

# iQuit: HP in the Post-PC Era

MSc in Business Administration

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## ABSTRACT

Throughout the years, scholars and researchers have focused on the fundamental question of how firms manage to develop and sustain competitive advantages in rapidly changing environments. Going further than established theories, the Dynamic Capabilities view emerged as an attempt to better explain how firms can cope with exogenous shocks, through four distinct dimensions.

In this dissertation, I have developed a teaching case, which aims to illustrate the Dynamic Capabilities theory and its real-life implications. The selected company is Hewlett-Packard, which was confronted with a technological shock that transformed the PC industry. The company did not successfully adapt and this has led to tumbling results and falling hopes for the future of the still world leading PC maker. Throughout this case, it will be evident the company's lack of Dynamic Capabilities and how that has affected its final fate.

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS</b>	<b>II</b>
<b>ABSTRACT</b>	<b>III</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>LITERATURE REVIEW</b>	<b>4</b>
<b>TEACHING CASE</b>	<b>11</b>
THE HP WAY (1934 – 1999)	12
CARLY FIORINA, THE OUTSIDER (1999 – 2005)	16
MARK HURD, THE EFFICIENT (2005 – 2010)	20
LÉO APOTHEKER, THE INCOHERENT (2010 – 2011)	25
MEG WHITMAN, THE SAVIOUR? (2011 – 2012)	32
HP: HELP, PLEASE	34
EXHIBITS	36
ENDNOTES	42
<b>TEACHING NOTE</b>	<b>48</b>
SYNOPSIS	49
TEACHING PURPOSE	50
INTENDED CONTRIBUTION	51
INSTRUCTOR PREPARATION	52
RECOMMENDED ASSIGNMENT QUESTIONS	53
TEACHING PLAN	62
<b>DISCUSSION</b>	<b>63</b>
<b>CONCLUSION</b>	<b>69</b>
<b>BIBLIOGRAPHY</b>	<b>71</b>

# INTRODUCTION

# 1

The Dynamic Capabilities view arose from the gradual need to complete the Resource-Based Theory (Barney, 1991) for constantly changing, dynamic markets. This view, pioneered by Teece, Pisano and Shuen (1997), has received plenty attention in the past decade from scholars and researchers, mainly because it addresses a fundamental matter: how firms can maintain a competitive advantage in the context of changing environments. The Dynamic Capabilities view is not only applicable to strategic management, but also to other main business administration areas such as human resource management, operations, marketing, entrepreneurship and international management.

Companies are increasingly required to deal with more frequent and diverse exogenous shocks, being it at a technological, social, demographical, economic or political level. Failing to timely respond to these changes can and will affect negatively a company's performance, or even lead to its failure. Therefore, it seems crucial for companies to develop a set of capabilities to effectively manage change, through internal and external adaptation.

Teece et al.'s (1997) seminal work defines dynamic capabilities as "the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments". In the past decade, the researchers on the topic have analysed and developed the view with some discrepancies around its theoretical foundations and its practical consequences, regarding the nature of the concept, the adequate environments for analysis and the expected outcomes, among others.

As one would expect, the Dynamic Capabilities view is still in an early developing stage and has therefore received several criticisms (e.g. Williamson, 1999, Winter, 2003), essentially at three levels: the absence of a theoretically coherent definition; the uncertainty regarding the

value-added of the view and expected outcomes; and the lack of relevant empirical evidence, especially for more specific, and recent, definitions.

Barreto (2010: 271) highly contributed in solving the two first problems by defining dynamic capabilities as “the firm's potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base”.

In this thesis, I will try to illustrate the dynamic capabilities view by analysing how world leader Hewlett-Packard dealt with the launch of the iPad by Apple in 2010, which confirmed the “post-PC” era announced by Steve Jobs. How did the PC giant adjust to a new reality of tablets and smartphones?

Hewlett-Packard, who merged with Compaq in 2002, has been the world's largest PC manufacturer since 2007. However, with Apple's fast climb and the increasing success of the iPad, the company has been struggling to maintain its top spot. In a whirlwind of CEOs and strategic changes, HP sees itself in a down spiral of tumbling revenues and plunging market value. I will analyse the events in the recent years to understand the not so successful adjustment of HP to this shock, according to the Dynamic Capabilities view.

