, School of Economics and Management, Lund University, Sweden
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- Key words:** Apple, Strategy, Network Effects, Innovation, Design, and Schematic Incongruity
- Objective:** The objective of this case study is to identify important factors for the survival of Apple as a niche player in the computer industry.
- Working structure:** The thesis is based on a qualitative case study of Apple. The empirical data is based on interviews with people previously working at the company, its competitors, as well as people within the field of Design Management. Also, studies of documents, articles, press releases and annual reports have been used as a framework for the case study.
- Conclusions:** Within the three key themes of Innovation & Design, Industry Relations, and Market Strategy, we have identified important factors for the survival of Apple as a niche player in a network economy. Concerning the theme of Innovation & Design the factors recognized are Radical Innovation, Resolving Schematic Incongruity, and Technological Evolution. Regarding Industry Relations we have found Differentiation Through Incompatibility, Selective Cooperation, and Vertical Integration important. Within the theme of Market Strategy we have identified the factors Brand Identity, Meeting Market Needs, and Heterogeneity of Preferences.

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# 1 Introduction

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*In this section we are to explain the value of studying Apple Computers Inc. In addition, why the computer industry in which Apple Computers Inc. is an actor is particularly interesting. Thereafter, the purpose of the thesis is put forward. The chapter finishes with a presentation of the thesis' disposition.*

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## 1.1 Background

Apple Computers Inc., hereafter referred to as Apple, has gone from being the largest personal computer company in the world, to experiencing a stage of near extinction. Today, Apple appears frequently in a wide spectrum of media and the market's awareness of the brand has increased significantly.<sup>1</sup> Not only has the interest for the company grown, Apple's products are selling well and the stock value has risen significantly. If this had regarded a company acting in another industry this might not have been sensational, however, the case of Apple appears to be a different story.

*"Think different"*<sup>2</sup>

The study of Apple provides a unique case, since it was the first computer company primarily targeting personal customers. This was a pioneering action in a time when computers were produced mainly for corporations and institutions. The industry initially embraced a multiple of different standards, and Apple became considered a mayor actor, appearing to be capable of developing a dominant standard of personal computers. However, even though Apple appeared to have a window of first opportunity, IBM conquered the dominating position in the platform. Apple was therefore put in a niche position within an industry considered to be of a winner-take-all kind. The presence of increasing returns and network economies led the industry into a dominant standard, which had a crucial effect on the competitive power of the firms involved. Ever since the outcome of the battle for platform leadership, Apple has been representing a minor standard, and its products disadvantaged due to incompatibility with the dominant one.

*"Apple cannot continue on its present course and expect to survive. The popular press, the corporate marketplace and the public at large all believe Apple is dying, or dead. [- -] and soon, we believe Apple will die (or be acquired, which we think would amount to a slower, more painful death)."*<sup>3</sup>

Several studies have focused on the strategic errors made by Apple during its history. Choosing not to go with the mainstream is often said to have been devastating to Apple. Moreover, traditional economic literature asserts that companies stuck in a niche position in a network economy risk dying if not leaving the industry, or becoming compatible with the dominant standard. In the computer industry, network effects have had a significant impact on competition. Furthermore, brand identity and

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<sup>1</sup> <http://www.kotlermarketing.com/resources/miltonkotler/pearls/p37.html>, 2005-01-18

<sup>2</sup> The slogan of Apple Computers Inc., <http://www.apple.com/thinkdifferent/>, 2005-01-18

<sup>3</sup> <http://www.writeside.com/reviews/review89.php>, 2005-01-17

good reputation has generally come from technical skills and ever-improving computer performance. Currently, in a time when computers are becoming commodities and adjacent industries are converging, it appears as though Apple's competences and the potential customers' demands are easier to combine. Still some analysts guess that Apple's well being will be short, highlighting the similarity between Apple's situation and actions today, with that of previous times.

*It doesn't take a genius to see what comes next: lower prices for consumers and lower market share for Apple [- - -] Steve Jobs is right back to the Mac model.<sup>4</sup>*

The company's history presents a noteworthy achievement. Apple's performance might not last, but the company has earlier proven to have the capacity to survive in a niche position despite the odds. You ought to wonder how!

Apple holds a strong reputation for its ability to constantly come up with new, different and user-friendly products. Due to the network effects within its industry, the company has been constantly forced to adjust its market strategy. The discussion raises a multiple of questions, some of which we have found of special interest; what factors within Innovation & Design have been important for Apple's survival? How has Apple's Industry Relations affected the outcome of its actions to stay alive? In what way have Apple's choices regarding market strategy influenced the company's ability to survive?

The background leads to the thesis' question at issue:

- Which factors have been important to Apple's ability to survive as a niche player in a network economy?

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<sup>4</sup> [http://www.businessweek.com/magazine/content/04\\_05/b3868001\\_mz001.htm](http://www.businessweek.com/magazine/content/04_05/b3868001_mz001.htm), 2005-01-18

## 1.2 Purpose

The thesis' purpose is to identify important factors for Apple's ability to survive as a niche player in a network economy.

## 1.3 Definitions

### *Computer Industry*

Encompassing products ranging from MP3 players to mainframe computers, the computer hardware industry serves an equally wide range of customers - from consumers purchasing PC peripherals to multibillion-dollar global corporations installing entire networks.<sup>5</sup>

### *Digital Hub*

According to Apple the personal computer will function as a digital hub when connecting digital devices both for consumers and professionals. Devices are e.g. digital music players, personal digital assistants, digital still and movie cameras, CD and DVD players, and other electronic devices.<sup>6</sup>

## 1.4 Target Audience

The main target readers of this study are supervisors and students at Lund School of Economics and Management. Moreover, we hope the study will be of interest to people interested in the field of technological innovation as well as design management, network economics and the industries of computers and consumer electronics.

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<sup>5</sup> [http://biz.yahoo.com/ic/profile/cmptsr\\_1092.html](http://biz.yahoo.com/ic/profile/cmptsr_1092.html), 2005-01-18

<sup>6</sup> Annual Report of Apple, 2003

## 1.5 Structure of the thesis

The thesis has the following structure:

**Chapter 2:** Describes the thesis' methodological approach.

**Chapter 3:** Procures a theoretical frame of reference in order to provide the reader the background information necessary to understand the line of reasoning in the thesis.

**Chapter 4:** Outlines the history of the company from its early beginning to its present situation.

**Chapter 5:** Provides an analysis of the case in combination with the theoretical framework.

**Chapter 6:** Brings together the conclusions found in the analysis and presents the important factors for Apple's survival as a niche player in a network economy.



## 2 Methodology

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*In this chapter we are presenting the method used in the thesis. Firstly, the qualitatively performed case study is justified for. Thereafter follows a description of our methodical actions aiming at offering a picture of Apple, and our reflections regarding the trustworthiness of the results.*

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### 2.1 Choice of Case Company

The choice of Apple as case company was based on our interest in the ongoing change within the computer business. Companies, such as Apple, have to adapt to a relatively new demand of more integrated products and solutions. Apple serves an interesting illustrating example of a company initiating an industry's take off, and thereafter continuing competing while the industry faces continuous change. The fact that Apple has survived, despite a difficult position in a network economy, makes the company's history noteworthy.

### 2.2 Choice of Practical Methods

An *explorative approach* was taken in order to gain a deeper and broader understanding of the chosen firm and its industry. This was conducted by studies of primary character, such as interviews, as well as of a secondary kind, in form of documents and articles. In course of time, certain areas were discerned and found of higher relevance to the purpose of our study. Three key themes<sup>7</sup> emerged as being of particular interest. Having the key themes in mind, we adopted a *descriptive approach* with the selected themes in focus. One of the main advantages with this approach was that it allowed us to describe conditions in the past, as well as current conditions within and around the case company.<sup>8</sup> It was considered appropriate since we aimed at identifying important factors needed for Apple's survival until today.

We have conducted a *qualitative case study* and limited our study to only one company. The qualitative approach made it possible to explore and analyze Apple in a more extensive way. Also, it served as a useful tool when trying to compare the company's actions with the theoretical framework.<sup>9</sup> By switching back and forth between the theoretical framework and the empirical findings, we have conducted a study with an *abductive approach*.<sup>10</sup> We considered this approach useful since the nature of our qualitative study implied new findings, and thus an ongoing reconstruction of our case study and a continuous adding of relevant theories were made.

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<sup>7</sup> For further description see 2.5

<sup>8</sup> Patel, R. & Davidsson, B. (1994) *Forskningsmetodikens grunder*, p. 11

<sup>9</sup> Holme, M. & Solvang, B. (1997) *Forskningsmetodik, Om kvalitativa och kvantitativa metoder*, p. 75

<sup>10</sup> Ibid, pp. 76-80

## 2.2.1 Theoretical Research Design

After a broader study of literature within the field of Business Strategy, theoretical literature was studied with an accentuation on our selected key themes. More specifically, we have focused on positioning, network effects, profit capturing from innovation, Design Management as well as competitive strategies for challengers and platform leaders. A significant share of the studied material has consisted of articles. Regarding the field of Design Management we have been provided scientific material currently under review, in order to make use of the most recent findings. Due to the complexity involved in limiting the scope of the study, the selection of theory has been a continuous process throughout a mayor part of the work.

## 2.3 Information Gathering

During the study, articles were searched through databases, online search engines, and newspapers. A significant part was found in the University of Lund's online article library, ELIN. We started out with a broad perspective, covering articles of various content published during a wide time span. As the study progressed our knowledge increased, which in turn raised new questions. This demanded a more narrow approach to the information available, and we focused on issues related to our key themes<sup>11</sup>, both in the interviews as well as in the studies of documents. When aspiring a higher security in information and interpretation, we have strived towards verifying sources considered more insecure, with another secondary or primary source.

Search strings such as *computer industry*, *consumer electronics*, *design management*, *innovation*, *network economy*, *digital living*, and subordinated, more detailed areas within these were studied.

### 2.3.1 Interviews

To gain a better overall view of Apple and its industry, we executed interviews with a variety of persons. In order to gain information of Apple and its environment, interviews were conducted with people related to the company in different ways. The study includes interviews with a person previously working at Apple, persons inside a company partnering, as well as competing with Apple. We also interviewed people with a deeper knowledge within the field of consumer electronics. In order to obtain a better understanding of the emerging field of Design Management, we contacted the Design Management Institute<sup>12</sup> (DMI) in Boston, which also provided further contacts within the field.

In accordance with an abductive method, we have often been in contact with our interviewees a multiple of times each. The questions asked have therefore been put forward at separate moments, which has enabled us to reflect and return to the

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<sup>11</sup> For further description see 2.5

<sup>12</sup> DMI has become the leading resource and international authority in Design Management. It is a nonprofit organization that seeks to heighten awareness of design as an essential part of business strategy, [http://www.dmi.org/dmi/html/aboutdmi/aboutdmi\\_s.htm](http://www.dmi.org/dmi/html/aboutdmi/aboutdmi_s.htm), 2004-12-08

interviewee for additional information. Interviewees have also been added along the way, when considered necessary to increase our knowledge.

Our interviewees have been:

- *Matt Connors*, ex-coworker at Apple positioned in Cupertino, USA. Currently working at Sonics with the development of home entertainment systems for companies such as Microsoft and Dell. (Telephone interview 2005-01-03, e-mail interview 2004-12-14 and 2005-01-18)
- *Dr. Lisbeth Svengren Holm*, one of the leading persons in Scandinavia within the field of Design Management. Currently working at the Stockholm University School of Business. (Interview in person 2004-12-06)
- *Victor Peng*, Business Planning Manager at Hewlett-Packard in San Diego, USA. (E-mail interview 2005-01-11)
- *Christoffer Frisell*, Product Marketing Manager at Microsoft Sweden. (E-mail interview 2005-01-21)

Moreover, we have been in contact with several persons with expertise in consumer electronics and within the field of Design Management. They have increased our knowledge of consumer electronics and guided us through the selection of relevant Design Management literature.

- *Earl Powell*, President of the Design Management Institute (DMI), Boston, USA. (2004-12-02)
- *Violina Rindova*, Assistant Professor in Management and Organization at Robert H. Smith School of Business, University of Maryland, USA. (2004-12-07)
- *Xènia Viladàs*, Executive Director of DDI (Sociedad Estatal para el Desarrollo del Diseño y la Innovación), Madrid, Spain. (2004-12-01)

## 2.4 Interview Method

The interviews were conducted in person, by telephone or by e-mail. A telephone interview is not very different from an interview in personal since there are opportunities in both cases for adding complementary questions. However, an interview in personal has an advantage due to the non-verbal information this type of interview can provide.<sup>13</sup>

Before the interviews, a presentation of our study as well as topics we wanted to discuss was sent to the interviewees, without mentioning precise questions. In order to

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<sup>13</sup> Holme, M. & Solvang, B. (1997) *Forskningsmetodik, Om kvalitativa och kvantitativa metoder*, p. 105

achieve as informal and open-minded interviews as possible, the interviews were of a openly-structured character.<sup>14</sup> A openly-structured interview is generally helpful in order to gain a deeper understanding of behavior and motives. During the interview a set of questions was prepared and put forward, however additional questions surfacing during the interview were also included.<sup>15</sup>

The interviews made in person and by telephone were recorded, in addition the interviewers took notes. Interviews were discussed instantly after each interview to share views and secure that upcoming thoughts were not forgotten. Concerning the interviews conducted by e-mail, a questionnaire was sent to the interviewee. When complementary questions were needed, we conducted an additional interview through telephone or by an additional e-mail.

## **2.4.1 Studies of Documents**

Since Apple has occurred with high frequency in numerous papers and articles, the main problem was to screen the amount of literature. Due to the fact that documents studied were produced for other reasons than academic or scientific, a critical view of its background, source, purpose et cetera was important to attain.

According to Holme & Solvang, documents can often be presumed to have a bias.<sup>16</sup> Therefore, we have strived to look for a variety of perspectives. Documents that lay foundation for the case study were sometimes likely to be of a biased nature. With this in mind, and in order to get a better picture, we have when necessary crosschecked the information with our interviewees or sources considered being of a more objective nature.

## **2.5 Key Themes**

After a primary study, we were to believe a focus on certain themes could help us distinguish factors of particular importance for Apple's survival. The identified themes defined our theoretical research and guided us in the search for information to our case study.

### **2.5.1 The Theme of Innovation & Design**

The theme of Innovation & Design is broadly defined, including innovation in technology and design. The two concepts of innovation and design have been united, as we find them interdependent. For instance, user-friendliness, industrial design, graphics and physical appearance are included. We have in our definition been influenced by the work of the Design Management Institute<sup>17</sup> and Lisbeth Svengren<sup>18</sup>.

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<sup>14</sup> Holme, M. & Solvang, B. (1997) *Forskningsmetodik, Om kvalitativa och kvantitativa metoder*, pp. 85-87

<sup>15</sup> Ibid, pp. 100-101

<sup>16</sup> Ibid, pp. 130-137

<sup>17</sup> www.dmi.org, 2005-01-10

The choice of Innovation & Design is based on the notion that these competences often have been claimed to be part of the explanation to Apple's performance. In particular, since the company has been positioned as a niche player in the personal computer industry.

### **2.5.2 The Theme of Industry Relations**

The theme of Industry Relations regards Apple's way of handling openness, cooperation, compatibility and to what extent Apple is encouraging independent sub-industries (e.g. for complementary assets).

Industry Relations was regarded to have a particular impact on Apple's performance, since it concerned an industry alleged to have network effects. The position of Apple in the industry, as well as the characteristics and actions of competitors, have affected the company's ability to profit. Moreover, the choice of Apple regarding cooperation with other companies, both within its industry boundaries as well as externally, has influenced the company's competitive power.

### **2.5.3 The Theme of Market Strategy**

The theme of Market Strategy includes Apple's market position, identity and communication with potential customers. Moreover, it includes how Apple has worked in order to attain knowledge of market needs, and how to create customer demands.

Apple has during its lifetime attempted to attract different segments for different reasons. The company has, moreover, managed to build a brand and customer loyalty. This seems to have had a significant influence on its performance.

## **2.6 Report Quality**

Holme & Solvang argue that the validity in combination with the reliability of a study decides its level of quality. Validity regards to what extent the study measures what it is intended to measure whilst the degree of reliability depends on the procedure and how accurate the work is done.<sup>19</sup>

Throughout the thesis we have been focusing on three key themes, which are continuously referred to when answering the question of issue. Concerning the reliability of the thesis, we have strived for a nuance picture in our research. Several interviews with people we have found well informed within the subject have helped us to achieve this. Holme & Solvang further highlight that conducting a qualitative study involves dealing with interviews and information that are likely to be of a

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<sup>18</sup> Interview in person with Lisbeth Svengren, 2004-12-06.

<sup>19</sup> Holme, I. & Solvang, B. (1997) *Forskningsmetodik – om kvalitativa och kvantitativa metoder*, Studentlitteratur, pp. 94-95

biased nature.<sup>20</sup> To overcome the problem we have not only interviewed people and scrutinized literature originated from Apple, but from a number of different sources.

## 2.7 Criticism of the Study

Apple has a multiple of times already been object for case studies and analyses. Performing an additional case study involves a risk of not achieving a presentation and analysis of a unique value. When striving for a valuable result, we have studied previously produced material related to our topic, used a multiple of primary sources, and newly produced research ideas in the field, as well as taken into account recent actions of Apple and changes in its environment.

All aspects of Apple and its environment cannot be taken into consideration. Important factors can be underestimated or kept secret within the firm of focus. As this is a study regarding also historical events and trends, there is a risk of not realizing the mindset at a historical point of time. Time can also have blurred memories and prevented information from being found today.

The time frame of ten weeks has limited the information research, both regarding literature and interviews. Moreover, we have had to restrict the scope of our study and analysis. By focusing on our three selected themes, we have limited our spectra of research sources. As a result, other aspects have been neglected to some degree.

The theory used in the thesis regards business and economics. We are aware of the criticism arguing this literature is not to be referred to as theory, but to as ideas or similar. Even though this kind of literature might be considered of a non-theoretical form, we are in the work referring to it as theory. This in order to make is easier for the reader to follow the reasoning and improve the reading value.

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<sup>20</sup> Holme, I. & Solvang, B. (1997) *Forskningsmetodik – om kvalitativa och kvantitativa metoder*, Studentlitteratur, pp. 95-98

# 3 Theoretical Framework

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*The chapter's purpose is to provide the reader with a theoretical framework and thereby an increased comprehension of the field of study. Initially more traditional theory will be presented. Thereafter, ideas of a more foreground character in relation to the phenomena are put forward.*

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## 3.1 Traditional Theory for Business Strategy

A number of theories of strategy are based upon the assumption that the firm acts in an industry with a static structure, and has a significant level of predictability. When the industry's structure is somewhat static and longer-term plans can be made, firms can and should prepare long-term business strategies.<sup>21</sup> Porter's five-forces is one of the ideas widely applied among the more static. His method of analysis, including five forces of competition, describes the firm's possibilities of attaining competitive advantage with origin in the market position. It sees to situations where a firm is under impact of its own industry, substitutes and new entrants, as well as affected by the bargaining power of suppliers and buyers. The structure of the industry decides the intensity of competition, which in turn is decisive for the resulting profitability of its firms.<sup>22</sup> The above-mentioned traditional theories are alleged not to capture and explain the dynamic character of an industry, including increasing returns.<sup>23</sup> In this kind of environment it is important to combine flexibility and the ability to react quickly, presumably proactive.<sup>24</sup> Therefore, we find it important to include theories taking changes, and dynamism into account.

Barney presents a theory of a more dynamic character. His reasoning has a resource-based view with a higher focus internally, where strategic competitive advantages can be created based on resources and capabilities within the firm. Resources should according to Barney have four characteristics, all included in the VRIO (be valuable, rare, imperfectly imitable, and efficiently organized) model. Barney's view hinges upon the notion that a continuously changing external environment demands ability to recurrently modify strategies according to unforeseen events in and around the firm. How the industry is structured affects the generation and distribution of competitive advantages.<sup>25</sup>

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<sup>21</sup> Grant, R.M. (2002) "Contemporary Strategy Analysis", Forth Edition, *Black Well Publishing*, pp. 225-250

<sup>22</sup> Porter, M.E. (1980) "Competitive Strategy: Techniques for Analyzing Industries and Competitors", *New York Free Press*

<sup>23</sup> Arthur W.B. (1994) "Increasing Returns and Path Dependence in the Economy", *The University of Michigan Press*, p. 1

<sup>24</sup> Hamel, G. & Välikangas, L. (2003), "The Quest for Resilience", *Harvard Business Review*, pp.52-54

<sup>25</sup> Barney, J.B. (1996) "Bringing Managers Back In: A Resource-based Analysis of the Role of Managers in Creating and Sustaining Competitive Advantages for Firms" *Texas A&M University*

## 3.2 Theory in Focus

In addition to traditional theories mentioned in the section above, further factors determine the success of companies in an industry. An important factor is the communication of value and usage possibilities of the product to prospective customers.<sup>26</sup> Moreover, dominant standards developed have the power to strengthen the competitiveness, while producers of incompatible products are forced to fight an uphill battle. It is important to time the launch effectively and to act in order to increase the user base. A technological evolution's path can be critical for the industry's future structure, due to increasing returns and network effects.<sup>27</sup> The power of a dominant standard can result in an ineffective market, as the product chosen might not be the best if considered independently of the standard.<sup>28</sup>

### 3.2.1 Innovation & Design

This section presents ideas regarding Innovation & Design. Even though theories considered are focusing on technological innovation, we find it appropriate to apply a similar reasoning regarding innovation in physical design. For instance, when describing dominant design this is both relevant for technology and design in appearance.

#### 3.2.1.1 Profiting from Innovation & Design

Building on Barney's statement, resources and capabilities of a firm can form a sustainable competitive advantage. According to this view, the novel combinations of the firm's resources are foundation for innovation. The size of revenues from the firm's innovation can then be evaluated in line with Schumpeter's reasoning, which both alleges technological evolution provides new opportunities for innovation, and judges innovation as a source of value creation. The Schumpeterian rents refer to the window of opportunity lasting until competitors catch up, thus a period when the innovating firm can benefit from the revenues generated by the innovation.<sup>29</sup> This presumes being the first mover to a market is a source of strategic advantage. Though, it has become clear that this is not a matter of course. According to Amit & Zott, the Schumpeterian rents and thus value creation are not only due to the innovated product. Continuous innovation might be required in order to compete effectively if acting in an industry characterized by technological development and changes in the competitive environment.<sup>30</sup>

Teece highlights the complexity in the distribution of the profits generated by the innovation. He provides an explanation to why innovating firms often fail to obtain

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<sup>26</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, p. 268

<sup>27</sup> Allen, J.P. (2003) "The Evolution of New Mobile Applications: A Sociotechnical Perspective", *International Journal of Electronic Commerce*, Vol. 8, No. 1 pp. 13-15

<sup>28</sup> Ibid

<sup>29</sup> Amit, R. & Zott, C. (2001) "Value Creation in E-Business", *Strategic Management Journal*, pp. 496-497

<sup>30</sup> Ibid



significant economic returns. Instead customers, imitators or competitors of the innovator are often the ones benefiting the most.<sup>31</sup> Furthermore, Teece describes factors having an impact on the distribution of revenues from innovation. One factor explaining the distribution of outcomes from innovation is according to Teece *the appropriability regimes*.<sup>32</sup> This refers to environmental factors that influence an innovator's ability to capture the profits generated by an innovation. The most important dimensions are the nature of the technology and the efficacy of legal mechanisms of protection. Under *tight appropriability regimes* circumstances, e.g. having intellectual property protection or a technology difficult to copy, make imitation complex, and the innovator can generally enjoy value generated from the invention for some time. *Weak appropriability regimes* present, on the contrary, a greater incentive to apply a business strategy of a higher degree of integration, in order to increase the probability of capturing profits.<sup>33</sup>

Schilling draws attention to that first mover advantages, e.g. regarding Innovation & Design, may fortify an early technology and lead into a standard: “[...] *early technology offerings can become so entrenched that subsequent technologies, even if considered technologically superior, may be unable to gain a foothold in the market*”.<sup>34</sup> However, the benefits of being first mover are disputed. Porter alleges there might be obstacles hindering the first mover from reaping the profits from its innovation.<sup>35</sup> This reasoning can be compared to that of Allen, who in terms of *sociotechnical innovation* puts forward a description of technological evolution and factors that might hinder the innovator driving the evolution from benefiting. Focusing on the sociology of technology he finds technological evolution being a result of a “*speciation event, transplanting the existing technological know-how to a new domain of application where it evolves in new directions*”.<sup>36</sup> Decisive for the evolution is then a common definition regarding development, acquisition and use. A two-phase analytical process for analyzing the evolution of the technology is put forward. The first phase concerns the existing social interaction and the current definitions regarding problems and solutions with respect to the technology.<sup>37</sup> In order to accomplish the second step, Allen puts forward the aspect of a common definition, conceptualized as a *technological frame*.<sup>38</sup> According to this reasoning, a technological change such as an innovation demands a common definition in a process of social interaction among multiple constituencies. In order to reach such a frame, the following resources for social interaction should be presented: (1) The most important problem to be solved by the technology. (2) The most important performance criteria for the technology. (3) An exemplary artifact, serving a role model of the technology.<sup>39</sup> This can be compared to how Schilling proposes *bundling*

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<sup>31</sup> Teece, D.J. (1986), “Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy”, pp. 285-286

<sup>32</sup> Ibid, pp. 286-287

<sup>33</sup> Ibid, pp. 287-303

<sup>34</sup> Schilling, M. (1999) “Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods”, *European Management Journal*, Vol. 17, No 3, p. 266

<sup>35</sup> Porter, M. (2001) “Strategy and the Internet”, *Harvard Business Review*, pp. 68-69

<sup>36</sup> Allen, J.P. (2003) “The Evolution of New Mobile Applications: A Sociotechnical Perspective”, *International Journal of Electronic Commerce*, Vol. 8, No 1, p. 23

<sup>37</sup> Ibid, pp. 25-26

<sup>38</sup> Ibid, p. 25

<sup>39</sup> Allen, J.P. (2003) “The Evolution of New Mobile Applications: A Sociotechnical Perspective”, *International Journal of Electronic Commerce*, Vol. 8, No 1, p. 35

of the new technology to complementary technology already having a sufficient user base. The reason is that by bundling to a technology that consumers previously are accustomed with, the new technology can provide some sense of familiarity. This reduces the incongruity with previous technology, by e.g. creating compatibility or lowering the switching costs recognized by potential customers.<sup>40</sup>

Traditional theories of value creation often acknowledge, but seldom focus on, customers' perception of value in combination with the difference between low and high degree of schematic incongruity in a product innovation. Rindova & Petkova, however, suggest there are two dimensions that together decide a new product's overall novelty, as well as to what extent customers perceive its created value. The first proposed is the *degree of technological change*, the other the *product form design*.<sup>41</sup> According to this statement, the perceived value created by product innovation is a dynamic constructive process. A process in which the customers' perception of value created by product innovation is affected by competitors' designs, as well as existing technologies. Moreover, they highlight the potential possibilities and risks associated with chosen incremental and radical degree of innovation. They argue that product innovations, which cause a minor degree of *schematic incongruity*, will bring forth "*positive emotions with low affect intensity*". In result, this will affect the innovation's perceived value positively, but to a limited degree.<sup>42</sup> They continue by arguing that when a product's incongruity is resolved effectively, a product innovation that causes a "*high degree of schematic incongruity will elicit positive emotions with high affect intensity and will have higher perceived value created*". The reverse is also true where negative emotions are the outcome due to the incongruity not being resolved effectively.<sup>43</sup> Further, they argue that the greater the extent to which a new product stimulates positive emotions and analogical reasoning, the greater is the chance that potential customers effectively will manage to resolve the schematic incongruity the product causes.<sup>44</sup>

### 3.2.1.2 Dominant Design and Path Dependency

Conventional economic theory highlights that economic actions will lead to diminishing returns and result in equilibrium with the most efficient use and allocation of resources. Teece puts forward a concept regarding the developmental process of the acceptance of agreed upon standards, this in terms of the *dominant design paradigm*.<sup>45</sup> The evolution of a dominant design is, according to Teece, based on two stages of development: In the *preparadigmatic phase*, the industry standard is not yet set, and the focus is on identification of an emerging dominant design. This phase can appear due to new technology or changes in the society.<sup>46</sup>

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<sup>40</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, p. 271

<sup>41</sup> Rindova & Petkova, (2003) "When a New Thing is a Good Thing: The Effects of Technological Change And Product Form Design on Customer Perceptions of Value Created by Product", p. 2

<sup>42</sup> Ibid, p. 16

<sup>43</sup> Ibid

<sup>44</sup> Ibid, p. 18

<sup>45</sup> Teece, (1986), "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", pp. 286-291

<sup>46</sup> Ibid, pp. 290-292

What makes a technology develop from the *preparadigmatic phase* into one having a dominant design could be explained by the, by Arthur described, phenomenon of *path dependency*. According to Arthur small historical events together with positive feedback effects may have a strong influence over the final outcome.<sup>47</sup> Under these circumstances the outcome is unique, and relatively insensitive to small events taking place during the industry evolution.<sup>48</sup> Arthur shows that there are measures that a company can take when desiring to sway a technology selection in its favor. For instance, market needs are important to understand and foresee, and previous compatibility standards can be necessary to consider.<sup>49</sup> Also timing of entry and design are decisive factors of competition for a company having the desire to become a platform leader.<sup>50</sup>

Once a dominant design has been established it is unlikely that there will be a change of standards. This is of great importance since a company that holds the standard in its industry is likely to benefit from increasing returns arising from learning, signaling, and network effects. Moreover, Schilling puts forward the size of the installed base and the availability of complementary goods as other important factors of how to influence technology selection.<sup>51</sup> In an industry where R&D and prototyping costs are high, and where innovation is easy, the probability of a small innovator to emerge as the eventual winner at the end of the preparadigmatic is minor.<sup>52</sup>

Schilling points out that if more people adopts a technology it will lead to a better understanding of the manufacturing process and of how to use the technologies in the future. Further, the more firms that implement the technology and develop complementary technologies, the more likely others will adopt it. This is referred to as *learning curve effects*. Learning curve effects cannot easily be imitated and therefore hold a great sustainable advantage compared to signaling effects and network effects. Schilling alleges lock-in effects strengthen this predominant standard, which creates switching costs.<sup>53</sup> *The paradigmatic phase* begins when a leading design is revealed and a body of theory appears to have gained scientific acceptability. In the paradigmatic phase competition focuses on a whole new set of variables. Usually the focus is now more on economies of scale, learning, and cost cutting, whilst less on design, in order to offer lower prices. Moreover, complementary assets are important since the technology is imitable and these can therefore provide a strengthened competitive force. These standards remain in force until the paradigm is overturned.<sup>54</sup>

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<sup>47</sup> Arthur, W.B. (1994) "Increasing Returns and Path Dependence in the Economy", *The University of Michigan Press*, p. 14

<sup>48</sup> Ibid, p. 1

<sup>49</sup> Ibid

<sup>50</sup> Teece, (1986), "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", p. 287-288

<sup>51</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, pp. 266-268

<sup>52</sup> Teece, (1986), "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", p. 291

<sup>53</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, p. 267

<sup>54</sup> Teece, D.J. (1986) "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", pp. 286-292

### 3.2.1.3 Strategies for Challengers in Network Economies

Sheremata explains why a challenger might need to adopt *high-risk strategies* in order to succeed. Moreover, he proposes the reason for why the kind of innovation a challenger should use in order to compete effectively is dependent on the specific market and its technology. In contrast to earlier researchers who see innovation as either radical and incompatible, or incremental and compatible, Sheremata treats innovation as a point in a two-dimensional space.<sup>55</sup>

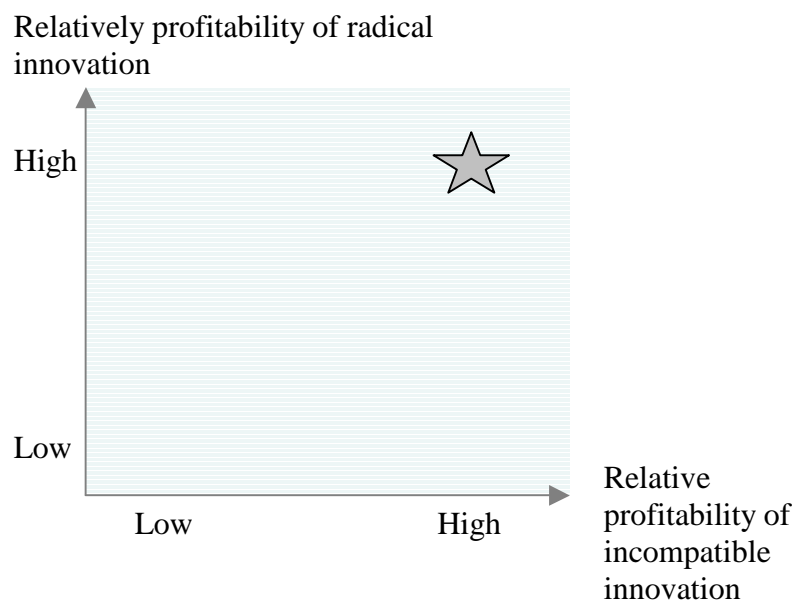


Figure 3.1: Relative Profitability of Radical Innovation versus Relative Profitability of Incompatible Innovation. The star represents the proposed kind of innovation.<sup>56</sup>

According to Sheremata, utility derives from two distinct sources in network markets, product benefits and network benefits. The phenomenon is related to as *network effect*.<sup>57</sup> A challenger's network is naturally smaller than that of the dominant firm, therefore contributing with less network benefits to the customer. However, Sheremata shows that a challenger can earn economic profits from a significant share of a network market after another firm's standard has established dominance.<sup>58</sup> He argues that if the challenger sufficiently increases its product value, by managing to use new technology, and creates a superior product; it might succeed in overcoming the total of the dominant competitor's product value and its network size. Sheremata emphasizes the importance of the challenger's decision "*whether to compete through products that are compatible with the dominant product, and, if so, to what degree.*" The challenger then must decide whether to compete through radical improvements upon the dominant firm's product or incremental ones. As a result, network effects are not sufficient to gain and retain competitive advantage. Also, adopters will trade

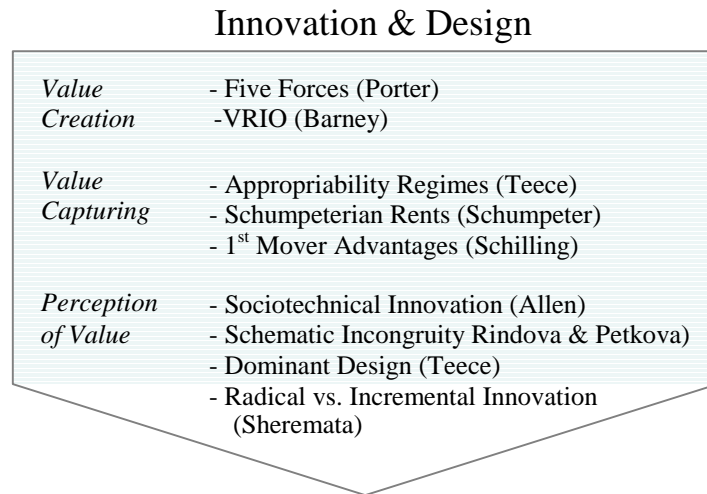
<sup>55</sup> Sheremata, W.A. (2004) *Competing Through Innovation In Network Markets: Strategies for Challengers*, pp. 360-362

<sup>56</sup> Ibid, p. 361

<sup>57</sup> Katz, M. & Shapiro, C. (1992) "Product Introduction with Network Externalities", *The Journal of Industrial Economics*, Vol. XL, No 1, pp. 58-59

<sup>58</sup> Sheremata, W.A. (2004) *Competing Through Innovation In Network Markets: Strategies for Challengers*, p. 366

network benefits for product benefits leading to the conclusion that “*radical innovation can be an effective strategy for challengers in network markets*”. Furthermore, his findings show that radical innovation has a high probability of failure but can be more profitable than incremental innovation.<sup>59</sup>



*Figure 3.2: Summary of theory regarding Innovation & Design*

### 3.2.2 Industry Relations

The work of Coase, regarding company boundaries, concerns the costs of transaction arising from integrated organization contra the alternative of “*using the price mechanism of the market*”.<sup>60</sup> According to this, there are *diminishing returns to management*, and a theoretical optimal level of integration and intra-firm cooperation, which a company should aim at.<sup>61</sup> Adding to this, Teece claims that business boundaries, as part of the business strategy, are important factors for profiting from innovation.