This document will be divided in four sections. I will start with the Literature Review, where I will present and analyse the concept of the Dynamic Capabilities, its theoretical foundations, main criticisms and recent developments, following with the core of this thesis – the Teaching Case and consequent Teaching Note – and ending with the presentation of my discussion topics and main conclusions.

# LITERATURE REVIEW **2**

The concept of dynamic capabilities has gained increasing importance in the last decade, mainly due to the matters it addresses, focusing on understanding how firms can cope with changing environments. Barreto (2010) noted that more than a thousand and five hundred articles referred dynamic capabilities between 1997 and 2007, an insight complemented by Di Stefano et al.'s (2010) remark that, since 2006, articles concerning dynamic capabilities had been written and published at a rate of more than 100 per year.

Despite being previously referred, the concept of dynamic capabilities only became relevant and started gathering researchers' attention after Teece et al.'s seminal work (1997), which defined it as "the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997: 516). Teece et al. felt the need to develop a framework due to the incompleteness or misfit of the existing frameworks, such as the competitive forces approach by Porter, the strategic conflict approach and the resource-based perspective by Barney.

The authors established this concept as an extension to Barney's resource based view (RBV) (1991), which claimed that a firm's resources and capabilities might lead to a sustainable competitive advantage, disclosing the tie between the firm's internal characteristics and its performance (Barney, 1991). This framework has recently acquired the status of theory, and will be referred henceforth as research based theory (RBT). As this theory was considered mostly static, Teece and his colleagues developed the dynamic capabilities framework "as an aid to management endeavoring to gain competitive advantage in increasingly demanding environments" (Teece et al., 1997: 510). The dynamic capabilities framework relies on the belief that the firm's competitive advantage "lies with its managerial and

organizational processes” (Teece et al., 1997: 518), namely, within its routines.

The abundant subsequent work on the topic expanded the initial definition of dynamic capabilities. With such a profusion of definitions, several criticisms arose, highlighting the tautological nature of the actual definition (Williamson, 1999; Winter, 2003; Zahra et al., 2006), the lack of empirical evidence or even the post hoc identification of dynamic capabilities in empirical work (Zahra et al., 2006), among others. This led to an environment of diffidence and suspicion surrounding dynamic capabilities’ real application and consequences.

In order to better understand the inconsistencies, overlapping or even contradictions on the topic, I will follow Barreto’s (2010) approach in organizing the several issues in seven categories – nature, specific role, relevant context, creation and development mechanisms, heterogeneity assumptions, outcomes and purpose.

In Teece et al.’s (1997) pivotal paper, dynamic capabilities assume the characteristics of an ability, as they did for Helfat et al. (2007), Teece (2007), Winter (2003), and Zahra et al. (2006). Eisenhardt and Martin (2000: 1107) were the first to disagree regarding the dynamic capabilities’ **nature**, arguing that they were organizational processes. In fact, in their definition, dynamic capabilities were “the firm’s processes that use resources (...) to match and even create market change”, such as product development, alliancing and strategic decision making. On the other hand, Zollo and Winter (2002: 340) believed dynamic capabilities were “learned and stable pattern of collective activity”, stressing the need for a repeated (“pattern”) behaviour.

As Barreto (2010) noted, most scholars agree on the fact that the **main role** of dynamic capabilities lies within the internal change of the firm. Either as a routine (Eisenhardt and Martin, 2000) or as a capacity (Helfat et al., 2007), dynamic capabilities own the ability to alter the

resource base of an organization. Bearing this in mind, some researchers established two levels of capabilities: the “zero level”, which will suffer change on the hands of the “higher level” capabilities. Winter (2003: 991) stated that dynamic capabilities were “those that operate to extend, modify, or create extraordinary capabilities”, contrasting them with “those that permit a firm to “make a living” in the short term”. Zahra et al. (2006: 921) distinguished between substantive capability, or “the ability to solve the problem”, and dynamic capability, or “the ability to change the way the firm solves its problems”. Likewise, Zollo and Winter (2002) opposed the concepts of operating routines, and the ones that modify the operating routines, i.e., the dynamic capabilities. On a different note, Teece (2007) proposed that the concept of dynamic capabilities should be disaggregated in three different capacities: not only to reconfigure resources, but also to sense and to shape opportunities and to seize them. In his definition, Barreto (2010) tried to complete the concept, by suggesting four dimensions that will be discussed further on.