#### 3.2.2.1 Industry Relations in a Network Economy

Schilling predicates that there are forces in an industry that favor the selection of a dominant platform. Reasons for this are that companies whose technologies become the standard in the industry have much to gain, both in influence over the evolution of the technology, and in money terms. In a *network economy* the *network effects* lead to that the customer’s perceived value of a product is a combination of both how good the product is in itself, and how it increases with the number of users of the product. The company controlling the dominant standard and its evolution is regarded the platform leader, and benefits from its position. In contrast, the minor standard is disadvantaged. High profits are also a possibility for those companies that can foresee

<sup>59</sup> Sheremata, W.A. (2004) *Competing Through Innovation In Network Markets: Strategies for Challengers*, pp. 361-364

<sup>60</sup> Coase, R. (1937), “The Nature of the Firm”, p. 5, [http://people.bu.edu/vaguirre/courses/bu332/nature\\_firm.pdf](http://people.bu.edu/vaguirre/courses/bu332/nature_firm.pdf), 2005-01-18

<sup>61</sup> Ibid, p. 6

which platform that will become dominant and adjust to it. Inversely, those companies that find themselves locked out of the platform will lose the capital, learning and brand equity invested in another technology. Moreover, they will not be able to derive advantage from the market circled around the platform.<sup>62</sup> Shapiro & Varian contend, “[...] *the outcome of a standards war can determine the very survival of the companies involved*”.<sup>63</sup>

### 3.2.2.2 Competing in a Network Economy

If a company cannot signal and assure potential customers of the technology’s future position this can, according to Shilling, to some degree be exchanged for e.g. price discounts or service arrangements.<sup>64</sup> However, as Cusumano and Gawer points out, a network effect in non-physical networks, e.g. the computer industry depends highly on the installed base. This due to the notion that a large installed base signals that the platform stands higher chances of becoming a dominant standard.<sup>65</sup> A large installed base also indicates a more probable success of the platform and reduces the uncertainty sometimes reigning at the birth of a new technology.<sup>66</sup>

Cusumano & Gawer suggest that if a company wishes to continue driving the innovation in their industry, and remain platform leader, there are certain actions that should be carried out. Firstly, the platform leader needs to secure the integrity of the evolving platform. In other words, it has to ensure the compatibility with complementary products as technological innovation proceeds. Secondly, it has to adjust to these technological innovations without losing compatibility with past complements. And lastly, the platform leader needs a strategy of how to preserve platform leadership. Cusumano & Gawer further imply that as the industry evolves, it gets de-integrated. At the start-up of a new industry there are usually only a small number of companies that make all components necessary to make a product. However, as time goes by these vertically integrated companies tend to focus on what they do best and let other participants in the industry make the ancillary products.<sup>67</sup>

To build an installed base might be crucial, even though difficult for a company to achieve by itself. Both Schilling<sup>68</sup> and Hill<sup>69</sup> present different strategies useful for a company in strengthening the network and signaling effects. One strategy is to diffuse the technology through *licensing arrangements and open systems*, which can increase

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<sup>62</sup> Schilling, M. (1999) “Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods”, *European Management Journal*, Vol. 17, No 3, pp. 265-268

<sup>63</sup> Shapiro, C. & Varian, H.R. (1999) “The Art of Standards Wars”, *California Management Review*, p. 1

<sup>64</sup> Schilling, M. (1999) “Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods”, *European Management Journal*, Vol. 17, No 3, pp. 271-271

<sup>65</sup> Cusumano, M. A. Gawer, A. (2002) The elements of platform leadership, *MIT Sloan Management Review*, p. 53

<sup>66</sup> Schilling, M. (1999) “Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods”, *European Management Journal*, Vol. 17, No 3, p. 268

<sup>67</sup> Cusumano, M. A. Gawer, A. (2002) The elements of platform leadership, *MIT Sloan Management Review*, pp. 53-57

<sup>68</sup> Schilling, M. (1999) “Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods”, *European Management Journal*, Vol. 17, No 3, pp. 268-272

<sup>69</sup> Hill, C. (1997) Establishing a standard: Competitive Strategy and Technological Standards in Winner-Take-All Industries, *Academy of Management Executive*, p. 9

the likelihood of becoming the dominant standard in the industry. Keeping the technology for oneself and protecting it with e.g. patents, will according to this theory jeopardize the diffusion and could result in a total lock out of the dominant standard. A company aiming at becoming dominant in the industry has much to gain from attracting complementary producers.<sup>70</sup> The platform leader attracts complement producers if there is a perceived incentive for these to develop products compatible with the platform. Collaboration through *inter-organizational linkages* can be one way of signaling prospective benefits and so attract complementors. Still, there is also a negative aspect of open systems to take under consideration. An open system is easily commoditized and even if the technology becomes the standard in the platform there may be no great amount of money to be earned. Protecting the technology can be a beneficial alternative if there are few competitors or if there is already a number of complementary goods.<sup>71</sup>

Teece agrees with that the innovator can by owning the complementary assets reap spill over benefits due to increased demand for these as a result of the innovation in itself. An innovating company ideally should control beneficiary complementary assets. In particular, this regards ownership of complementary assets. If such assets are not under direct control, contractual control with an external firm having the assets is an alternative. Controlling complementary assets can prove particularly positive if the innovation is easy to imitate.<sup>72</sup> Teece finds “*no point moving to build a specialized asset, for instance, if one’s imitators can do it faster and cheaper*”<sup>73</sup>. It is common to face the difficulty of having a weak appropriability regime, and then complementary assets are important in order to achieve profitable commercialization. However, Teece states that a firm deciding to keep all activities integrated would have problems to keep in pace with all the areas involved technologically. Therefore, complete integration is probably a disadvantage.<sup>74</sup> An alternative is a contractual solution, if the appropriability regime is tight enough and the complementary assets are available in competitive supply.<sup>75</sup> When assessing how access to complementary assets has an impact on competitiveness and the distribution of profits, Teece finds imitation possibilities relevant. The innovator can gain increased credibility due to contractual relationships, due to increased awareness on the market. In contracting with an independent partner, the risk and capital requirements can be lowered. According to Teece, *the complementary assets* increase the value of the innovation alone, when utilized in combination with the innovation. Large, multinational firms are often in a better position to prosper from an innovation, even though a smaller company has a better technology. An innovator controlling also the manufacturing, have according to Teece, generally a better chance of capturing the rents from its innovation. Therefore, the trend towards vertical disintegration, often named “dynamic networks”, should be viewed with concern.<sup>76</sup>

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<sup>70</sup> Cusumano, M. A. Gawer, A. (2002) “The elements of platform leadership”, *MIT Sloan Management Review*, p. 53

<sup>71</sup> Teece, D.J. (1986) “Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy”, pp. 285-294

<sup>72</sup> Ibid

<sup>73</sup> Ibid, p. 295

<sup>74</sup> Ibid, p. 293

<sup>75</sup> Ibid

<sup>76</sup> Ibid, pp. 298-300

### 3.2.2.3 Strategies for Challengers in Network Economies

Traditional literature within the field of strategy focuses on how firms can win dominant shares in network markets. It highlights the importance of path dependency, where small historical events lead to the domination of a single firm and its technology. Also, it suggests that a challenger facing a dominant firm in a tipped market is better off leaving the market since it competes against the dominant firm's network as well as its product.<sup>77</sup> Innovators not controlling nor having access to complementary assets, risk ending up losing the profit generated to imitators and competitors, alternatively to owners of the complementary assets. Teece's approach emphasizes that it is primarily the firm's structure and national policies, rather than the structure of markets, which determine the distribution of profits amongst the innovator, imitators and followers.<sup>78</sup> As Arthur puts it: "*Hanging onto a losing position that is being further eroded by positive feedbacks requires throwing reinforcements into a battle already lost. Better to exit with financial dignity*"<sup>79</sup>.

Sheremata argues that it is debatable whether compatibility leads to greater profits for challengers. Also, that compatibility reduces product variety, which leads to the conclusion that when consumers value variety more than compatibility (network benefits), challengers have a chance of profiting from incompatibility. Furthermore, the relative profitability of incompatible innovation in a tipped market depends on market characteristics such as *heterogeneity of preferences*.<sup>80</sup> Sheremata highlights the fact that a market, even though appearing tipped, might allow for more than one standard due to "*more than one type of preferences and greater difference among preferences*"<sup>81</sup>

Coexistence can be achieved if the challenger succeeds in identifying and meeting needs of potential customers, not met by the dominant standard. Still, the fear of incompatibility appears to generate high switching costs. Sheremata suggests that consumers will choose a challenger's product only if product improvements compensate them for both the network effects they lose by changing and the switching cost "*Challengers must provide value that exceeds the cost of switching and network benefits foregone. Otherwise, consumers will not switch.*"<sup>82</sup> With a similar logic, incompatible innovation can be more profitable than compatible innovation. Since incremental innovation does not provide enough value to compensate the consumers for the switching costs and the loss of network benefits, radical innovation becomes "*the only effective way to compete*".<sup>83</sup>

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<sup>77</sup> Arthur, W.B. (1994) "Increasing Returns and Path Dependence in the Economy", *The University of Michigan Press*, p. 10

<sup>78</sup> Teece, D.J. (1986) "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", 1986, p. 304

<sup>79</sup> Arthur, W.B. (1994) "Increasing Returns and Path Dependence in the Economy", *The University of Michigan Press*, p. 10

<sup>80</sup> Sheremata W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", p. 366

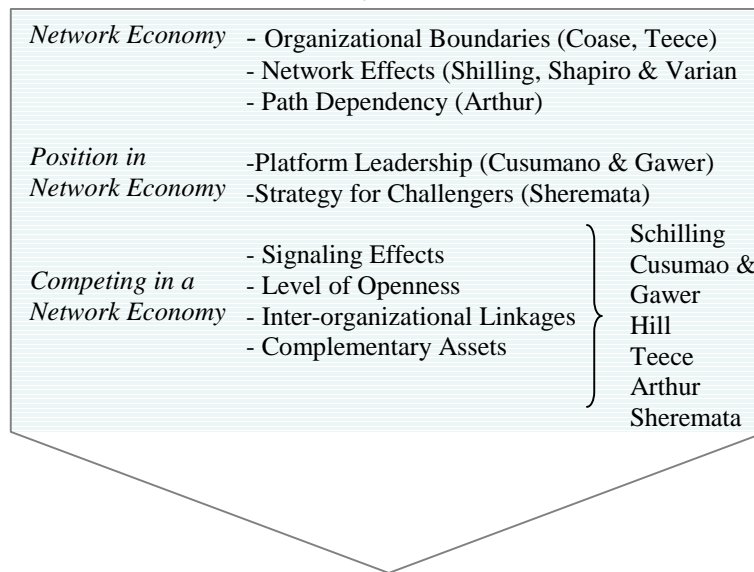
<sup>81</sup> Ibid

<sup>82</sup> Ibid, p. 368

<sup>83</sup> Ibid



## Industry Relations



*Figure 3.3: Summary of theory regarding Industry Relations*

### 3.2.3 Market Strategy

Porter’s theory of strategic positioning concerns a generic strategic choice of how the firm should compete in the market. The two alternatives presented are cost leadership and differentiation. Not being able to focus specifically on one indicates a risk of becoming stuck with no distinct competitive advantage. A lack of focus leads to a non-beneficial situation for the firm.<sup>84</sup> Hax & Wilde, extend this idea in their “*Delta model*”, by presenting a first option of best product, based upon product economics. Moreover a second option involving total customer solution, which gives the firm an option to either reduce customer costs or increase their profits. System lock-in is the third strategic option put forward, and includes complementor lock-in, competitor lockout and proprietary standard.<sup>85</sup>

Schilling proposes that one strategy for building an installed base is the usage of *pricing and promotion*, in order to influence the consumer. For instance, advertising has proved to be an effective way to signal a company’s intention to capture a market share. Penetration pricing is another measure to take into consideration when establishing an installed base. This strategy is used when a company is willing to sacrifice money today, in the belief that there will be money to earn in the future. Or if there is a better possibility to sell complementary products when the standard is set. Last but not least is the importance of increasing the customers’ awareness with the new technology, which could be obtained through a marketing strategy. This could be a heavy investment for the firm that introduces the new technology into the market

<sup>84</sup> Porter, M.E. (1985) *Competitive Advantage*, p. 13

<sup>85</sup> Hax, A. & Wilde, D. “The Delta Model – Discovering New Sources of Profitability in a Networked Economy”, *European Management Journal*, Vol. 19, pp. 381-384

and there is also the risk of subsequent exploiting the consumer education accomplished by the introducing company.<sup>86</sup>

Whether a marketing and promotion strategy is to be successful, depends much upon the size of the company and the resources it holds. There are, however, both advantages and disadvantages to take into consideration when being a large, established firm. A company with great resources and means can sacrifice big money in advertising and penetration pricing, and often holds more credibility than a new company. On the other hand, a large company is more likely to suffer from inertia and red tapes. Whether the advantages outrun the disadvantages is partly due to the resource intensity of the new technology. Moreover, to if the new technology offers evident advantages over previous ones, and whether the new technology is build upon previously acquired experience.<sup>87</sup>

According to Dellarocas, word-of-mouth communities have experienced a growing popularity and present an alternative way of reaching signaling effects through *online feedback mechanisms*. These have a great impact on the brand building, customer acquisition and retention, product development, and quality assurance due to large scale, bi-directional communication and online interaction. Furthermore, Dellarocas points out how word-of-mouth communities help a company in understanding its consumer needs and demands. There is also a risk involved in revealing to competitors company secrets, and accelerating the spreading of information about product defects.<sup>88</sup>

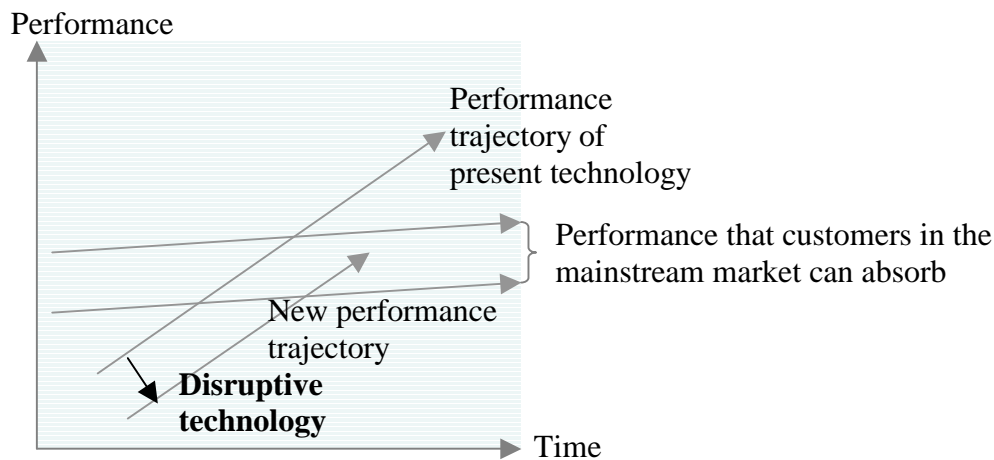


Figure 3.4: The Disruptive Technologies Model<sup>89</sup>

According to Christensen et al, the progress of a technology runs the risk of surpassing the needs of potential customers. This occurs when companies are engaged

<sup>86</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, pp. 271-273

<sup>87</sup> Ibid, pp. 271-272

<sup>88</sup> Dellarocas, C. (2003) "The Digitization of Word of Mouth: Promise and Challenges of Online Feedback Mechanisms", *Management Science*, p. 1407

<sup>89</sup> Christensen, M. C., Raynor, M. & Verlinden, M. (2001) "Skate to Where the Money Will Be", *Harvard Business Review*, p. 75

by only its own mindset or the one prevailing within its industry, in order to meet the demand of their most profitable and leading customers. When not focusing on the demand of the overall customer, the improvement of a technology may not be entirely assimilated and appreciated by a great amount of potential buyers. Innovative companies will find an opportunity to enter the market with their *disruptive technology*; a technology, which is developed in line with the existing needs in the market.<sup>90</sup>

### Market Strategy

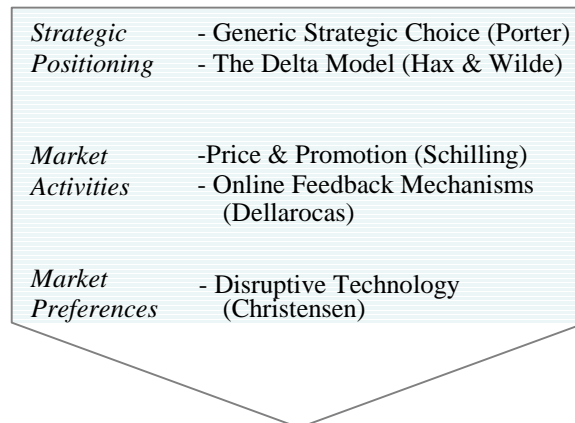


Figure 3.5: Summary of theory regarding Market Strategy

<sup>90</sup> Christensen, M. C., Raynor, M. & Verlinden, M. (2001) "Skate to Where the Money Will Be", *Harvard Business Review*, pp. 74-75

# 4 A Case Study of Apple

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*In this section we are to present the result of our case study. The documents we have studied, as well as our interviews, are foundations for this chapter. Apple is presented chronologically in order to communicate an understanding of Apple's internal evolution, as well as the evolution of the industry and the external environment.*

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## 4.1 Introduction to the case study

In the case we are to describe the history of Apple from a broad perspective, providing a varied picture of the company and its evolution. The case will in particular emphasize the themes described in the chapter of methodology. Topics for the themes are: (1) Innovation & Design, (2) Industry Relations, and (3) Market Strategy. Having these themes in mind, we have divided the history of Apple into three phases, distinguished by its differences regarding aspects of the themes. The phases are as follows:

Phase I: *"Losing the Standards Race"* (1976 – 1984).

The personal computer industry is evolving and dominant standards are not yet set. The market is extending from being limited to organizations and hobbyists to include private consumers. The phase ends when Apple explicitly considers itself as a niche player.

Phase II: *"Acting as a Niche Player"* (1984 – 1997).

Apple changes frequently its competitive strategy, focus, as well as CEO. The company is still a minor actor in the personal computer industry. Some attempts are made to extend the product line to include more of consumer electronics. The phase ends when Apple seems to waken up from two decades of lethargy.

Phase III: *"A New Opportunity"* (1997 – Present time).

Apple is restructured and the product line is cut and becomes more focused. The company explicitly highlights having business strategy, and is increasingly turning towards consumer electronics. Industry platforms previously regarded as different, are during this time converging, restructuring the circumstances of competition in the industry.

## 4.2 Phase I: Losing the Standards Race (1976 - 1984)

||  
1975

By the mid 1970s, a standardized personal computer (PC) did not yet exist. Several different companies offered PC “kits”, computer parts requiring major assembly from the consumer.<sup>91</sup>

### 4.2.1 A Market Open for Suggestion

The first PC kit advertised for was SCELBI (Scientific, Electronic and Biological) designed by the SCELBI Computer Consulting Company. Shortly after, the personal computer, named Mark-8 was launched.<sup>92</sup> Both of these targeted hobbyists. Simultaneously, Intel Company introduced the 8080 microprocessor chip, which was used inside the successful Altair computer, developed by MITS and introduced in 1975. Altair was the first personal computer available to commercial, personal demands. Its assembling was difficult and neither a keyboard, nor a monitor was included. Moreover, memory was limited to 256 characters, all together resulting in a limited usability for a narrow market.<sup>93</sup> Still, it was an appreciated product and it contributed to the PC boom that would follow.<sup>94</sup>



Figure 4.1: SCELBI



Figure 4.2: Altair

### 4.2.2 An Unusual Vision



Figure 4.3: The Apple Logotype

In the early 1970s, a microcomputer club named the Homebrew Computer Club, evolved in California's Silicon Valley. Among the members were Steve Jobs, a technician producing computer games at Atari, and Steve Wozniak, an engineer designing handheld calculators at Hewlett-Packard. Jobs and Wozniak had a belief in common. They both believed in a bright future for personal computers, but neither managed to convince respective manager.<sup>95</sup> Therefore they established Apple Computer Company in 1976. Wozniak mainly worked with engineering and invention, whilst Jobs was the better at attracting customers and raising money.<sup>96</sup> In order to add financial capital and knowledge of business administration and marketing A.C. Markkula, previously marketing manager at Intel, was attributed the position of president of the company.<sup>97</sup>

The emerging industry of PCs included a multiple of standards for technology and appearance, nurturing a need for some standardization. For instance, enabling

<sup>91</sup> <http://www.landsnail.com/apple/local/design/early.html>, 2004-01-04

<sup>92</sup> <http://inventors.about.com/library/weekly/aa121598.htm>, 2004-01-05

<sup>93</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://exo.com/%7Ewts/mits0013.HTM>, 2004-12-29

<sup>94</sup> Telephone interview with Matt Connors, 2005-01-18

<sup>95</sup> <http://hbworkingknowledge.hbs.edu/item.jhtml?id=4367&t=innovation>, 2004-12-10

<sup>96</sup> Ibid, 2004-12-11

<sup>97</sup> Sculley, J. (1985) *Odyssé*, pp. 71-72

1976

1976

programs to be run on many different computers.<sup>98</sup> Due to the described difficulty in assembling and using a PC, the market demand in the mid 1970s derived from corporations, institutions, and hobbyists.<sup>99</sup>

The dream of Apple was to provide every person with the power of thought that was to gain through computer usage. Therefore, the commercial objective of Apple was subordinated that of producing user friendly, small, and elegant computers. These were aspects previous computers had proven weak regarding.<sup>100</sup>

*“Apple designers have always been the most cherished resources at the company.”<sup>101</sup>*

- Matt Connors, ex-coworker at Apple



Figure 4.4: Apple I

In April 1976 Apple I was introduced and on demand delivered readily assembled. It targeted primarily private consumers and was a pioneering attempt to market computers to the general public. Apple believed private customers would prioritize an elegant circuitry and design over function. For that reason, Apple I was launched even though it did not include neither a monitor nor a keyboard. Furthermore, it was not designed for being connected to e.g. printers.<sup>102</sup> This was reconsidered when developing Apple II,

which was launched in 1977. It was advertised as a “*ready to use, appliance computer*”.<sup>103</sup> It included a monitor, a keyboard and eight ports for peripheral devices and was the first PC to have a floppy disk drive.