Researchers give different importance to the **external context** in which the firm is inserted. Teece et al. (1997) clearly define the relevant context in rapidly changing environments. Teece (2007) later pointed out the adequacy of the concept for internationally open environments. On this matter, Eisenhardt and Martin (2000) noted that the dynamic capabilities framework was also applicable to moderately changing contexts. According to the authors, different firms’ paths and industry structure distinguish moderately changing from high-velocity markets. For Winter (2003) and Zahra et al. (2006) the volatile environment is not necessary for dynamic capabilities, but these authors recognize that the framework might have higher value in rapidly changing environments.

Eisenhardt and Martin (2000), Zahra et al. (2006) and Zollo and Winter (2002) presented and analysed **creation or development mechanisms**

for dynamic capabilities. Eisenhardt and Martin (2000) focused their analysis on repeated practice, past mistakes and experience. They also presented variation and selection as crucial learning elements, being the former more relevant for moderately dynamic markets and the latter for high-velocity markets. Zahra et al. (2006) dedicated their analysis to several mechanisms and how they differed in established firms and new ventures.

There are two main streams of thought concerning the **heterogeneity** of dynamic capabilities. Teece et al. (1997) considered the dynamic capabilities view as an extension to Resource Based Theory, and therefore defined the dynamic capabilities as being firm specific and unique. In contrast, Eisenhardt and Martin (2000) claimed that dynamic capabilities display commonalities among firms, essentially due to “best practice” behaviours. Nevertheless, both groups of authors acknowledge that, due to specifications of the firms, dynamic capabilities are not exactly the same among different firms.

One of the main discussion topics around this framework is the **outcome** of the dynamic capabilities. For some authors (Makadok, 2001; Teece et al., 1997; Teece, 2007; Zollo and Winter, 2002), there is a direct link between firms’ dynamic capabilities and their performance. Teece (2007: 1320), for example, asserted that in the short term “the development and exercise of (internal) dynamic capabilities lies at the core of enterprise success (and failure)”. However, other academics (Eisenhardt and Martin, 2000; Zahra et al., 2006; Zott, 2003) are reluctant in believing in a direct relationship between dynamic capabilities and performance. Eisenhardt and Martin (2000) consider that dynamic capabilities are necessary but not sufficient for firms’ success. In fact, the authors argued that the dynamic capabilities’ true value lied within the resource reconfiguration they can generate. On a similar note, Zott (2003) affirmed that dynamic capabilities did not have

a direct connection to firms' performance, but they did however have the ability to change the firms' resource base and consequently affect performance. Zahra et al. (2006) not only defended the indirect link between dynamic capabilities and performance, resulting from the transformation of substantive capabilities, but also advocated that, in some situations, dynamic capabilities might even harm a firm's performance. One of Winter's (2003) main points was that firms can attain change without dynamic capabilities and its associated costs, using what the author called "ad-hoc problem solving".

Finally, there are also several views on the **purpose** of dynamic capabilities, which is often included in the definition of the concept. Teece et al. (1997: 516) created the framework "to address rapidly changing environments". Eisenhardt and Martin (2000) suggested that the dynamic capabilities were not only useful to respond to environmental changes, but also to trigger them. Zollo and Winter (2002: 340) focused on the "pursuit of improved effectiveness", while Zahra et al. (2006) considered the only purpose relevant was the one aligned with the decision maker(s)' desires. For Helfat et al. (2007), the main requirement is that the change resulting from the dynamic capabilities was "purposefully" generated.