1977

Several large companies had by 1977 entered the personal computer industry. One of these was Commodore, whose Commodore Pet computer and Personal Electronic Translator were priced significantly lower than Apple II.<sup>104</sup> Another PC company was Radio Shack who sold the TRS-80.<sup>105</sup> Apple was different when aiming at the broad public, declaring the Apple II “*both useful and just plain fun*”. This can be compared to the TRS-80, which preferred more technical language and was directed towards the hobbyists. Even though Apple was regarded ambitious, it was still tiny amongst its competitors, resulting e.g. in difficulties regarding keeping processes at competitive levels.<sup>106</sup> CP/M was at the time considered an evolving standard, due to it being cloned by over a hundred manufacturers.<sup>107</sup> Still, Apple succeeded in developing products meeting market demand. Examples are the VisiCalc in 1977 and the offering in 1978 of a low cost external disk drive, which reinforced Apple II as for



Figure 4.5: Apple II

<sup>98</sup> Telephone interview with Matt Connors, 2005-01-18

<sup>99</sup> <http://www.theapplemuseum.com/>, 2004-12-12

<sup>100</sup> <http://inventors.about.com/library/weekly/aa121598.htm>, 2004-12-28

<sup>101</sup> Interview with Matt Connors, 2004-12-14

<sup>102</sup> <http://www.landsnail.com/apple/local/design/apple2.html>, 2005-01-18

<sup>103</sup> <http://www.theapplemuseum.com/>, 2004-12-20

<sup>104</sup> <http://www.landsnail.com/apple/local/design/pet.html>, 2005-01-18

<sup>105</sup> <http://www.landsnail.com/apple/local/design/trs80.html>, 2005-01-18

<sup>106</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://exo.com/%7Ewts/mits0013.HTM>, 2004-12-28

<sup>107</sup> Ibid

"  
1978

prioritizing the functionality of software rather than electronical features. Apple turned out attracting a wide spectrum of customers, both businesses of different kinds and sizes, and home users.<sup>108</sup>

*" You could buy the whole thing for only a couple of thousand dollars - put it almost anywhere and learn it quickly - it was a small, portable, productivity system".<sup>109</sup>*

Consumer demands for Apple II surged. Due to its open architecture, multiple firms started to offer ancillary products via the machine's expansion ports.<sup>110</sup> This could for instance be used for connecting a color TV set, adding sound, color and graphics. These were possibilities not offered by competitors, such as the 8080-based CP/M computers.<sup>111</sup> The sleek and elegant design was another uniqueness of Apple II. External developers also began to write software meant for Apple II, like games, home programs, business accounting programs et cetera. Notable is the fact that the external developers do not appear to have been actively encouraged by Apple.<sup>112</sup>

### 4.2.3 A Time of Change

Late  
1970's

During the late 1970's the society was increasingly turning from mass-production to adaptation to the consumer. This facilitated a new way of segmentation and made it more important to nourish a psychological share, rather than the traditional market share. Successfully achieved, this could render loyal customers over product lines and generations. A result was a change in the way of utilizing advertisement and public relations. Earlier having promoted its latest products, now firms were increasingly aiming at bringing out the company and its values.<sup>113</sup> The PC industry still needed to increase its user base, and eliminate the common fear of computers present in the market. At this time, the PC industry changed and was about to grow from hobbyist into a serious business.

*"Microcomputers were no longer targeted at hobbyists and hackers - they were targeted at business users, both small business and corporations."<sup>114</sup>*

Jobs strongly believed that product design would help when convincing people of the usability of computers.<sup>115</sup> When aiming at placing the PC in the private homes, Apple found inspiration from traditional household appliances, helpful when designing computers. In addition, regarding advertising, technical language and complex details were avoided when possible. It was one of few computer firms running color ads

<sup>108</sup> <http://www.landsnail.com/apple/local/design/apple2.html>, 2005-01-18

<sup>109</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://exo.com/%7Ewts/mits0013.HTM>, 2004-12-29

<sup>110</sup> <http://www.theapplemuseum.com/>, 2004-12-20

<sup>111</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://exo.com/%7Ewts/mits0013.HTM>, 2004-12-28

<sup>112</sup> <http://www.theapplemuseum.com/>, 2004-12-20

<sup>113</sup> Sculley, J. (1985) *Odyssé*, p. 68

<sup>114</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://exo.com/%7Ewts/mits0013.HTM>, 2004-12-27

<sup>115</sup> <http://www.landsnail.com/apple/local/design/apple2.html>, 2005-01-18

before 1980.<sup>116</sup> Apple was a well-financed company that focused on personal computers, and able to take advantage of the increasing demand. The education market was targeted in particular.<sup>117</sup>

The business climate as well as the technology favored Apple and its motivated and talented personnel.<sup>118</sup> The company appeared to have taken advantage of the changes. Apple II was regarded significantly superior among personal computers for several years.<sup>119</sup> The machine became the world's most sold computer, making Apple a company with a turnover of \$300 million and the fastest growing company in the history of American business. Six years from its establishment, Apple had grown from being a small garage firm in Los Altos, California, to belonging to the exclusive crowd of Fortune's 500 list.<sup>120</sup> In 1980, Apple went public by issuing 4.6 million shares and within a year the stock price rose by 1700 percent. This was considered a result of continuously good record of sales and, in particular, high expectations on Apple III.<sup>121</sup>

Apple III was launched in 1980 and Apple had worked hard on the physical design, and contracted external industrial designers. The machine targeted the corporate world, which in contrast to the hobby market's interest in *elegance of the electronics*, was expected to appreciate the *elegant enclosure* Apple intended to offer. Apple III was carefully designed to emphasize its improved features. For example, the keyboard was now separated from the computer itself (hereafter becoming a standard for business computers).<sup>122</sup> On the other hand, Apple appeared to find cutting edge technology (e.g. maximization of process capacity) over-ambitious. However, Apple seemed to have overestimated the corporate world's increasing interest for design, whilst lacking in knowledge regarding desired usage possibilities.<sup>123</sup>



Figure 4.6: Apple III

#### 4.2.4 Troubles on the Horizon

*"The Apple III [---] failed, not just commercially, but literally. With too many components causing electrical shorts, it reportedly had a nearly 100 percent failure rate."*<sup>124</sup>

Sales of Apple III failed to live up to Apple's expectations. Its design was believed to be a significant reason. The appearance design of the chassis had been prioritized and therefore completed before the circuitry was finished, which led to features within becoming overly crowded. A fan might have been needed in order to obstruct the heat caused by too densely packed components. Jobs found adding a fan would cause too

<sup>116</sup> <http://www.landsnail.com/apple/local/design/apple2.html>, 2005-01-18

<sup>117</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://lowendmac.com/time/index.shtml>

<sup>118</sup> Sculley, J. (1985) *Odyssé*, p. 153

<sup>119</sup> <http://hbsworkingknowledge.hbs.edu/item.jhtml?id=4367&t=innovation>, 2004-12-10

<sup>120</sup> Sculley, J. (1985), *Odyssé*, pp. 71, 152

<sup>121</sup> <http://www.theapplemuseum.com/>, 2004-12-20

<sup>122</sup> Ibid

<sup>123</sup> Telephone interview with Matt Connors, 2005-01-18

<sup>124</sup> <http://www.landsnail.com/apple/local/design/apple3.html>, 2005-01-18



much noise and therefore appear inelegant and unattractive.<sup>125</sup> In other words, the current technology was not able to allow for desired design.<sup>126</sup>

The success of the industry attracted competitors. Apple felt under pressure from firms offering less versatile, but competitively priced “appliance” computers, such as the Commodore<sup>127</sup>. In addition, IBM prepared entering the growing microprocessor industry and eventually released its first PC in November 1981. IBM produced computer products for higher segments, in particular the corporate market. It had a reputation for being serious and had both large financial resources and was part of a network of cooperating firms.<sup>128</sup> Apple experienced high cost for research and development and therefore realized the necessity of retaining a higher price, rather than cutting its cost. As a result, it found it important to stabilize its appearance as a differentiated firm with a significant focus on the business market, even though this segment appeared to be demanding speed and open standards, whilst Apple in 1981 focused on graphics and user friendliness.



Figure 4.7: Commodore PET

## 4.2.5 Educational Market

*"Apple's strategy was based on the belief that kids hooked on one brand of computer would become devoted customers [...] the problem is you have to wait far too long for a payoff."<sup>129</sup>*

- Harvey Long, a former IBM education industry consultant

In line with Jobs vision of the computer as a device for developing and educating the human mind, one of Apple's target segments would become the educational market. Jobs had been promoting that computers would improve learning from the very beginning and his devotion helped establish Apple as the market leader in supplying computers to the educational market.<sup>130</sup> This was not only a humanitarian vision, the educational market was also targeted in order to achieve a larger user base, which was thought to lead to future devoted customers.<sup>131</sup> The market leader position within this segment contributed to software development becoming focused around the Apple installed base. Further, the myth rose that schools had to buy an Apple to get access to the latest software.<sup>132</sup>

<sup>125</sup> <http://www.landsnail.com/apple/local/design/apple3.html>, 2005-01-18

<sup>126</sup> Telephone interview with Matt Connors, 2005-01-18

<sup>127</sup> <http://www.landsnail.com/apple/local/design/pet.html>, 2005-01-18

<sup>128</sup> <http://www.landsnail.com/apple/local/design/apple3.html>, 2004-12-10

<sup>129</sup> [http://wired.com/wired/archive/4.11/es\\_apple.html](http://wired.com/wired/archive/4.11/es_apple.html), 2005-01-18

<sup>130</sup> [http://www.businessweek.com/2000/00\\_39/b3700122.htm](http://www.businessweek.com/2000/00_39/b3700122.htm), 2005-01-18

<sup>131</sup> Sculley, J. (1985) *Odysseé*, p. 154

<sup>132</sup> <http://www.ocis.net/~dturner/magazine/arca211.htm>, 2005-01-18

1981

Early  
1980's

## 4.2.6 Underestimation is the Worst of Enemies

*Welcome, IBM. Seriously. Welcome to the most exciting and important marketplace since the computer revolution began 35 years ago. (---) We look forward to responsible competition in the massive effort to distribute this American technology to the world.*<sup>133</sup>

- Apple advertisement in Wall Street Journal, August 22<sup>nd</sup>, 1982

1982

Apple was relieved after seeing what IBM had to offer and gained considerable confidence. In a Wall Street Journal advertisement in 1982, Apple welcomed IBM as competitor, alluding to how IBM could help extending the total PC market.<sup>134</sup> IBM did not focus notably on graphics, and its PC was considered difficult to use. It lacked in cutting edge innovation but did neither suffer from the design problems that had troubled Apple. Even though Apple did not find IBM's PC competitive, the market appreciated how it performed conventionally but well. It was sold as a data processing machine and appeared to meet the needs of the business market due to offering technological capacity and reliability.<sup>135</sup> In combination with a strong reputation in the corporate market, IBM succeeded in selling more computers than expected. Moreover, it had an open architecture, something that earlier had benefited Apple II. Apple had then only encouraged a sub-industry around supplementary boards for the computers' expansion slots. Independent manufacturers in 1982 could clone the IBM PCs, as it did not contain any proprietary parts. The clones were offered as "IBM-compatible products".<sup>136</sup> When sanctioning competitors to copy its design, IBM had initiated a development towards becoming standard through this joint effort. However, Apple chose not following this development, prioritizing to build its own standard, not compatible with that of IBM.<sup>137</sup>

1983

In 1983 Apple and IBM were the two major competitors in the market, both selling for roughly one billion dollar a year. In the beginning of the year Apple had the largest market share of personal computers, but in the end of the year IBM had overtaken the leading position. Apple found itself in need of finding market segments where they not had to compete head-on-head with IBM.<sup>138</sup>

## 4.2.7 Machines Becoming Lifestyle Items

Whilst IBM ruled amongst institutions and business organizations, Apple considered itself being a representative of the individual person.<sup>139</sup> In order to attract the private consumers, Apple found it necessary to change the view of computers' usage possibilities, and to convince the private persons of the value of a PC. However, when focusing on technical information and having simple packages Apple was regarded

<sup>133</sup> <http://www.macobserver.com/columns/thisweek/2004/20040831.shtml>, 2005-01-18

<sup>134</sup> Sculley, J. *Odyssé*, (1985), p. 209, <http://www.landsnail.com/apple/local/design/standards.html>, 2004-12-10

<sup>135</sup> Sculley, J. *Odyssé*, (1985), pp. 77-79

<sup>136</sup> <http://www.landsnail.com/apple/local/design/standards.html>, 2004-12-01

<sup>137</sup> Matt Connors, telephone interview, 2005-01-03

<sup>138</sup> Sculley, J. (1985) *Odyssé*, p. 206

<sup>139</sup> *Ibid*, p. 101

weak in promoting its products.<sup>140</sup> The wish was to balance the presentation both rattling off all the amazing technical features it had and show the PC as a lifestyle item. This was a pioneering idea in the computer industry at this time, though also a difficult balance act.<sup>141</sup> Finding itself in need of a person with a good knowledge of modern marketing, John Sculley, marketing manager at Pepsi Co, was recruited to the president post. Initially hesitating, he was convinced by Jobs' and Apple's vision.<sup>142</sup> A

*"Do you really want to spend the rest of your life selling sugar water, or do you want to change the world?"<sup>143</sup>*

- Steve Jobs

Throughout its evolution, visions and values had been important to Apple in order to sustain focused during rapid industry development and change. This was more apparent than the need of discipline and hierarchy within the company. Crucial for the industry was at this time to encourage the ongoing enlargement of the aggregate market, which would help all parties involved. Only 3-4 percent of the American households owned a computer at the time. A major difficulty was how to convince potential buyers a purchase would be worthwhile. The price of \$10,000 for a computer system deterred potential private customers, being considered a large investment.<sup>144</sup> The uncertainty concerning compatibility with future products, not only from competing firms but also from the same firm, made it even harder for the computer companies to convince the potential customer of a purchase. Therefore, Apple found convincing the population a computer was in their interest, was more important than competing and minimizing prices.<sup>145</sup>

Apple found positioning of highest importance, more important than grabbing market share. Different markets were targeted as Apple aimed at achieving a strong position in the office-, school-, and the home market.<sup>146</sup> Organizational this was to be achieved by having different divisions focusing on different products. One division developed the Lisa, launched in 1983. With larger possibilities concerning programming it was produced for larger companies in particular. Lisa had competitive capabilities, and was the first computer with a mouse. With this computer, Apple had continued differentiating its products by graphics and user-friendliness. Consequently subordinating free processor space and speed. Moreover, Apple underestimated the need for compatibility and possibilities of computer network connections.<sup>147</sup>



Figure 4.8: Lisa II

<sup>140</sup> Sculley, J. (1985) *Odyssé*, p. 74

<sup>141</sup> [http://apple.computerhistory.org/stories/storyReader\\$21](http://apple.computerhistory.org/stories/storyReader$21), 2004-12-01

<sup>142</sup> Sculley, J. (1985) *Odyssé*, p. 113

<sup>143</sup> *Ibid*, p. 104

<sup>144</sup> *Ibid*, p. 154

<sup>145</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://exo.com/%7Ewts/mits0013.HTM>, 2004-12-27

<sup>146</sup> <http://www.landsnail.com/apple/local/design/apple3.html>, 2004-12-07

<sup>147</sup> [http://apple.computerhistory.org/stories/storyReader\\$21](http://apple.computerhistory.org/stories/storyReader$21), 2004-12-01

## 4.2.8 A Standard is Set

||  
Early  
1980's



In the early 1980's, IBM's software program Lotus 1-2-3 won ground from Apple's VisiCalc, which earlier had contributed to many offices having Apple II. IBM gained market shares for PCs in the corporate world. Eventually, market dominance tipped over in favor of IBM. This proved to change the battleground of the industry. IBM's takeover resulted in the birth of a dominant standard and a platform, strengthened by the many firms producing IBM compatible products.<sup>148</sup>

Despite realizing drawbacks from being hesitant to disintegration, Apple and IBM chose to remain the only companies practicing vertical integration, developing all software and hardware for its products. Apple found it difficult to capture the revenues from the innovations and developments carried out, and found it problematic attracting new customers.<sup>149</sup> Generally Apple put a considerable focus on the “next big thing”, instead of aiming at having a well functioning business model. Apple also had difficulties in reaching and maintaining a large user base, revealing weakness regarding production and distribution.<sup>150</sup> In 1983 Apple realized the serious threat of not being able to offer enough computers at demanded speed when a lack of supply resulted in many new company start-ups. This in turn would lead into an even greater supply of PCs and result in and a downward pressure on prices, forcing many firms into bankruptcy.<sup>151</sup>

Even though IBM had established a leading position, Apple still found an alternative in aiming for the niche position, being the second largest player. This was thought to prevent the company from disappearing in the large number of smaller competitors, whilst benefiting from being the underdog. For instance, retailers having previously chosen to sell IBM PCs were afraid to become too dependent on IBM, and as a result forced to accept opportunistic demands. This helped Apple as computer retailers turned to Apple in addition in order to have competing brands on their shelves.<sup>152</sup> Still, Apple at this time experienced difficulties regarding efficient storage, resulting in significant expenses.<sup>153</sup>

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<sup>148</sup> Sculley, J. (1985) *Odyssé*, pp. 102, 160

<sup>149</sup> Ibid, pp. 337-344

<sup>150</sup> Telephone interview with Matt Connors, 2005-01-18

<sup>151</sup> Sculley, J. (1985) *Odyssé*, pp. 337-344

<sup>152</sup> Ibid, p. 194

<sup>153</sup> Ibid, p. 262

## 4.3 Phase II: Acting as a Niche Player (1984 - 1997)

1984

In 1984, with the introduction of the Macintosh computer, Apple developed the Graphical User Interface (GUI), which used a mouse, onscreen windows and icons to operate the computer.<sup>154</sup> Considered as a breakthrough of interacting with a computer, it became a symbol of the Apple computers reputation of user-friendliness. The GUI differentiated Apple from its competitors and increased the value perceived by the consumers. This in turn motivated a higher price for Apple's products.<sup>155</sup>

### 4.3.1 Hello, My name is Macintosh!



Figure 4.9: Macintosh

Even though Apple had lost the platform war, it had decided to aim for the second place in the industry. This was to be accomplished by differentiation in technological innovation and industrial design, while IBM would benefit from its size. Apple planned to support the strategy by heavy advertisement together with the launch of the first Macintosh. The flagship of the campaign was the commercial "1984", by director Ridley Scott, which was aired during the Super Bowl and received high publicity and admiration.<sup>156</sup> The commercial pictured Apple as a different alternative to the major standard, led by IBM. An

additional reason for the campaign was to overcome people's fear of computers and show that a "revolution" was in fact currently happening in the computer industry, led by Apple.<sup>157</sup>

The first Macintosh was developed under Jobs leadership, and was the first affordable computer to include Apple's Graphical User Interface. This model was considered a milestone in the computer industry. It had user-friendly metaphors, for instance a note and a trashcan were illustrated.<sup>158</sup> Its processor was faster than any previous one, and built around the new Motorola 68000 chip. At first sight, it was alleged to look like a TV from the 1950s in its small beige case with a black and white monitor built in. In addition, a keyboard, a mouse, and a floppy drive that took 400 kB 3.5" disks (the first personal computer to do so) was included.<sup>159</sup> Notable was the speech held by the computer at its launch: "Hello, my name is Macintosh..."<sup>160</sup>

Sales were increasing, still the net profit decreased, which was disregarded in favor of the belief that growth of the firm was more important in the longer term.<sup>161</sup> Apple changed the rules of marketing in the business when becoming one of the most commercially active and creative companies in the US. Apple also became identified