As mentioned before, and as it is visible through the last paragraphs, several relevant definitions for dynamic capabilities were shaped by many authors. Bearing this analysis in mind and its underlying criticisms, Barreto (2010: 217) created a new definition for dynamic capabilities as an aggregate multidimensional construct, stating that "dynamic capability is the firm's potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base". Barreto (2010) subdivides the concept into four dimensions, completing Teece's (2007) two dimensions previously

mentioned – sensing opportunities and seizing them. Firstly, the *propensity to change its resource base* is in agreement with the majority of the previous definitions of dynamic capabilities (e.g., Eisenhardt and Martin, 2000; Helfat et al., 2007; Teece, 2007; Teece et al., 1997), focusing on the reconfiguration of the firms' resource base. Secondly, and in alignment with Teece's (2007) definition, the *propensity to sense opportunities and threats*, which ensures dynamic capabilities include a "capability monitoring" function, as noted by Barreto (2010). Thirdly, the author refers the *propensity to make timely decisions*, highlighting the importance of the decision-making timing in constantly changing environments, as previously mentioned in Teece et al.'s (1997) seminal work. And lastly, the *propensity to make market-oriented decisions*, stressing how equally important is the content and the timing of the decisions. It is important to note that Barreto's (2010) definition includes two decision-making propensities that had been considered pertinent by past studies (Barreto, 2010).

After analysis of the past and most recent research on dynamic capabilities, and bearing in mind the gradually changing environments in which firms must survive and succeed, one must conclude that the dynamic capabilities view is of great importance and will continue to be developed in the following years. The teaching case will illustrate the dynamic capabilities view and analyse the four dimensions using a real life case.

# TEACHING CASE

# 3

## **iQuit: HP in the Post-PC Era**

*Hewlett-Packard, one of the world's technology pioneers, number ten in the acclaimed Fortune 500 list<sup>1</sup>, managed to outperform the S&P 500 every year during 2005-2009 and conquer world leadership in the PC industry since 2007<sup>2</sup>. But 2010, when Apple's launched its record-breaking iPad, marked the beginning of a new, darker era for HP.*

*On August 18, 2011, despite being the world's leading PC maker<sup>3</sup>, the then CEO of HP Léo Apotheker announced that the company would be analysing "strategic alternatives" for the personal computers (PCs) business<sup>4</sup>. Simultaneously, he made known HP's decision to terminate the production of the recently launched tablet TouchPad and of any webOS devices, while acknowledging that "the tablet effect is real"<sup>5</sup>. The radical and rather incoherent strategic changes were widely disapproved by the market, costing HP a whopping \$12 billion in market capital, or 20%<sup>6</sup>, in just one day. The company ended the year with continually decreasing profits, the worst market performance in years (see Exhibit 1 and 2), a new CEO – the third since 2010 –, and its reputation, and future, at risk.*

### **The HP Way (1934 – 1999)**

It was a two-week camping trip in 1934 that marked the beginning of a beautiful and fruitful friendship between Bill Hewlett and Dave Packard, two electrical engineers who had just graduated from Stanford University. And, in 1938, they started to work together on several projects in a garage in Palo Alto, California – which later became known as the "birthplace of Silicon Valley"<sup>7</sup> – which led to the invention of HP's first product, HP Model 200A, the resistance-capacitance audio oscillator, used to test sound equipment. This would later result in an unexpected order from Walt Disney studio for eight oscillators for the movie "Fantasia"<sup>8</sup>. The company was on the rise, and the two friends decided to officialise Hewlett-Packard – one the most influential

companies of the 20th century – on January 1, 1939, later admitting that “the idea of having a business came before our invention of the audio oscillator”<sup>9</sup>.

In its beginning years, and after moving out of the garage, HP focused its business in several electronic products, including signal generators and frequency counters, in a time when, according to Bill Hewlett, “electronics became a big thing”<sup>10</sup>.

On November 6, 1957, with more than a thousand employees, HP held its initial public offering (IPO), with shares selling at \$16. Only five years later, with more than six thousand employees and \$110 million in revenues, the company was included in the Fortune 500 list, at 460<sup>11</sup>. In 1964, Dave Packard was named HP’s first CEO<sup>12</sup> and continued to lead the company through incredibly fast growth rates, both in headcount and revenues.

HP was living great innovative times, avoiding to be a “‘me too’ company merely copying products already on the market”<sup>13</sup>. In 1966, hitting groundbreaking territory, HP introduced its first computer, the HP 2116A. In 1968, the company presented the world’s first desktop scientific calculator, referred as the first “personal computer”, the HP 9100A, which cost just under \$5000<sup>14</sup>.