<sup>154</sup> "Steve Jobs' Apple gets way cooler", *Fortune*, 2000-01-24

<sup>155</sup> Telephone Interview with Matt Connors, 2005-01-03

<sup>156</sup> Sculley, J. (1985) *Odyssé*, pp. 186 -188

<sup>157</sup> <http://www.apple.com/hardware/ads/1984/>, 2005-01-19

<sup>158</sup> Telephone interview with Matt Connors, 2004-01-18

<sup>159</sup> [www.apple-history.com](http://www.apple-history.com), 2005-01-18

<sup>160</sup> Sculley, J. (1985) *Odyssé*, p. 195

<sup>161</sup> *Ibid*, pp. 200-210

as a symbol of hope and prosperity in the US, at a time when the country's competitive strength compared to Japan was heavily questioned.<sup>162</sup>

### 4.3.2 The Loss of Apple's Interface Differentiation

1985

In May 1985, Steve Jobs resigned and started the company NeXT. Over the next few months, Apple faced its first quarterly loss and was forced to lay off a fifth of its work force. At the same time, Microsoft agreed to sign a statement saying it would not use Mac technology in Windows 1.0, which had many similarities to the Macintosh Graphical User Interface (GUI). However, the statement said nothing about future versions of Windows. As a result, Microsoft later would develop software with a similar user interface as the one of Apple. Apple thus lost the differentiation it had had regarding the interface design.<sup>163</sup>

### 4.3.3 Towards Desktop Publishing

LaserWriter, launched in 1985 by Apple, was the first laser printer offered to the mass market as part of the "Macintosh Office". Trying the same concept as with the 1984 Macintosh launch, the company once again aired a commercial during Superbowl, this time without the same immediate success. Apple, once more aimed at describing itself as different. However, the commercial's message rather frightened people, than communicated a positive message compared to that of "1984".<sup>164</sup> However, the combination of the LaserWriter together with PageMaker, a desktop publishing program, made the Macintosh an ideal solution for inexpensive desktop publishing.<sup>165</sup>

A higher end pricing was found attractive due to potentially larger margins per unit sold. Apple saw an advantage in targeting desktop publishing since this market segment was thought to be less price sensitive, thus able to provide the company with its goal of a 50 percent profit margin. However, it took Apple managers several years to understand what the segment of desktop publishing demanded, and the company had difficulties regarding executing marketing activities aimed at the segment.<sup>166</sup>

### 4.3.4 Apple Left Behind

1989

In 1989 Apple held more than 50 percent of the educational market share and its computers were considered as more user friendly than other PCs. This, together with the easiness of adding extra hardware and software, allowed Apple to charge a premium price for its products. The value added strategy, which had generated much profits through the late 1980's, seemed prosperous. Despite this, the stock price fell 20 percent<sup>167</sup> and a decrease in profits during the usually busy last fiscal quarter of the

<sup>162</sup> Telephone interview with Matt Connors, 2004-01-18

<sup>163</sup> <http://www.apple-history.com/frames/>, 2005-01-18

<sup>164</sup> <http://www.mac512.com/lw.htm>, 2005-01-18

<sup>165</sup> <http://www.apple-history.com/frames/>, 2005-01-18

<sup>166</sup> <http://www.mplans.com/dpm/article.cfm/8>, 2005-01-18

<sup>167</sup> <http://finance.yahoo.com>, 2005-01-05

year.<sup>168</sup> Up to this point the value added strategy of Apple had been working properly since a differentiated product in terms of overall performance, user friendliness and greater design had justified the higher price. However, during the early 1990s, the situation changed when the Microsoft and Intel combination “Wintel” received increased acceptance. “Wintel” was a strategic alliance that Apple was incompatible with. As the Apple's superiority in performance declined, IBM, Dell and Compaq were cutting pieces of Apple's market share.<sup>169</sup>

The competitors were also closing in from a design and user-friendliness aspect. In 1990 Microsoft released Windows version 3.0, which was the first success of imitating the Apple concept of graphical interface. At the same time the Snow White industrial design, which had earlier helped manifest Apple's technology, was increasingly appearing on PC's. Adding to the relative lower performance with the decrease in competitive advantage in terms of design, Apple's products became less differentiated and their perceived value consequently lowered. As a response to increased competition, Sculley announced a five-year plan where he lowered the price of Apple's computers to increase its market share. He also announced a number of R&D projects aiming at diversifying into non-PC businesses as a reaction to the weaker sales of Apple computers. Macintosh TV was an Apple product being a hybrid between a PC and a TV. However, its production was limited.



Figure 4.10:  
Macintosh TV

### 4.3.5 A First Glance at Consumer Electronics

In 1993, Sculley left Apple and was replaced by Michael Spindler. His first task was to announce the launch of Newton, the company's contribution to the PDA<sup>170</sup> market. At the time, Apple was once again losing ground to the competitors in the personal computer business, and was looking for a complementary market. Newton was considered to provide a glimpse of where Apple planned to go in the consumer electronics sector.<sup>171</sup> Apple, known for its user-friendliness and innovation skills, was estimated to be able to compete with the rest of the early PDA-developers such as Palm.<sup>172</sup>

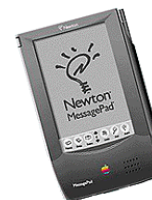


Fig 4.11: Newton

For the next five years Newton proved to be unsuccessful in the marketplace and sales dropped which made Apple decide to discontinue with the project. Newton's original handwriting recognition engine Calligrapher was licensed from a Russian company, Paragraph International. The technology was considered a big step towards complete handwriting recognition. Where the Palm Pilot's Graffiti made the user learn a new handwriting system, Newton learned the user's handwriting system using a database of known words to make guesses as to what the user was writing. It could also recognize and finish simple drawn shapes such as squares, circles and triangles,

<sup>168</sup> <http://www.landsnail.com/apple/local/design/corporate3.html>, 2005-01-18

<sup>169</sup> <http://www.businessweek.com>, 2005-01-16

<sup>170</sup> Personal digital assistant

<sup>171</sup> [http://www.findarticles.com/p/articles/mi\\_m0EKF/is\\_n1914\\_v38/ai\\_12225556](http://www.findarticles.com/p/articles/mi_m0EKF/is_n1914_v38/ai_12225556), 2005-01-18

<sup>172</sup> Telephone interview with Matt Connors, 2005-01-18

and had an intuitive system for handwritten editing.<sup>173</sup> The Newton marketing campaign consequently highlighted its handwriting recognition, even though in the early versions it was judged inaccurate by the consumers. Despite efforts to make up for the early setbacks in the user-friendliness of the technology, Newton's technological advantage was overlooked due to its initial problem, which worsened Newton's reputation.<sup>174</sup>

If Newton was the first step towards the consumer electronics sector, the launch in 1995 of another non-Macintosh product, The Pippin @World, initiated Apple's home multimedia system and was supposed to bring the company closer to the increasing market of gaming devices. The pippin @World was a video game system, which was thereafter changed to also include learning software and interactive music and Internet access. The product was regarded as part of Amelio's plan to enter the field of Internet and multimedia.<sup>175</sup>



Figure 4.12:  
*Pippin @World*

The Pippin @World was enabled through a partnership with Bandai Company Ltd (later responsible for the well-known Tamagotchi). At a first glance, the Pippin @World seemed as a potent combination of Apple's innovative technology and the toy making company's sense for fun and entertaining products. However, even before the launch, critical voices were arguing whether the Pippin @World was combining the best of the computer and toy worlds, or an unacceptable compromise.<sup>176</sup> The argumentation was based on the fact that it was considered under-equipped as a computer and overpriced as a gaming device. The criticism proved to be right. At the time for the launch the computer prizes had dropped which contributed to the market failure, and the Pippin @World was to be discontinued within short.<sup>177</sup>

### 4.3.6 Technological Differentiation

Apple's products had become less differentiated due to the widespread use of Snow White design and the GUI design in the Microsoft software Windows. Spindler's reaction to this was to release the PowerMac in 1993. This was a Macintosh computer based on the PowerPC chip, which was considered fast and superior to Intel's latest processor, the Pentium.<sup>178</sup> However, the potential advantage of a slightly supreme technological advantage was reduced due to the much lower price of the Intel chip. This difference led to a \$1000 price premium on the PowerMac in comparison to an equivalent PC, which considerably attributed to weak sales. Spindler decided to cut the prices considerably.

<sup>173</sup> [http://www.brainencyclopedia.com/encyclopedia/a/ap/apple\\_newton.html](http://www.brainencyclopedia.com/encyclopedia/a/ap/apple_newton.html), 2005-01-20

<sup>174</sup> <http://www.ed.psu.edu/etc/mac/history.html>, 2005-01-20

<sup>175</sup> Telephone interview with Matt Connors, 2005-01-18

<sup>176</sup> <http://www.highbeam.com>, 2005-01-08

<sup>177</sup> <http://www.apple-history.com/frames/>?, 2005-01-18

<sup>178</sup> <http://www.ed.psu.edu/etc/mac/history.html>, 2005-01-20



*“He [Amelio] noted that we [Apple] were heaviest hit in corporate sales due to the intense barrage of bad press [...] We can not compete dollar for dollar with [top PC makers]. So we must be perceived as a more desirable, more reliable, higher value computer.”<sup>179</sup>*

- Excerpt of e-mail from an employee to Guy Kawasaki at Apple

1996

In 1996, Apple was ranked as the third largest computer company in the world. Gilbert F. Amelio became the new CEO since Spindler’s failure with the PowerMac urged for some new ideas. Whereas Spindler had been struggling in developing a low-cost strategy, Amelio brought back the original strategy of product differentiation, and used a core concept of higher value when marketing the Apple machines. Also, he decided to cut the company's computer lineup in half, to about 40 models.<sup>180</sup>

Late  
1990's

Not only was the reduced product line a first step in Amelio’s cost-cutting plan, it was also a way to lessen the pressure put on the manufacturing operations. Apple had struggled with defects in several models, partly due to the company's wide product line.<sup>181</sup> Apple was concentrating on higher-margin products, and let clone makers target lower-end markets. As a result, the market considered the Apple’s strategy vague.<sup>182</sup> Apple’s shares dropped the day after reporting a record \$740 million loss for the first quarter,<sup>183</sup> which in turn would result in decreasing its workforce with nearly one fifth. The market share continued to drop, from 6 percent to 3 percent and the share of the education market dropped from 50 percent to 27 percent. Once again Apple's reaction was to cut prices aiming to save its market share. Also, the trade magazine Computerworld reported that 22 percent of Mac users intended to switch to an Apple competitor within a year which put an enormous pressure on the company and Amelio.<sup>184</sup>

<sup>179</sup> <http://www.computerworld.com/news/1996/story/0,11280,3446,00.html>, 2005-01-20

<sup>180</sup> [http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/1996/05/14/MN19616.DTL&type=tech\\_article](http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/1996/05/14/MN19616.DTL&type=tech_article), 2005-01-20

<sup>181</sup> Ibid

<sup>182</sup> “Apple strategy not quite ripe”, ComputerWorld, 1997-01-13

<sup>183</sup> <http://finance.yahoo.com/q/bc?s=AAPL&t=my&l=on&z=l&q=l&c=>, 2005-01-18

<sup>184</sup> [www.computerworld.com](http://www.computerworld.com), 2004-12-12

## 4.4 Phase III: A New Opportunity (1997 - 2004)

Late  
1996

In December 1996 Steve Jobs sold his software company NeXT to Apple and also returned to the firm in person, initially positioned as adviser to CEO Gilbert F. Amelio. Within 11 weeks, Jobs had compelled Amelio to reorganize the company. Moreover, to drop the Newton project as a first effort to strengthen the Apple stock, which by now was the lowest in five years. When Amelio in July 1997 resigned after yet another multi-million dollar quarterly loss, Steve Jobs took over as interim CEO.<sup>185</sup>

### 4.4.1 A Clear Focus

1997

One of Jobs' first actions when returning to Apple in early 1997 was to reduce Apple's product line from fifteen to a line of four. After this, the strategy of Apple was focused on desktops for professionals, desktops for consumers, portable Macs for professionals and portable Macs for consumers.<sup>186</sup>

	Desktops	Portables
Private Customers	iMac 	iBook 
Professional Customers	PowerMac 	PowerBook 

Figure 4.13: Apple's four product lines in 1997

Another measure taken was the rupture of the Clone experiment, which had ended up taking customers away from Apple, especially in its high-end market. Apple wanted to control its MacOS license itself and bought its licenses from former partners such as Motorola and IBM. However, the will to succeed on its own could not be seen as a general strategy of Apple since Jobs, at the same time, announced an alliance with Microsoft where Microsoft invested \$150 million in Apple.<sup>187</sup> As part of this alliance, there was an agreement that the software package Microsoft's Office '98 would become available on the Mac.<sup>188</sup> This was a significant step towards integrating Apple products with third-part vendors. Also, it eliminated a critical obstacle that had been restraining people to switch to an Apple computer in the past. Later, it would appear on the Apple website as one of ten reasons for "Why switch to Mac?".<sup>189</sup>

<sup>185</sup> <http://www.businessweek.com/1997/11/b3518120.htm>, 2005-01-18

<sup>186</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>187</sup> "Steve Jobs' Apple gets way cooler", *Fortune*, 2000-01-24

<sup>188</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>189</sup> <http://www.apple.com/switch/whyswitch/>, 2005-01-18

## 4.4.2 The Online Apple Store

Late  
1997

After Apple had seen how well other PC companies had succeeded in the strategy of direct selling, Apple announced in November 1997 its intentions of selling its products over the Internet and over the phone.<sup>190</sup> The online store was to strengthen the distribution of Apple and enabled it to more effectively build computers to order. Apple Store was an immediate success. Within a week it had become the third most visited eCommerce<sup>191</sup> site in the world. The PowerMac G3 and the PowerBook G3 were introduced as a result of cooperation with Motorola and IBM, who developed the processor. The new way of distribution together with the introduction of the G3 product line, made the Apple share rise, which continued due to continuous profitability.<sup>192</sup>

## 4.4.3 Lack of a Long-term Strategy

1998

In early 1998, analysts questioned whether Apple actually had achieved a turnaround in its business, pointing out a lack of a long-term strategy since most of the profits seemed to be a result of cost reductions rather than an increase in sales. The fact that Apple operated without a permanent CEO reinforced the problem of formulating a strategy for the future.<sup>193</sup> It was difficult to further develop software to the Mac, and its structure did not permit memory to be added by extra circuit boards. In contrast, the Wintel standard was open and attracted independent firms who were willing to produce complementary products. Apple lost market share in both the consumer and corporate segment, much as a consequence of the competition with Wintel machines. Even in the educational market, where the company usually had held a strong position, Apple found itself in trouble.<sup>194</sup>

## 4.4.4 A Growing Importance of Design

Late  
1998



Figure 4.14: iMac

In August 1998 Apple introduced the iMac, which was followed one year later by the portable iBook. The iMac was the starting shot for the “i-concept”, where the “i” was to draw attention to the Internet.<sup>195</sup> The idea of the “i-concept” was to be stylish but reasonably priced product alternatives aimed at the broad consumer market. The iMac was designed for the Internet and had two USB ports, which made it attractive to manufacture peripheral products. The iMac turned out to be the best selling computer in the United States during most of the second half of 1998.<sup>196</sup> Apple had now completed the four-segment product line decided on by Steve Jobs in 1997.<sup>197</sup> Apple’s new computers were launched together with software Mac OS X. Mac OS X was a new operating system,

<sup>190</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>191</sup> Online commercial website

<sup>192</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>193</sup> “Analysts want an Apple strategy”, *Electronic news*, 1998-04-06

<sup>194</sup> Matt Connors, telephone interview, 2005-01-18

<sup>195</sup> Ibid, 2005-01-03

<sup>196</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>197</sup> See figure 4.13

in which Apple had focused on user-friendly design, intended for the consumer market.

*“Apple designers are the most cherished resource at the company”*<sup>198</sup>

- Matt Connors

The Mac OS X illustrated how the importance of design was increasingly not only influencing the innovation in hardware, but also the appearance of software.<sup>199</sup> Apple’s design language also became more uniform when Jonathan Ive was appointed responsibility of a major part of Apple’s industrial design. Mac OS X and Ive at Apple illustrated the increasing interest for design amongst technology companies at this time.<sup>200</sup> With the introduction of the PowerMac G4 in 1999, aimed at the professional market, Apple’s share price raised to an all-time high.<sup>201</sup>

#### 4.4.5 The Internet Strategy

Steve Jobs started off the new millennium by being appointed Apple’s CEO.<sup>202</sup> At the same time, he announced Apple’s newest software, the iTools, which was an Internet service package only suitable for Mac-users. The idea behind iTools was to take advantage of Apple’s technology regarding both the operating system (Mac OS) and the software for its Internet servers (iTools).<sup>203</sup> Simultaneously, Apple launched a new website.<sup>204</sup> The iTools confirmed Apple’s growing interest in software design. The intention was to increase the demand for Mac computers through the use of the Internet and the product design. Microsoft had plans to develop its own version of Apple’s QuickTime streaming video player as well as a digital video editing software called the Windows Movie Maker.<sup>205</sup> According to Jobs this was an imitation of Apple’s iMovie. He found this only being one example of the industry trying to copy Apple.<sup>206</sup>

Apple aimed at getting a better understanding of what the customers were looking for when buying a computer and was confident that its innovative hardware, software and Internet offerings would create value to future users.<sup>207</sup> Apple’s increased product line of software aimed at eliminating potential customers’ fear of not having the same usage possibilities if switching from a non-Apple computer to an Apple one.<sup>208</sup> Apple was continuously reluctant to extensive customer research, due to the involved risk of revealing company secrets. A growing importance of Internet communities from this time on helped Apple in understanding the needs and wishes of potential customers.<sup>209</sup>

<sup>198</sup> E-mail interview with Matt Connors, 2004-12-14

<sup>199</sup> “Steve Jobs’ Apple gets way cooler”, *Fortune*, 2000-01-24

<sup>200</sup> Interview person with Lisbeth Svengren Holm, 2004-12-06

<sup>201</sup> <http://finance.yahoo.com>, 2005-01-21

<sup>202</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>203</sup> <http://www.apple.com/pr/library/2000/jan/05netstrategy.html>, 2005-01-19

<sup>204</sup> Ibid

<sup>205</sup> E-mail interview with Christoffer Frisell, 2005-01-19

<sup>206</sup> “Steve Jobs’ Apple gets way cooler”, *Fortune*, 2000-01-24

<sup>207</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>208</sup> [http://web.syr.edu/~bwlee/projects/ist755/saving\\_apple.html](http://web.syr.edu/~bwlee/projects/ist755/saving_apple.html), 2005-01-19

<sup>209</sup> Telephone Interview with Matt Connors, 2005-01-03

July  
2000



Figure 4.15:  
PowerMac  
G4 Cube

In July 2000 Apple expanded its four-category product line by introducing the PowerMac G4 Cube. The Cube was a high-risk project, aimed at customers who were looking for smaller sized and well-designed computers. Once again, Apple exemplified its focus on Innovation & Design, instead of performance. However, the Cube did not become the success that Jobs was hoping for. Apple experienced its first unprofitable quarter in three years.<sup>210</sup> The failure of the PowerMac G4 Cube, a business slowdown in all geographic markets together with weaker sales in the education segment were all important causes of Apples receding profits. However, Apple was confident that its innovative hardware, software and Internet offerings would create value to its future users.<sup>211</sup> As a consequence of an overall misunderstanding of the consumer market, e.g. the missed insight that people wanted to be able to create their own CDs, Apple answered the decline in sales by cutting its prices. At the same time, efforts were made to get a better understanding of what potential customers were looking for when buying a computer.<sup>212</sup>

#### 4.4.6 The Digital Hub

*“The Company [Apple] believes that personal computing is entering a new era in which the personal computer will function for both professionals and consumers as the digital hub for advanced new digital devices [---]”*