Soon after, in 1969, Dave Packard was appointed. U.S. Deputy Secretary of Defense and Bill Hewlett stepped in as CEO. After almost ten years behind HP’s steering wheel, Bill retired as CEO in 1978 and was succeeded by John Young, who had been with HP already for 20 years.

During the 40 years in front HP, Bill and Dave, the original "inventors in a garage", cared not only to produce innovative and unique products, but also to build a strong company culture unlike the hierarchy standards from their time. They strongly believed in empowering their employees and making them a part of the decision making process,

arguing that “they are going to be much more effective in implementing those decisions”<sup>15</sup> in which they were involved. This decentralized system became known as the “HP Way”, and it was visible in several pioneering practices, such as the distribution of large bonuses among all employees when the company’s productivity increased, tuition assistance, flex time, job sharing and others<sup>16</sup>. And the founder’s values clearly showed results: HP rapidly grew at a rate of nearly 20% a year for 50 years without any loss<sup>17</sup>, and ranked 7<sup>th</sup> in Fortune’s list of the 100 Best Companies to Work For in 1984<sup>18</sup>.

In the same year, HP gave the first steps in a business where it would become leader for years – printing. The company introduced its famous lines ThinkJet Printing and HP LaserJet, which rapidly became the world’s most popular personal desktop laser printer<sup>19</sup>. In 1988, it was time for HP’s DeskJet, the first mass-market inkjet printer<sup>20</sup>.

The company was living its golden years, with continuous astonishing developments in the printing and computing businesses. In 1991, HP reached revenues of \$14.5 billion, while employing 89.000 people all over the world<sup>21</sup>.

In 1992, John Young retired, opening way for Lew Platt, another veteran inside HP, to lead as CEO. Platt continued to break into new territory, by entering the home computing market in 1995.

The computing industry, where International Business Machines (IBM) had been the leader for years, was developing at fast pace and new powerful players – Dell and Compaq – and niche players – Apple Computer – were emerging.

IBM, the first big player in the computing industry, was the creator of the PC in 1981<sup>22</sup>. The “Big Blue” was, however, failing to rapidly respond to the appearing small players, risking its leading position in the industry. The continuously tumbling results forced the company to lay off numerous employees, and were leaving the market uncertain

about its future success, especially with rising companies such as Compaq and Dell.

In 1982, Compaq appeared as a pioneer in the market for PC clones, focusing on copying IBM's personal computer<sup>23</sup>. And the company soon transformed from follower to trendsetter, shipping a PC using Intel's 80386 chip a year before IBM in 1986<sup>24</sup>. However, the beginning of the new decade marked the changing point at Compaq, with results peaking in 1990, but plunging to a first time ever loss quarter just 6 months after<sup>25</sup>. New CEO, Eckhard Pfeiffer, focused on cutting costs and managed to lift the company to new highs, becoming the world leading PC maker by 1994, two years before his predictions<sup>26</sup>.

Compaq's archenemy was Michael Dell, a 19-year-old dropout college student, who started PC's Limited in 1984, because he perceived it as a "tremendous opportunity"<sup>27</sup>. The company we would later know as Dell, Inc. grew at an impressive 80% compounded in its first eight years<sup>28</sup>. Besides being one of the first companies to sell PCs by mail and phone, Dell soon became pioneer in user-customized systems and just-in-time production<sup>29</sup>.

Completing the market was Apple Computer, Inc., a niche player co-founded on April 1, 1976 by Steve Jobs, Steve Wozniak, a former HP employee, and Ron Wayne<sup>30</sup>. With less than 10% of market share<sup>31</sup>, the company known for its innovative operational system and high-end products was living difficult times after founder Steve Jobs was forced to leave the company in 1985.

By the middle of the decade, after Compaq arose as the world leading PC maker, most players were focused on following its winning strategy, the "Wintel" computer architecture – the combination of Microsoft Windows software and Intel chips<sup>32</sup>. But the quest for being the world's number one was not over for Compaq, which, in 1998, surprised analysts and investors by announcing it would acquire Digital Equipment

Corp, a former top player in the PC market, for a record amount of \$9.6 billion<sup>33</sup>. After buying Digital, Compaq became the second-greatest computer supplier overall, after IBM<sup>34</sup>.