- Apple annual report 2001

Early  
2001

In January 2001, the new line of PowerMacs was introduced. The PowerMac, which could read and write both CDs and DVDs, became available on the market at the same time as Apple launched iDVD and iTunes. These two software products added to the Mac's possibility of working with various digital entertainment products, all possible to use in connection with the Internet.<sup>213</sup> The increased attention to the computer as a multifunctional device was a step towards a business strategy aiming at creating the digital hub of the future living room. Apple mentioned the digital hub strategy explicitly for the first time in the annual report of 2001.<sup>214</sup>

*“The line between Apple being a computer company and a consumer electronics company is getting pretty fuzzy.”<sup>215</sup>*

- Barry Jaruzelski, vice president at Booz Allen Hamilton

<sup>210</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>211</sup> <http://www.apple.com/pr/library/2000/sep/28q4.html>, 2005-01-19

<sup>212</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-20

<sup>213</sup> <http://www.apple.com/ilife/>, 2005-01-18

<sup>214</sup> Apple annual report, 2001

<sup>215</sup> [http://www.forbes.com/execpicks/technology/feeds/general/2004/10/15/generalbhsuper\\_2004\\_10\\_15\\_INHT\\_0000-8771-KEYWORD.Missing.html](http://www.forbes.com/execpicks/technology/feeds/general/2004/10/15/generalbhsuper_2004_10_15_INHT_0000-8771-KEYWORD.Missing.html), 2004-12-02

At this time Apple, as a technology industry company, found itself in a business with decreasing customer sales. People were more interested in consumer electronic devices, e.g. CD-players, MP3-players, DVD-players, digital cameras etc. With the new PowerMac together with its software applications, Apple was more and more turning away from the traditional computer industry. Changing the computer into an entertainment central supported by side devices and software for it. iTunes, a software application managing digital music, was launched in 2000.<sup>216</sup> Apple wanted to offer a computer, which was not only a working station but also invoked the users' creative spirit. The company wanted to become the digital hub in people's living rooms.<sup>217</sup>



Figure 4.16: The Digital Hub

Computers had by now reached a level of performance when a larger part of the market found the computers able to perform according to the user needs.<sup>218</sup>

*"[...] consumers tell marketers they're pretty much satisfied with what they have. Their PCs are fast and powerful enough to do what they want. No wonder it has become a real challenge to persuade PC owners to buy a new machine. [--] turned PCs into a high-volume, low-margin business that differs little from selling Styrofoam peanuts."*<sup>219</sup>

A growing interest in design amongst technologically related companies was visible at this time. A market increasingly satisfied with the technological performance turned more towards demand for other features, such as design and user-friendliness.<sup>220</sup>

#### 4.4.7 The Apple Retail Store



Figure 4.17:  
Apple Retail  
Store

In 2001, retail stores became a part of Apple's strategy, and were found both to enhance close consumer contact and complement advertisement, regarding building a brand identity and increase the market share. Noticeable is Apple's wish to educate the stores' customers due to a solution-focused concept. The retail stores were also meant to strengthen the distribution activity of the company's total processes.<sup>221</sup>

*"Apple is the only company in the PC industry that designs and manufactures the entire personal computer – from the hardware and operating system to sophisticated applications."*<sup>222</sup>

<sup>216</sup> <http://www.apple.com/pr/library/2001/jan/16itunes.html>, 2005-01-12

<sup>217</sup> Apple annual report, 2001

<sup>218</sup> Interview in person with Lisbeth Svengren Holm, 2004-12-06

<sup>219</sup> [http://www.businessweek.com/technology/content/apr2002/tc2002051\\_3757.htm](http://www.businessweek.com/technology/content/apr2002/tc2002051_3757.htm), 2005-01-19

<sup>220</sup> Interview in person with Lisbeth Svengren Holm, 2004-12-06

<sup>221</sup> [http://www.businessweek.com/technology/content/apr2002/tc2002051\\_3757.htm](http://www.businessweek.com/technology/content/apr2002/tc2002051_3757.htm), 2005-01-19

<sup>222</sup> Apple annual report, 2001

In addition, the interior is carefully set, which enhances purchase experience.<sup>223</sup> In the stores Apple is not only selling their computers but also products reinforcing the new strategy of the company, aimed at the consumer entertainment business.

#### 4.4.8 Building on the “i-Concept”

The iPod was introduced to the market in 2001.<sup>224</sup> iPod users were limited to use iTunes in order to transfer music from the computer to the iPod. In its first week, Apple sold more than 110.000 iPods, and in 2002 the company owned more than 50 percent of the digital music player market.<sup>225</sup> Apple’s strategy for the iPod was the same as for the Power Mac G4 Cube, namely to emphasize the Innovation & Design aspect of the product over price. The thought was the same as many times before, that is, people would be willing to pay a price premium for a beautiful product.<sup>226</sup> iPod attracted a sub-industry, providing accessories of all kinds, from cheap cases to expensive speakers. More often than not, Apple had little to do with the start-up of the profitable sub-business.<sup>227</sup>



Figure 4.18: iPod

Apple continued in 2002 to develop its iTools software concept where iPhoto, iSync and iCal were the newest applications.<sup>228</sup> iTunes became available for free downloading as an attempt to reinforce the digital-hub understanding in the market. In 2003 Apple introduced iLife as another attempt to increase the awareness among consumers of the new digital way of living. iLife included iTunes, iPhoto, iMovie and iDVD. Apple also came out with new hardware, introducing new PowerBook and iBook models. Especially developed and aimed for the graphic design market, which was still considered being one of Apple’s most loyal users, was a wide-screen 17” PowerBook.<sup>229</sup>

#### 4.4.9 Open for a Larger Market Share

Previously, Apple had highlighted only its difference in comparison to its competitors, e.g. with the marketing campaign “*Think Different*” in 1997. In 2002, Apple also acted in order to point out what the company found being competitive strengths. Apple executed a “switch campaign”, which targeted PC users who were considering switching to a Mac. The campaign aimed at making people overcome the perceived switching costs.<sup>230</sup> Apple emphasized that a purchase of an Apple computer would not cause inconvenience regarding e.g. exchanging files between Mac and PC.<sup>231</sup> A

<sup>223</sup> [www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012\\_4018\\_db083.htm](http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012_4018_db083.htm), 2005-01-19

<sup>224</sup> <http://www.apple.com/pr/library/2001/jan/16itunes.html>, 2005-01-12

<sup>225</sup> [http://www.businessweek.com/technology/content/jul2003/tc2003072\\_0512\\_tc056.htm](http://www.businessweek.com/technology/content/jul2003/tc2003072_0512_tc056.htm), 2005-01-19

<sup>226</sup> [http://www.businessweek.com/bwdaily/dnflash/oct2001/nf20011031\\_4266.htm](http://www.businessweek.com/bwdaily/dnflash/oct2001/nf20011031_4266.htm), 2005-01-11

<sup>227</sup> [http://www.businessweek.com/technology/content/oct2004/tc20041029\\_9592\\_tc024.htm](http://www.businessweek.com/technology/content/oct2004/tc20041029_9592_tc024.htm), 2005-01-

07

<sup>228</sup> <http://www.apple.com/pr/library/2002/>, 2005-01-10

<sup>229</sup> [http://www.apple.com/pr/library/2003/jan/07pbg4\\_17.html](http://www.apple.com/pr/library/2003/jan/07pbg4_17.html), 2005-01-10

<sup>230</sup> <http://www.forbes.com/2002/07/16/0716apple.html>, 2005-01-19

<sup>231</sup> Telephone Interview with Matt Connors, 2005-01-03

multiple of online communities gained popularity, some were encouraged by Apple, others independent (e.g. thinksecret.com, macrumours.com and ipodlounge.com).<sup>232</sup>

2003

In the 2003 annual report, Apple for the first time explicitly emphasized a strategy of collaboration with a number of selected companies.<sup>233</sup> In 2003 Apple, together with IBM, developed the PowerMac G5 with an entirely new motherboard, which was both faster and had better memory capacity than its forerunner. The collaboration with IBM made it possible for Apple to compete also regarding performance.<sup>234</sup> Another collaboration was agreed upon with Hewlett-Packard (HP) in which HP was allowed to sell and distribute the iPod. While Apple was reluctant in sharing information with outsiders, the cooperation with HP was more open than with other companies.<sup>235</sup> Apple also started cooperating with companies from outside the computer industry, e.g. Burton acting in the clothing industry and BMW within the car.<sup>236</sup>

When Apple announced the launch of iTunes Music Store in 2003, the sales of the iPod increased further. Through a collaboration with six of the largest music companies (Warner, EMI, Sony, Polygram, MCA and BMG)<sup>237</sup>, Apple got the green light to start selling songs through the Internet which were first only playable on Macs and iPods.<sup>238</sup> However, Apple had plans to make its iPod and iTunes software compatible with Windows. This would give Apple access to a significantly larger share of the market. Efforts had been made in the past to make iPod Windows-compatible. MusicMatch software was then intended to capture PC users, but was considered being of a poor design and hard to use. With a Window version of its online music store and more than a million iPods sold, the portable music player became an important source of income for Apple.<sup>239</sup> The compatibility move, towards a Microsoft product, was yet another step for Apple to increase its significance in the consumer electronics market.

Early  
2004

*“Just like the iPod redefined portable digital music players, the new iMac G5 redefines what users expect from a consumer desktop”*<sup>240</sup>

- Philip Schiller, Apple’s senior vice president of Worldwide Product Marketing

<sup>232</sup> Telephone Interview with Matt Connors, 2005-01-03

<sup>233</sup> Apple annual report, 2003

<sup>234</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-19

<sup>235</sup>, E-mail interview with Victor Peng, 2005-01-11

<sup>236</sup> [http://news.com.com/2100-1041\\_3-5195940.html?part=rss&tag=feed&subj=news](http://news.com.com/2100-1041_3-5195940.html?part=rss&tag=feed&subj=news), 2005-01-19

<sup>237</sup> <http://www.soc.duke.edu/~s142tm01/profile.html>, 2005-01-19

<sup>238</sup> <http://www.apple-history.com/frames/?&page=404>, 2005-01-19

<sup>239</sup> [http://www.businessweek.com/technology/content/jul2003/tc2003072\\_0512\\_tc056.htm](http://www.businessweek.com/technology/content/jul2003/tc2003072_0512_tc056.htm), 2005-01-18

<sup>240</sup> <http://www.apple.com/pr/library/2004/aug/31imac.html>, 2005-01-10



In the beginning of 2004, Apple introduced the iPod mini with a 4GB Hard Disk. The iPod mini was advertised as compatible to Windows PCs.<sup>241</sup> The iTunes Music Store became in its first year the largest legal online music store with 70 percent of all music downloads. In August, Apple launched the iMac G5, and thereby introduced the G5 to its consumer desktop line.<sup>242</sup> Just as Apple had redefined the idea of a portable music player's appearance in 2001, it was now aiming at redefining the concept of a personal computer. With the commercial message, "Where did the computer go?", Apple referred to the whole computer being integrated within the screen.<sup>243</sup>



Figure 4.19: iMac G5

Apple announced a more than doubled profit for the fourth quarter, which ended on September 25th, compared to the previous year. It was the best fourth quarter result in nine years with more than two million iPods and 836 000 Macintosh computers sold.<sup>244</sup> 70 percent of the market of hard drive portable digital music players belongs at the time for this writing to Apple. However, there have been problems in the selling of iMac G5, due to a shortage of microprocessors from IBM which are used in Apple's new flat-screen computer.<sup>245</sup>

#### 4.4.10 Restructuring the Battlefield

On the 11<sup>th</sup> of January 2005, during the Macworld event in San Francisco, Steve Jobs revealed Apple's newest members of its product family.<sup>246</sup> The hardware items Mac mini and the iPod shuffle were introduced, aimed at more price-conscious consumers. As the iPod shuffle uses a flash-memory, unlike the iPod and iPod mini, which contains more expensive hard drives, the price could be held much lower. The Mac mini too, was launched as a low price alternative to consumers still wanting a fashionable product but not willing or able to pay Apple's usual high-end prices.<sup>247</sup> At the same time new software was launched. iLife 05 was presented as an upgraded version of an award-winning suite of digital lifestyle applications.<sup>248</sup> According to analysts, this was part of Apple's aggressive strategy to augment its market share.<sup>249</sup>



Figure 4.20: Mac mini

2005

<sup>241</sup> <http://www.apple.com/pr/library/2004/jan/>, 2004-01-30

<sup>242</sup> <http://www.apple.com/pr/library/2004/aug/31imac.html>, 2005-01-10

<sup>243</sup> Ibid

<sup>244</sup> <http://www.apple.com/se/hotnews/>, 2005-01-24

<sup>245</sup> [http://www.forbes.com/technology/feeds/general/2004/10/15/generalbhsuper\\_2004\\_10\\_15\\_INHT\\_000-8771-KEYWORD.Missing.html](http://www.forbes.com/technology/feeds/general/2004/10/15/generalbhsuper_2004_10_15_INHT_000-8771-KEYWORD.Missing.html), 2005-01-10

<sup>246</sup> <http://www.macworldexpo.com>, 2005-01-19

<sup>247</sup> [http://www.businessweek.com/technology/content/jan2005/tc20050112\\_7424\\_tc119.htm](http://www.businessweek.com/technology/content/jan2005/tc20050112_7424_tc119.htm), 2005-01-19

<sup>248</sup> <http://store.apple.com/1-800-MY-APPLE/WebObjects/AppleStore.woa/71006/wo/nbxwCXP2vhSV2nOTNxAqaxO5224/0.0.11.1.0.6.59.0.3.1.0.5.1.2.1.1.0>, 2005-01-19

<sup>249</sup> [http://www.businessweek.com/technology/content/jan2005/tc20050112\\_7424\\_tc119.htm](http://www.businessweek.com/technology/content/jan2005/tc20050112_7424_tc119.htm), 2005-01-19

# 5 Analysis

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*The chapter's purpose is to present an analysis based on the case study together with the theoretical framework, in order to identify critical factors for the survival of Apple as a niche player in the computer industry.*

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## 5.1 The Structure of the Analysis

In order to present the analysis in a structured way, we have distinguished subcategories representing the key themes focused upon throughout the theoretical framework, as well as the case study. The history of Apple provides numerous examples of important strategic choices concerning Innovation & Design, Industry Relations and Market Strategy. These provide a framework for the analysis and will be of guidance in answering the question at issue for the thesis:

- Which factors have been important for Apple's ability to survive as a niche player in a network economy?

## 5.2 Innovation & Design

*"Our primary goal here [Apple] is to make the world's best PCs -- not to be the biggest or the richest. We have a second goal, which is to always make a profit -- both to make some money but also so we can keep making those great products."<sup>250</sup>*

- Steve Jobs, CEO Apple

Innovation & Design has generally been discussed as Apple's core competence. By studying Apple it has become clear that the company has been prioritizing this area through its history. However, there appears to exist both advantages and disadvantages in focusing on Innovation & Design in an industry known for highlighting other features such as compatibility and performance.

### 5.2.1 Value Creation from Innovation & Design

Sanderson & Peng conclude that there appears to exist a correlation between the business performance of Apple and its success regarding design.<sup>251</sup> During the history of Apple in general, and during phase I and III in particular, Apple has prioritized Innovation & Design, and as a result subordinated profits.<sup>252</sup> Many of the company's

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<sup>250</sup> [http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012\\_4018\\_db083.htm](http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012_4018_db083.htm), 2005-01-19

<sup>251</sup> Sanderson, W. & Peng, Y. (2001) "Business Classics: The Role of Design in Business Success of Apple Computer", p. 25

<sup>252</sup> [http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012\\_4018\\_PG2\\_db083.htm](http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012_4018_PG2_db083.htm), 2005-01-12

products, e.g. Power Macintosh (2000), iBook (2002) and iPod (2003), have been honored with various design awards.<sup>253</sup> The characteristics of Innovation & Design appear to have had an impact on the value created and therefore on Apple's performance.

In terms of Barney's VRIO model, resources and capabilities have a potential of providing a sustainable competitive advantage.<sup>254</sup> The potential competitive advantage is affected not only by the ability to provide value and being rare, but also by the ease of imitation. Teece points out further obstacles that may prevent the innovator from capturing the potential value of the innovated product, and explains how appropriability regimes have an impact on the length of time before imitation occurs. Apple has found its products imitated or matched several times during its lifetime. Still, the appropriability regimes enabled Apple to attain a profitable period, during which the value of the innovation was captured within the company.<sup>255</sup>

*"Some very good product people invent some very good products, and the company achieves a monopoly. [---] Then one day, the monopoly expires for whatever reason. [...] And so the company goes through this tumultuous time, and it either survives or it doesn't."*<sup>256</sup>

- Steve Jobs, CEO Apple

The size of Apple's revenues can be discussed in terms of Schumpeterian rents.<sup>257</sup> An important factor for Apple in order to profit from its Innovation & Design is to create a window of opportunity, during which it provides a differentiation. Through the study we have found Apple succeeding in creating valuable Innovation & Design, which has enabled the company to benefit from differentiation. For instance, GUI (1984) distinguished the company for as long as Apple was unique in offering it. Thus, the Schumpeterian rents enabled Apple to profit from the innovation. However, Apple then experienced a loss of differentiation when the GUI became in use by other firms, e.g. becoming a part of the product line at IBM. Thereby, the window of opportunity Schumpeter describes came to an end.

Similarly, iPod has proven a profitable innovation attracting significant market demand. Launched in 2001, the product managed to create an advantage over successors. However, its unique value risks being reduced or eliminated in the same way as GUI, since competitors have a chance to catch up, producing e.g. interface design similar to that of Apple's.

Referring to Barney's work regarding the VRIO model, the potential of creating a competitive advantage is also influenced by how the resources and competences are

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<sup>253</sup> D&AD Silver Award 2000, red dot award: product design 2002, iF Product Design Gold Award 2003

<sup>254</sup> Barney, J.B. (1996) "Bringing Managers Back In: A Resource-based Analysis of the Role of Managers in Creating and Sustaining Competitive Advantages for Firms" *Texas A&M University*

<sup>255</sup> Teece, D.J. (1986), "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", pp. 285-286

<sup>256</sup> [http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012\\_4018\\_db083.htm](http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012_4018_db083.htm), 2005-01-12

<sup>257</sup> Amit, R. & Zott, C. (2001) "Value Creation in E-Business", *Strategic Management Journal*, pp.496-497

organized in the organization.<sup>258</sup> By studying Apple it has become clear that the company has been prioritizing these aspects throughout its history. Connors emphasizes how the designers at Apple have been valued as the organization's most important resource.<sup>259</sup> More specifically, we are to believe the aspect of Innovation &

In phase I Apple defines Innovation & Design related activities as being of higher importance than the commercial aspect. Innovation & Design has been at the core of Apple and its organization since its start, which increases the chance of creating competitive advantage. Design has been more integrated in Apple's organization during Jobs presence. Gemser & Leenders highlight the importance of integrating design in the organization by forming a design strategy.<sup>260</sup> Apple appears to have organized the resources and capabilities within Innovation & Design, increasing the potential of forming competitive advantages. Moreover, in phase III, Apple for the first time articulates an outspoken business strategy in its annual report of 2001. We assume competitors focusing primarily on other processes, such as optimizing performance and speed, found it difficult to reach Apple's competence in the area of Innovation & Design since they did not integrate the related resources to the same extent.