Dell, continually trying to differentiate its offer, launched its online store in 1996, and, a mere six months later, Dell.com was generating \$1 million in sales per day.

HP, still the fifth PC maker at world level, was, however, the player experiencing the biggest market share growth, with an increase of 51,7% from 1995 to 1996, according to Dataquest<sup>35</sup>, escalating to world's number four in 1997<sup>36</sup>.

With Compaq, Dell and HP continuously gaining market share in PCs and servers, world's number two IBM began to focus and invest more on services, more precisely on e-services, promptly becoming a leader in e-business<sup>37</sup>.

In the meantime, Steve Jobs had returned to Apple in 1996 as a special advisor to the CEO, after the acquisition of NeXT, which he had founded in 1985, for \$425 million<sup>38</sup>. Shortly after his return, the company's board ousted the CEO Gil Amelio, leaving Jobs as interim CEO. While some competitors were observing Apple's activities attentively, others, like Dell, believed the company had had its glory days and it was time to "shut it down and give the money back to the shareholders"<sup>39</sup>. Steve Jobs duly answered with the launch of the iMac, Apple's smash-hit product that sold 278,000 units in just six weeks<sup>40</sup>.

### ***Carly Fiorina, the outsider (1999 – 2005)***

While competitors were making varied efforts to succeed and maintain or achieve the top spot, in the end of the decade HP was living subdued times under Platt. Revenue growth was slowing down to single digits and the company had missed earnings' estimates for several consecutive quarters<sup>41</sup>. "We had basically missed the Internet," said Jay Keyworth,

former science advisor to President Ronald Reagan and HP's board member since 1986<sup>42</sup>.

Consequently, in the summer of 1999, Carly Fiorina took over as CEO, becoming the first woman CEO of a Dow 30 company<sup>43</sup>. Fiorina, who had been named the most powerful woman in American Business by Fortune magazine the year before<sup>44</sup>, overcame the interim candidate Ann Livermore, head of HP'S software and services business<sup>45</sup>, and emerged as the first outsider at the wheel of the 60-year old technology giant.

The first main task of Fiorina, who had commanded successfully AT&T's spin-off and record-setting IPO of Lucent<sup>46</sup>, was to complete the spin-off of Agilent Technologies, which comprised HP's former measurement, components, chemical analysis and medical businesses<sup>47</sup>. Agilent's IPO was the largest in Silicon Valley history<sup>48</sup>. "It's the end of HP as we knew it, but the start of an exciting new chapter in our story"<sup>49</sup> were Carly's assuring words to HP's and Agilent's employees, wishing luck to the newborn company. By the end of the year, HP's market value was at \$92 billion<sup>50</sup>, with \$42 billion in revenues and around 84 thousand employees.

But for Carly Fiorina it was now time for HP to focus on its core businesses and restate its former glory; "no company in the world can beat us if we commit ourselves to HP's success"<sup>51</sup>, strongly affirmed the CEO. Fiorina believed that, in order to truly succeed, the company and its employees needed to go back to HP's cultural roots, leading to the creation of the "Rules of the Garage"<sup>52</sup> in 2000, a list of principles to live by for everyone at HP, which were:

- Believe you can change the world.
- Work quickly, keep the tools unlocked, work whenever.
- Know when to work alone and when to work together.
- Share—tools, ideas. Trust your colleagues.
- No politics. No bureaucracy. (These are ridiculous in a garage.)

- The customer defines a job well done.
- Radical ideas are not bad ideas.
- Invent different ways of working.
- Make a contribution every day. If it doesn't contribute, it doesn't leave the garage.
- Believe that together we can do anything.

Carly was rapidly raising attention, “rarely has a CEO been so closely identified with the image of a company and the hopes for its renewal”<sup>53</sup>, said Fortune magazine in 2001. However, HP’s underlying problems in the printing and PC businesses were becoming gradually more visible and, with the services and software representing only 17% of the company’s revenues in 2000<sup>54</sup>, the stock performance was continually falling. When confronted with the not so positive reality, Fiorina declared that “you're never as good as they say you are, and you're never as bad as they say you are. People want a quick and easy answer, and this is neither quick nor easy”<sup>55</sup>. But despite Fiorina’s efforts to regain market and analysts’ trust, Dell and IBM were becoming stronger and stronger, and the buzz around HP whispered only two possible solutions for the tech giant: either a paradigm-shifting deal, or a great increase in productivity in the existent businesses, to meet short-term estimates<sup>56</sup>.