## 5.2.2 The Potential of Incongruity

*“When are computers really made for people? Design and technology are crucial in deciding that. At all events, the question of how people relate to their computers is a factor: how does the computer communicate its technology and what kind of handling does it permit? The design of the Apple iBook facilitates a very uncomplicated relationship with the user.”<sup>261</sup>*

- red dot awards Committee

Sheremata suggests that a challenger needs to offer a product value, which can compensate for network effects and incompatibility. He further concludes: *“radical innovation can be an effective strategy for challengers in network markets.”<sup>262</sup>* The potential profits of radical innovation, involves risks. Even though there is a risk of failure in continuously aiming for radical innovation, there is also a possibility of making larger profits. The fact that Apple is a niche player, forces it to take risks and pushes the company to be unique, to “think different”. Apple has during its lifetime invented a number of radical products, some considered being failures, e.g. Apple III (1980) and Newton (1993). Others have succeeded in earning a significant profit, and thus attributed to the company's performance, at least until competitors have caught up, e.g. Macintosh (1984) and iPod (2001). The fluctuating performance of Apple can, according to this reasoning, be regarded a result of Apple's radical way of creating Innovation & Design. On the contrary, incremental innovation is, according to

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<sup>258</sup> Barney, J.B. (1996) “Bringing Managers Back In: A Resource-based Analysis of the Role of Managers in Creating and Sustaining Competitive Advantages for Firms” *Texas A&M University*

<sup>259</sup> Interview with Matt Connors, 2004-12-14

<sup>260</sup> [http://www.dmi.org/dmi/html/publications/journal/journal\\_d.jsp](http://www.dmi.org/dmi/html/publications/journal/journal_d.jsp), 2004-12-27

<sup>261</sup> <http://en.red-dot.org/317+M55425919e7c.html>, 2004-12-20

<sup>262</sup> Sheremata, W.A. (2004) *Competing Through Innovation In Network Markets: Strategies for Challengers*, p. 366

Sheremata, not the suggested way of competing when being in Apple's position. The reason is that incremental innovation, even though providing lower risks, generally do not have the potential to result in higher profits.<sup>263</sup>

Radical innovation might have the potential to provide larger profits; still the radical characteristics involve a more uncertain outcome. According to Allen, it is important to communicate to potential customers the usage possibilities and thus the value of the innovation by conceptualizing a *technological frame*.<sup>264</sup> We have found examples where Apple has been weak in communicating the usability of the products, and as a result left the market unable to realize the potential value of the product. In particular during phase II and in the beginning of phase III, the company appears to find its products more valuable than the market perceived them.

Rindova & Petkova put forward the risks of innovating a product with a high degree of *schematic incongruity*<sup>265</sup>, which was the case in the examples discussed above. They focus on the customers' perception of the value created by the innovated product. Since the products of Apple followed a high degree of schematic incongruity, they did not fit into the customers' framework of how a computer should appear. Since Apple did not manage to resolve the incongruity in an effective way, this limited the market's percept value.

*"He [Jobs] thought very highly of the machine. Who wouldn't? It had a G4, it was beautiful, and it was totally quiet, something that Mr. Jobs has thought VERY important for many years. We too think that quiet computers are very important, but not too many consumers seem to care."*<sup>266</sup>

Apple considered the PowerMac G4 Cube (2000) as a product generating high value by providing a computer with revolutionary design, challenging people's perception of how a computer should look, feel and perform. Even though the computer had an award winning design and a fast G4 processor, potential customers did not agree with Apple regarding its value. Thus, Apple had not been able to communicate the technological frame it had in mind. Moreover, it appears to have misjudged what features the market desired at the time. Additional products experiencing a similar outcome are Macintosh TV (1993) and Pippin @World (1995). These were both examples of Apple's radical innovation, but did not become as popular among potential customers as Apple had expected.

Rindova & Petkova point out the potential benefits of radical innovation if incongruity is resolved effectively. Apple seems to have taken action in order to increase the likelihood that customers will understand the incongruity and as a consequence, "*elicit positive emotions*" in relation to its products.<sup>267</sup>

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<sup>263</sup> Sheremata, W.A. (2004) *Competing Through Innovation In Network Markets: Strategies for Challengers*, pp. 366-368

<sup>264</sup> Allen, J.P. (2003) "The Evolution of New Mobile Applications: A Sociotechnical Perspective", *International Journal of Electronic Commerce*, Vol 8, No 1, p. 25

<sup>265</sup> Rindova & Petkova, (2003) "When a New Thing is a Good Thing: The Effects of Technological Change And Product Form Design on Customer Perceptions of Value Created by Product", p. 16

<sup>266</sup> <http://www.macobserver.com/article/2001/07/03.11.shtml>, 2005-01-10

<sup>267</sup> Rindova & Petkova, (2003) "When a New Thing is a Good Thing: The Effects of Technological Change And Product Form Design on Customer Perceptions of Value Created by Product", p. 16

*“The new iMac's [iMac G5] design is reminiscent of the iPod screen and I am certain that this was intentional. With the iPod taking a prominent role in Apple's product strategy, it makes sense to capitalize on the iPod's familiar form.”<sup>268</sup>*

- Tim Deal, Technology Business Research analyst

When launching iMac G5 (2004), Apple seems to have benefited from the already accepted design language of iPod (2001), when giving the computer screen a similar look as the portable music players.<sup>269</sup> Thus, contributing to the resolving process of possible schematic incongruity of the customer.

The design language of Apple was more defined during phase III, due to a reduced product line since 1997, and the work of Jonathan Ive. Moreover, there appears to have been a correlation between the models in the product line and the individual focus Apple attributed to each, regarding e.g. research, development and marketing. Further, Apple has been more successful in communicating the value of each product when there has been a more narrow product line, as was the case in phase I and phase III. According to Svengren, a well-defined design language strengthens the brand identity of a company and, thus, makes it harder to imitate for a competitor.<sup>270</sup> In line with the reasoning about schematic incongruity by Rindova & Petkova, we find that the limited amount of models allowed Apple to present a more focused identity and communicate the value created by the innovated product more effectively.

### **5.2.3 The Effect of Technological Evolution**

Gemser & Leenders argue that the impact of Innovation & Design on company performance is not unconditional. They highlight the importance of not only taking design strategy into account, but also to consider the *industry evolution*. Studying Apple, we have noticed how it frequently has found difficulties in compensating for non-compatibility and network effects within the computer industry. Especially since not being able to combine its Innovation & Design focus with the current possibilities of offering other competitive features, e.g. speed and performance. During phase I, Apple appears to have found it difficult to combine technological performance with the company's desired design. For instance, when launching Apple III (1980), Apple had prioritized the physical appearance, in a time when the technological evolution did not allow such a choice to be combined with offering a fully functioning product.

During phase II, Apple did not find its focus on Innovation & Design meet the demand of the market, which at this time prioritized speed, performance and compatibility. When launching PowerMac (1994), Apple tried to better meet the market demand. However, Apple was forced to subordinate Innovation & Design in order to offer e.g. performance and speed. Furthermore, the change in focus necessitated a price higher than competitors. As a result, Apple could neither differentiate its products, nor compete by price.

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<sup>268</sup> <http://computerworld.com/hardwaretopics/hardware/desktops/story/0,10801,95632,00.html>, 2005-01-05

<sup>269</sup> Ibid

<sup>270</sup> Interview in person with Dr. Lisbeth Svengren Holm, 2004-12-06

*“For a time, those goals got flipped at Apple, and that subtle change made all the difference. When I got back, we had to make it a product company again. You need a very product-oriented culture [---] That's what was missing at Apple for a while.”<sup>271</sup>*

- Steve Jobs, CEO Apple

According to Christensen, industry evolution after a period of time reaches a level when optimal performance overshoots the market demand. He argues that there arises a possibility to meet customers' demand with a disruptive technology at some point when an industry is maturing.<sup>272</sup> At a time when the market does no longer primarily put pressure on the producers to offer top-line technology, the producers can differentiate themselves in other ways. We find the technological development, in particular during phase III, enabled Apple to differentiate itself by design while still attracting a larger market segment. By continuously offering unique design, sound and graphics, Apple has stayed true to its vision of being different. When the personal computer sector has increasingly matured, Apple appears to have been able to identify a demand for Innovation & Design. Thus, being increasingly able to benefit financially from its core competence.

## 5.3 Industry Relations

In line with Porter's reasoning of Five Forces, analyzing the potential of making a profit in an industry, we find Apple situated in a position with competitors having strong competitive power based on their size and market share.<sup>273</sup>

Coase suggests that a company should aim at optimizing the level of integration and intra-firm transactions.<sup>274</sup> Further, Teece emphasizes how business boundaries and the relation to external actors have an impact on the profits of a company.<sup>275</sup> Apple is considered a closed company preferring to integrate its activities and being reluctant to share its ideas externally.

### 5.3.1 Compatibility

During phase I, Apple seemed to be well positioned in order to become the platform leader in the evolving computer industry. With Apple II (1977), the company had developed a product, which encouraged independent actors to initiate production of compatible complementary assets. According to Teece, the complementary assets

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<sup>271</sup> [http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012\\_4018\\_db083.htm](http://www.businessweek.com/bwdaily/dnflash/oct2004/nf20041012_4018_db083.htm), 2005-01-19

<sup>272</sup> Christensen, M. C., Raynor, M. & Verlinden, M. (2001) "Skate to Where the Money Will Be", *Harvard Business Review*, pp. 74-75

<sup>273</sup> Porter, M.E. (1980) "Competitive Strategy: Techniques for Analyzing Industries and Competitors", *New York Free Press*

<sup>274</sup> Coase, R. (1937), *The Nature of the Firm*, p. 5

<sup>275</sup> Teece, D.J. (1986), "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", *Research Policy*, Vol. 15, No. 6, pp. 285-294

increase the value of the innovation when utilized in combination.<sup>276</sup> Therefore, the functional value of Apple's products was increased due to the independent producers in the sub-industry. Apple appear to have not fully realized the value added, and was therefore not able to take advantage of the potential of having a sub-industry.

Cusumano & Gawer suggest a company aiming to become a platform leader ought to, as technological innovation proceeds, ensure the compatibility with complementary products.<sup>277</sup> In phase I, Apple did not encourage the evolving sub-industry to initiate or continue the production of complementary products, and eventually lost the battle over the arising platform leadership. Also, it overestimated the interest in design in its market segment. As a result, the design left out facilities enabling e.g. network connections, which was visualized by Apple III (1980). In other words, Apple did not have an explicit strategy concerning how to preserve its evolving platform leadership during phase I. It did neither secure the compatibility with complementary assets, nor with products of previous generations.

Based on this information, Apple did not act in accordance with Cusumano & Gawer, regarding how to remain market leader.<sup>278</sup> Instead it chose to act in line with Sheremata's reasoning regarding strategies for a challenger in a network economy.<sup>279</sup> The design of Apple III (1980) was significantly more closed than that of its forerunner. Apple III offered limited opportunities to the sub-industry regarding peripheral devices and options for networks. Therefore, we suggest that the chance of developing into a platform leader was reduced, which allowed IBM to take advantage of the situation.

Schilling highlights the importance of *signaling effects* when a dominant design is evolving.<sup>280</sup> By referring to the ideas of Teece, we find IBM being more capable of signaling its ability to act as a platform leader in the personal computer sector. IBM was a larger company already having a network of external partners, as well as able to convince the market and complementary producers of future compatibility.<sup>281</sup> IBM's signaling ability in combination with its PC design enabled the company to transfer the industry from a preparadigmatic phase into a paradigmatic. From here on, compatibility and performance were set as important aspects when estimating the value of a PC, leaving Apple with competitive skills not in line with those demanded by the market. Moreover competition turned increasingly to prices, leading to disintegration amongst many other companies, whilst Apple found its relatively vertically integrated organization costly.

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<sup>276</sup> Teece, D.J. (1986), "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", *Research Policy*, Vol. 15, No. 6, pp. 285-294

<sup>277</sup> Cusumano, M. A. Gawer, A. (2002) The elements of platform leadership, *MIT Sloan Management Review*, p. 53

<sup>278</sup> Ibid

<sup>279</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", pp. 366-368

<sup>280</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, pp. 265-268

<sup>281</sup> Teece, D.J. (1986) "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", pp. 285-294



Traditional theory suggests a company positioned as a niche in a network economy should consider becoming compatible and cooperative.<sup>282</sup> According to Allen, a challenger in this position is better off submitting to the dominant standard in order to continue existing in the industry.<sup>283</sup> Apple became a niche in its industry, still it chose not to take action in order to become compatible. Apple therefore found itself in the position of being locked out of the dominant standard of the industry, which is also a probable outcome according to Schilling<sup>284</sup> and Hill<sup>285</sup>. Being different could mean not participating in the evolution of a dominant standard. On the other hand, we find choosing incompatibility enabled Apple to position itself as a divergent actor in the industry.

In contrast to traditional theory, Sheremata focuses on strategies for a challenger in a network economy. Thus, arguing that a niche player must provide enough value to exceed the switching costs and network benefits foregone. Hereby, he suggests that radical innovation and incompatibility could be the only effective way to compete with a platform leader. By radical innovation and continuing being incompatible with the platform leader, Apple has since Apple III (1980) acted according to Sheremata's suggested strategy for a challenger.<sup>286</sup>

*"If Apple doesn't open up, (the iPod) will absolutely become a niche product." [- - -] I don't know if they've learned their lesson," he said. "It's a strategy, and in many ways, it's the same strategy that they used with the Mac. Only time will tell."<sup>287</sup>*

-Paul Saffo, director of Menlo Park's Institute for the Future.

A more recent example highlighting incompatibility is iPod (2001), which is only functioning together with the compatible software, iTunes (2000). Apple is then positioned to capture a significant share of the value created. In addition, the concept became supported by the music industry, which strengthened the market position. Never the less, it involved a risk, as the outcome might turn out similar to the situation in phase I, regarding Apple III (1980), as well as regarding Macintosh (1984).

Sheremata highlights that in a network economy the product value is based both on the actual product, as well as the number of users.<sup>288</sup> Due to the fact that Apple acted in a network economy, we are to believe that in order to make Apple's product more competitive than one of the dominant standard, it needed to provide a value that potential customers perceived to overcome the cost of network effects.

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<sup>282</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", p. 359

<sup>283</sup> Allen, J.P. (2003) "The Evolution of New Mobile Applications: A Sociotechnical Perspective", *International Journal of Electronic Commerce*, Vol. 8, No. 1, pp. 23-36

<sup>284</sup> Schilling, M. (1999) "Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods", *European Management Journal*, Vol. 17, No 3, pp. 265-268

<sup>285</sup> Hill, C. (1997) Establishing a standard: Competitive Strategy and Technological Standards in Winner-Take-All Industries, *Academy of Management Executive*, p. 9

<sup>286</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", pp. 366-368

<sup>287</sup> <http://sfgate.com/cgi-bin/article.cgi?file=/c/a/2004/08/16/IPOD.TMP>, 2005-01-18

<sup>288</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", pp. 361-362

During Phase II, Apple found it difficult to offer products having a higher perceived value than the competitor's products that were supported by network effects. Even though incompatibility provided Apple with a differentiation, it appears as if it found certain incompatibility related factors particularly hindering potential buyers from choosing the company's products. In phase III, Apple aimed at extinguishing a limited number of factors providing incompatibilities, which were found to hinder potential consumers from buying an Apple product. The possibility of creating a product value overcoming the network costs was significantly increased in 1998 when Apple decided to offer an Apple version of the wide spread Microsoft Office. Another example from this time was the decision to make iTunes (2000) compatible with non-Apple PC computers.

Sheremata highlights the fact that fear of incompatibility present a form of switching costs, adding to the network effects due to incompatibility.<sup>289</sup> Even though Apple products have become partly compatible, Apple's has found additional marketing campaigns, e.g. the switching program (2000), a necessary effort to minimize the fear of incompatibility in the market. In result, it reduced the needed value of the Apple product itself in order to compensate for the network effects. We find that Apple by this action removed a hinder in attracting a larger market segment. Notable is, however, that Apple continued being incompatible regarding other products. For instance the software iTools (2000) was continuously only functioning on Apple computers.

### 5.3.2 Vertical Integration

*"Apple is the only company in the PC industry that designs and manufactures the entire personal computer [---] uniquely positioning the Company to offer digital hub products and solutions."*<sup>290</sup>

According to Teece, an industry often experiences a stage during which competition focuses on price and, as a result, often becomes disintegrated.<sup>291</sup> When a dominant standard was created in the computer industry during phase II, Apple found difficulties in competing effectively due to its continuous integrated organization.

Apple's continuous choice of vertical integration has resulted in reluctance by potential producers of complementary products to support Apple's standard. Earlier, complementary products were mainly related to the computer industry. We are to believe, cooperation then involved sharing more extensive information and plans, which Apple was reluctant to do. More previously, Apple has found its products attracting complementary products from outside the traditional computer industry. For instance, a multiple of companies are producing accessories for iPod (2001). However, the development of products not within the same industry might not

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<sup>289</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", p. 359

<sup>290</sup> Apple's annual report, 2001

<sup>291</sup> Teece, D.J. (1986) "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", pp. 286-290

demand as much openness from Apple. Cooperating with non-computer companies should thus increase the value of Apple's products, whilst Apple is not obligated to reveal extensive information.

*"Apple's brand is sacred. Everyone at Apple knows how to keep secrets."*<sup>292</sup>

- Matt Connors, Ex Co-worker at Apple

According to Teece, vertical disintegration should be viewed with concern, since capturing the rents from innovation might be more difficult, whilst integration might benefit the company.<sup>293</sup> Apple, as a relatively vertically integrated company, has had an advantage concerning keeping its innovations secret until the moment of product introduction. Apple II (1977), as well as iPod (2001) provide examples of Apple pioneering in a product area, and benefiting from first mover advantages. Controlling the Innovation & Design appear to have increased Apple's ability to profit from its innovations.

Historically, Apple has experienced problems in producing and distributing products at demanded speed several times. During phase I, Apple had difficulties in producing and distributing the amount of products demanded. In phase III, Apple appears to have realized a need for cooperating with external firms. We see the cooperation with Hewlett Packard as one example of Apple acting in order to avoid limiting the products sold due to weaknesses in distribution, even though described as relatively distanced.<sup>294</sup>

## 5.4 Market Strategy

*"Apple, of course, is the archetypal emotional brand. It's not just intimate with its customers; it is loved. Apple's brand is the key to its survival. It's got nothing to do with innovative products like the iMac or the iPod."*<sup>295</sup>

Apple early managed to build strength in its brand based on the vision regarding its Innovation & Design focus, as well as offering something divergent. Throughout its lifetime, however, the ability to attract customers based on Innovation & Design has fluctuated.

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<sup>292</sup> Interview with Matt Connors, 2005-01-03

<sup>293</sup> Teece, D.J. (1986) "Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy", pp. 286-290

<sup>294</sup> Interview with Victor Peng, Hewlett Packard, San Diego, 2005-01-08

<sup>295</sup> <http://www.wired.com/news/print/0,1294,56677,00.html>, 2005-01-20

## 5.4.1 Identity

According to Porter, a company should either aim at cost leadership or being different.<sup>296</sup> During phase I, Apple succeeded in building a clear brand identity based on a continuous vision of being different in an industry not prioritizing design and user-friendliness. It was the first personal computer company moving away from technical advertising, towards communicating a lifestyle product. From the very beginning, Apple attached great value to the individual person, visualized by its slogan “*Think Different*”. Realizing the need of a competent person able to strengthen the market communication, Apple employed John Sculley. Sculley’s ability to apply traditional advertising for consumer products on computers revolutionized the marketing in the computer industry. When presenting the computers as lifestyle items, Apple seems to have positioned the computer more in the private home than in the business market. During phase I Apple appears to have achieved brand awareness and built a loyal user base, which sustained as a foundation during the fluctuating times that followed.

Porter also highlights the probable disadvantage involved in not having a clear position, as this results in no distinct competitive advantage.<sup>297</sup> Apple changed competitive position several times during phase II, and appeared to have difficulties regarding attaining a clear focus of differentiation. It was neither continuously offering low cost products, nor aiming at developing radical Innovation & Design. During phase II, we are to believe Apple benefited from the brand identity that the company had built during phase I, which customers could still relate the company to.

Arthur suggests a niche company facing a dominating competitor should consider leaving the market.<sup>298</sup> During phase II Apple found itself less differentiated in the computer industry. As a result, Apple attempted to enter the consumer electronics sector, by launching Newton (1993) and Pippin @World (1995). The two products can be seen as attempts to target a market where network effects were not as strong as in the computer industry. We are to believe, the frequently changing strategy appeared ambiguous. In addition, the extensive and scattered product line signaled a lack of focus. However, the loyalty of the customer base built during phase I appear to have helped Apple to survive despite difficulties in maintaining a focused brand.

According to Porter, positioning in a higher-end segment is a way of executing a differentiation strategy.<sup>299</sup> However, Apple has historically several times positioned itself in segments more based on potentially higher profit margin per unit sold, than correlation between Apple’s competitive skills (e.g. in Innovation & Design) and the segment’s demands (e.g. speed and performance). For instance, when aiming at the business segment in the 1980s and desktop publishing in the 1990s, without seeming to realize the demands of these segments. A more recent example of Apple products being unfavorably priced is the PowerMac G4 Cube (2000). The product targeted a

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<sup>296</sup> Porter, M.E. (1985) *Competitive Advantage*, p. 13

<sup>297</sup> Ibid

<sup>298</sup> Arthur, W.B. (1994) ”Increasing Returns and Path Dependence in the Economy”, *The University of Michigan Press*, p. 10

<sup>299</sup> Porter, M.E. (1985) *Competitive Advantage*, p. 13

higher-end segment, but appeared to have been more successful if it would have been sold to a lower price.

*“The Mac Mini is indeed cheap by Mac standards, though it's still pricier than bottom-of-the-line PCs.”*<sup>300</sup>

According to Schilling, penetration pricing and aggressive promoting are ways of increasing the user base. A large user base, in turn, can signal to the market and the industry that the company is successful and will be able to develop its standard further. Signaling success can therefore reduce the market's fear of becoming dependent on a dying minor standard.<sup>301</sup> Apple is dependent on a user base in order to ensure the market of its continuous survival. We find that Apple's Market Strategy recently has been modified in order to, by pricing and promotion, increase its user base. With the introduction of Mac mini and iPod shuffle, Apple is expanding its product line, offering products priced lower. While still in line with Apple's design language and differentiated position, the action could increase Apple's user base. In accordance with Schilling's reasoning, an increased user base improves the brand's chance of future success.<sup>302</sup> Hax & Wilde present an option of *total customer solution*, which we find Apple is moving towards. Apple is offering products allowing for individual customization, and enabling the consumer to add together products into a set, e.g. to what Apple names the digital hub.<sup>303</sup>

Christensen's description of *disruptive technologies* gives an explanation to why Apple has performed well during the last couple of years.<sup>304</sup> During phase II, Apple struggled for its survival through continuous innovations, but had to fight against an incessant demand of better performance and stronger computers. Christensen argues that at some point the technological evolution reaches a level of performance, which is considered being good enough to the mainstream segment.<sup>305</sup> We find this being of high relevance for Apple's financial achievement in recent times. With a strong reputation of being an Innovation & Design focused company, Apple could thus attract customers who prioritize design and user-friendliness over the competitive strengths offered by Apple's competitors. Apple's strengths in Innovation & Design therefore became more profitable competitive advantages, when the technological evolution allowed Apple to meet the demands of a larger market segment.

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<sup>300</sup> [http://news.com.com/How+big+will+the+Mini+be/2100-1047\\_3-5535728.html?tag=nefd.lede](http://news.com.com/How+big+will+the+Mini+be/2100-1047_3-5535728.html?tag=nefd.lede), 2004-01-14

<sup>301</sup> Schilling, M. (1999) “Winning the Standards Race: Building Installed Base and the Availability of Complementary Goods”, *European Management Journal*, Vol 17, No 3, pp. 268-272

<sup>302</sup> Ibid

<sup>303</sup> Hax, A. & Wilde, D. “The Delta Model – Discovering New Sources of Profitability in a Networked Economy”, *European Management Journal*, Vol. 19, pp. 381-384

<sup>304</sup> Christensen, M. C., Raynor, M. & Verlinden, M. (2001) “Skate to Where the Money Will Be”, *Harvard Business Review*, pp. 74-75

<sup>305</sup> Ibid

## 5.4.2 Market Communication

In accordance to Sheremata, the presence of heterogeneous consumer preferences allows for multiple networks to coexist. There will always be a segment in the market, which demands differentiation.<sup>306</sup> Even though most computer users have chosen a non-Apple product, compatible with the dominant standard, there has existed market needs creating a possibility for a challenger to offer a valuable alternative. Apple managed to identify market needs and meet certain preferences to a higher extent than companies compatible with the dominant standard. In addition, Apple has reduced the switching costs percept by potential customers by e.g. offering compatible products.

*"[...] the Apple stores will be more "solution focused" [...] where people will be shown what they can do with Macs."*<sup>307</sup>

Allen suggests an innovator should aim at creating a common definition of a product, in order to communicate its performance criteria.<sup>308</sup> In line with the technological frame, proposed by Allen, Apple retail stores (2001) appear to have contributed in communicating the product's usage possibilities. Moreover, Rindova & Petkova highlight the need of resolving schematic incongruity in order to explain the value of the product.<sup>309</sup> We are to believe that Apple through market communication, e.g. the mentioned opening of retail stores, has strengthened the possibility of educating the potential customers in how to experience the full value of the product. Thus communicating the products' usage possibilities, by enabling the potential consumers to adjust its schematic understanding to the product. An effect of a limited product line is a more focused identity.

Further, Rindova & Petkova discuss how a company better can communicate a product's value to the market if the product's incongruity can be resolved through recognition of functions and appearance.<sup>310</sup> During phase III, Apple had a more distinguished design language, and its products therefore stood a higher chance of receiving a positive response from the market. The commercial "*Where is the computer?*" regarding the launch of iMac G5 (2004), we find being an example of how Apple through market communication appears to have acted in order to make its customers categorize the product as Apple thought of it. In other words, Apple wished to enlighten the potential customers of the usage possibilities, and thus the value of the product. In terms of Sheremata, communicating the product value can to Apple represent the cutting line between failing or profiting out of radical innovation.<sup>311</sup>

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<sup>306</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", pp. 366-367

<sup>307</sup> <http://news.com.com/2100-1040-257633.html>, 2005-01-14

<sup>308</sup> Allen, J.P. (2003) "The Evolution of New Mobile Applications: A Sociotechnical Perspective", *International Journal of Electronic Commerce*, Vol 8, No 1, p. 25

<sup>309</sup> Rindova & Petkova, (2003) "When a New Thing is a Good Thing: The Effects of Technological Change And Product Form Design on Customer Perceptions of Value Created by Product", p. 18

<sup>310</sup> *Ibid*, p. 20

<sup>311</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", p. 361

Dellarocas suggests that the increased popularity of online feedback mechanisms through communities has potential important impact on brand building.<sup>312</sup> We find Apple's closeness has encouraged networks such as thinksecret.com, macrumours.com and ipodlounge.com, where rumors are spread and discussed. Apple can benefit from this regarding identifying and, as a result, act in order to meet the customer needs revealed on the word-of-mouth communities. Moreover, a discussion held at a community has the potential to help the market realize Apple's products' value. However, drawbacks are to be expected too. Dellarocas mentions the risk of spreading information having a negative impact on the company.<sup>313</sup> For instance, Apple's company secrets might be disclosed, allowing competitors to get the information earlier than intended.

In accordance with Sheremata, the heterogeneity of preferences in the market, results in an always-present demand for a minor standard.<sup>314</sup> Even if Apple manages to meet market preferences, which have a potential to compensate for both network effects and switching costs, the size of the attracted customer base is critical. Apple's performance depends on the profits it can raise from products sold, which in turn enables the company to continue maintaining its competitiveness in Innovation & Design.

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<sup>312</sup> Dellarocas, C. (2003) "The Digitization of Word of Mouth: Promise and Challenges of Online Feedback Mechanisms", *Management Science*, p. 1407

<sup>313</sup> Ibid

<sup>314</sup> <sup>314</sup> Sheremata, W.A. (2003) "Competing Through Innovation in Network Markets: Strategies for Challengers", p. 361

# 6 Final Discussion

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*In this section, we are to present the conclusions of our study. Based on our analysis, factors important to Apple’s survival are presented. Thereafter follow our final thoughts regarding the thesis, where we will present our view regarding Apple and its situation.*

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## 6.1 Conclusions

In order to accomplish the purpose of the thesis, we structured the analysis according to our three key themes: Innovation & Design, Industry Relations, and Market Strategy. In the analysis, we held a discussion regarding the three key themes, without drawing any conclusions. In this section we will present our findings, based upon our analysis, in order to answer our question at issue: “Which factors have been important to Apple’s ability to survive as a niche player in a network economy?”

The factors identified within each key theme are presented in Figure 6.1, below. The factors are of different character, related to Apple internally and externally. Notable is that the factors are often interconnected, still we find each highlights a unique aspect and represents something that has been an important factor for Apple’s survival.

<b>Key Themes</b>			
	Innovation & Design	Industry Relations	Market Strategy
<b>Factors for Survival</b>	Radical Innovation	Differentiation Through Incompatibility	Brand Identity
	Resolving Schematic Incongruity	Selective Cooperation	Meeting Market Demands
	Technological Evolution	Vertical Integration	Heterogeneity of Preferences

Fig. 6.1: Key Themes and Important Factors for Apple’s Survival.



## **6.1.1 Important Factors for Apple's Survival - Innovation & Design**

### *Radical Innovation*

Apple's products must appear valuable to the potential customers in order to result in profits for the company. Due to representing a minor standard, Apple's product value needs to compensate for the network effects and switching costs perceived by potential customers. When offering incremental Innovation & Design, we find the products have been inferior in offering the needed amount of value.

Radical Innovation & Design has a potential to result in higher profits, even though also involving a higher risk. We are to believe the higher risk from radical Innovation & Design partly explains Apple's fluctuating performance in its history. Still, when successful radical Innovation & Design has enabled Apple to compensate network effects and switching costs. When successful profits have been generated, large enough in order to survive.

Through a more focused and defined design language, along with an outspoken business strategy, imitation was made more complex. Thus, making it harder for competitors to reap the benefits of Apple's innovations.

### *Resolving Schematic Incongruity*

The risk involved in radical innovation, we find being an explanation to Apple's fluctuating performance. In order to achieve to take advantage of radical innovation, the schematic incongruity needs to be resolved effectively. When it is resolved, customers' perception of the innovation's value increases. As a result, a radical innovation's has potential to lead to higher profits than incremental innovation, if the incongruity is communicated effectively.

We find Apple's survival is partly due to radical Innovation & Design, but also to have successfully communicated schematic incongruity. When accomplishing this, Apple has been able to both differentiate itself, and to resolve the customers' schematic incongruity. Thus communicating schematic incongruity is an important factor for Apple's survival.

### *Technological Evolution*

The perceived value of a product is related to the market's demand at the time. Apple has focused on Innovation & Design throughout its history, and has a reputation for possessing a competitive strength in the area.

As the computer industry matured in pace with technological evolution, a larger part of the market appeared to prefer other features than optimal performance. In other words, other firms' competitive advantages, e.g. performance and speed, have become less profitable. Instead design-related innovation has rendered increased appreciation.

Apple has, thus, become better positioned in order to meet market demand when the company has found its core competence potentially more profitable than earlier.

We are to believe the effect of technological evolution has enabled Apple to profit from its competences. The company has become able to survive by differentiating itself with a focus on Innovation & Design, while still succeeding in attracting a sufficient market share.

## **6.1.2 Important Factors for Apple's Survival - Industry Relations**

### *Differentiation Through Incompatibility*

The decision regarding level of compatibility is not a question of all or nothing. We find Apple has been benefited from being compatible to a limited degree. Such exceptions have been made when compatibility has proven necessary in order to offer the customers a product with a perceived value compensating for the network effects. The result has been a potentially larger user base.

Still, a certain degree of incompatibility has provided Apple with differentiation, and is therefore in line with Apple's wish to be different. We are to believe a level of incompatibility has supported Apple's brand identity, as well as increased the company's possibilities regarding secrecy.

### *Selective Cooperation*

Apple has by selective cooperation, managed to improve activities in which it would otherwise have been weak regarding, such as production and distribution. We find careful selection of appropriate partners also has increased the strength of the Apple brand. By deriving advantage of the reputation of the partner brand, Apple has had a higher chance of signaling future success.

As industry boundaries have increasingly converged, Apple has gained increased product value by attracting complementary producers in non-computer industries. Thus, being supported by complementary products without revealing computer related company information.

### *Vertical Integration*

Controlling the design and development of the entire personal computer by vertical integration, has repeatedly been considered as one of Apple's main strategic mistakes. The closeness of Apple appears to have limited the possible benefits generated from partners, as well as sub-industries producing complementary products.

On the other hand, vertical integration appears to have enabled Apple to attain a higher secrecy regarding its ideas and plans. The secrecy has proven to extend Apple's innovative advantage, thus increasing Apple's potential to capture potential

profits. We also believe, vertical integration has improved the possibility to organize the company's competences and resources, moreover, promoted efficiency through integration. We suggest vertical integration has enabled Apple to perform successful radical innovation, important in order to survive as a challenger in a network economy.

### **6.1.3 Important Factors for Apple's Survival - Market Strategy**

#### *Brand Identity*

Apple has differentiated itself through its brand identity. Brand identity, thereby, enabled Apple to gain brand awareness, reputation and a loyal customer base. We are to believe the identity created in phase I supported Apple's survival during phase II. A loyal customer base acted, metaphorically, as a buffer when Apple's performance and strategy fluctuated.

The fact that Apple has stayed true to its aspiration of being different, even though weaker during phase II, has improved the credibility of the brand. The congruity between Apple's vision and its products has led to a trustworthy and respected brand identity, contributing to the survival of Apple.

#### *Meeting Market Needs*

In order to compensate for the network effects, a challenger needs to identify and, with its products, meet market needs to a higher degree than companies of a dominant standard. Apple has, thus, been necessitated to offer a product value higher than network effects and switching costs.

By e.g. promoting online feedback mechanisms as well as communicating with customers through retail stores, Apple has gained knowledge in customer preferences. In line with its vision and niche position, Apple has succeeded in communicating its products value based on the premise of differentiation.

#### *Heterogeneity of Preferences*

Due to the fact that Apple has represented a minor standard in the industry, the company's survival has been dependent on whether it is possible to attract a market demand for more than one standard. The presence of heterogeneity of preferences in the market has allowed for a standard in addition to the dominant one.

When being a niche actor, Apple has managed to attract a market segment preferring not to choose the dominant standard and the major design. The critical customer base supporting Apple has been large enough in order to secure Apple's survival. Apple has been able to continue attracting a niche segment due to its endurance in being different and incompatible.

## 6.2 Final Thoughts

*“ [...] even if Apple loses its dominance, the company has shown that it can support a business, even without commanding market share. For all the criticism heaped on Apple for its small share of the PC market, the company has been largely profitable in recent years, while most of its rivals have not.”<sup>315</sup>*

In the conclusions we stated that a number of factors have been important to Apple's survival. Innovation & Design, we find, is the foundation for Apple's survival. However, we find the value of this skill cannot be exploited without a degree of support from Industry Relations and Market Strategy.

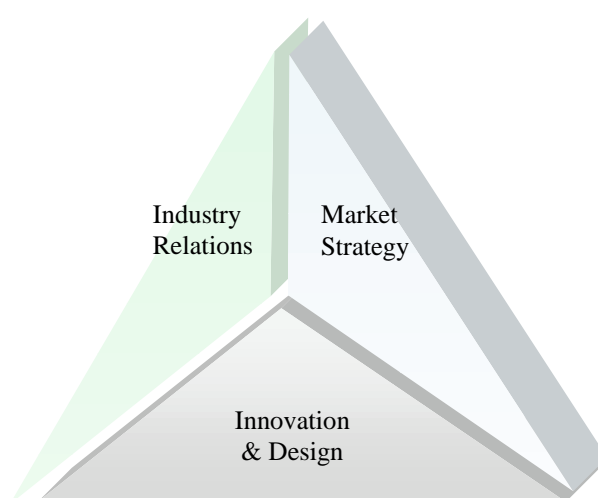


Fig 6.2: Key themes for analysis

The model illustrates the different key themes representing important factors for Apple's survival. We are to believe that Apple's performance should improve when the factors are congruent and in line with Apple's business strategy.

*It doesn't take a genius to see what comes next: lower prices for consumers and lower market share for Apple [- -] Steve Jobs is right back to the Mac model.<sup>316</sup>*

We find Apple's situation, and in particular its niche position, forces the company to continuous innovation in order to stay competitive. Apple acts in an industry characterized by frequent changes. New opportunities have emerged throughout its history due to, for instance, technological and societal evolution. Also threats have appeared along the way, in form of new firms changing the industry's structure and standards hindering incompatible products from selling well. Radical innovation might have provided the company with periodical competitive advantage and allowed

<sup>315</sup> [http://news.com.com/Will+iPod+suffer+fate+of+the+Mac/2100-1032\\_3-5192330.html?tag=nl](http://news.com.com/Will+iPod+suffer+fate+of+the+Mac/2100-1032_3-5192330.html?tag=nl), 2005-01-18

<sup>316</sup> [http://www.businessweek.com/magazine/content/04\\_05/b3868001\\_mz001.htm](http://www.businessweek.com/magazine/content/04_05/b3868001_mz001.htm), 2005-01-20

Apple to capture generated profits. But the company's performance has clinched upon how well customers needs have been met. More recently, it appears as though Apple has become better aware of the importance of communicating the novelty and the usage possibilities of its products. Moreover the company appears to be more careful regarding how to position the products in order to achieve desired commercialization.

Earlier, e.g. in the 1980s, the company appears to have been disadvantaged by its vertical integration, whilst competitors benefited from disintegration. However, as the technological evolution in the industry reached a level where technical improvements can have a diminishing return in customers' experienced value, we find the market instead showed an increased demand for well-designed technological products. The development appears to benefit Apple, and we believe its integrated organization reinforces the effect.

*If our [PC] market share grows, we're thrilled, says Jobs. But with the iPod, we're finally getting to compete without our 5% market-share ceiling, and look what's happening: We're winning.<sup>317</sup>*

- Steve Jobs

Noteworthy is the fact that Apple has recurrently aimed at expanding its product line to include also consumer electronics, e.g. by offering the portable music player iPod. The leap we find being both a result of a probable commoditization in the computer industry, and due to the relative lack of network effects in other industries.

Industries that have been seen as separated are converging and new platforms are shaping. Faced with saturation in their product markets, computer companies in search of growth are increasingly turning to services. This holds true also for Apple. For instance, it is of our apprehension that the portable music player sector still has not become subject to rigid dominant standards. Apple has, at the time being, a major market share with its iPod, but competitors appear to be catching up. However, even though the physical product might be relatively easy for competitive firms to imitate or match, competitors might find it harder to achieve Apple's level of organizational integration of innovation and design, as well as the company's strong brand identity.

We find Apple's performance is largely dependent on offering "The next big thing", forcing the company to succeed in foreseeing and meeting market needs with products strong in innovation and design. The company has performed well recently, still we find its situation unstable; Apple is according to us forced to continuing "living on the edge" in order to survive.

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<sup>317</sup> [http://yahoo.businessweek.com/technology/content/jan2004/tc20040126\\_9608\\_tc055.htm](http://yahoo.businessweek.com/technology/content/jan2004/tc20040126_9608_tc055.htm), 2005-01-20

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