In September 2001, continuing a strategy of bigger-is-better, Carly Fiorina announced what would be one of HP’s most controversial strategic moves and the largest deal in computer history: the merger with Compaq<sup>57</sup>, aimed at creating a market leader that would stop Dell’s growth. During the months of preparations – an estimated one million hours from HP’s and Compaq’s executives<sup>58</sup> –, an internal battle emerged between Walter Hewlett, William’s son, and Carly Fiorina. Walter, who had initially voted in favor of the deal, organized an open public campaign against it<sup>59</sup>. “None of us anticipated the conflict. Carly was characterized as someone who destroyed the soul of HP, and we were her willing accomplices”<sup>60</sup>, testimonies HP's personnel chief, Susan

Bowick, proving that Carly's position was backed by the majority of the board.

Nevertheless, the internal dispute was jeopardizing the deal – Compaq stock plunged 23% in just four months after the announcement in September<sup>61</sup>. Soon after, Carly Fiorina accomplished her goal, even if cleared with a mere three-point margin<sup>62</sup>, and finalized the 19\$ billion controversial merger. Only one year after, Fiorina surprised analysts and investors by announcing the company had already cut \$3.5 billion in annual costs<sup>63</sup>, a billion dollars more and a year earlier than promised, exceeding even the predictions of her supporters. However, after becoming the world's PC leader in 2002 with 16,2% market share<sup>64</sup>, the new HP quickly lost its number one position to Dell in 2003, which was responsible for 15% of the world's PC shipments, compared to HP's 14,3%, according to Gartner<sup>65</sup>.

Despite the bold move, Carly's plan for HP was starting to appear insufficient at the eyes of the industry. Notwithstanding the rising revenues (see Exhibit 3), HP's share performance was falling short of its competitors. Analysts and even competitors considered HP was trying to be present in too many businesses, and only the printing business was really compensating the efforts. Wall Street pressured Fiorina to break the company up, but the CEO persistently opposed to the idea<sup>66</sup>. In the words of *BusinessWeek* magazine, "the charismatic and determined CEO who set out to build a titan has now assumed a defensive posture and is working to keep her creation in one piece"<sup>67</sup>.

As HP's performance faltered, Carly Fiorina stood no longer as the most powerful woman American business, stepping out of her role as CEO on February 8, 2005<sup>68</sup>.

### ***Mark Hurd, the efficient (2005 – 2010)***

After Fiorina was waived of her duties by the board, Mark Hurd, an unknown CEO of an ATM manufacturer, NCR<sup>69</sup>, arose to the rescue of the fallen HP. He soon started to be labeled as the “anti-Carly”<sup>70</sup>, being described, in the words of DreamWork Animation’s CEO, Jeffrey Katzenberg, as “personally self-effacing, modest, unassuming, and, I dare say, shy”<sup>71</sup>. And according to *Fortune* magazine, “Hurd's brand of boring corporate-speak was exactly what a growing number of HP bulls were longing to hear”<sup>72</sup>.

Hurd, being a “peerless control freak”<sup>73</sup> and a numbers man, believed the best approach to solve HP’s problems was to focus on efficiency, leading a dramatic cost-cutting and accountability strategy. In fact, one of his first acts as CEO was to lay-off 10% of HP’s workforce.<sup>74</sup> His tough-love approach soon produced results, as Hurd was able to stabilize the tumbling company one year into his reign<sup>75</sup>.

However, after the calm came a new storm, and the “pretexting” boardroom scandal exploded in late 2006<sup>76</sup>. The chain of events began with several leaks in early 2005, regarding the board’s frustration with the Carly Fiorina's performance. Patricia Dunn, who became non-executive Chairman after Fiorina’s exit, started an investigation to root out the leaker. Dunn decided to outsource the investigation to security experts, who later recruited private investigators who engaged in “pretexting”, which consists of calling phone companies and impersonating directors seeking their own records<sup>77</sup>. This was done for all HP’s directors, also including nine journalists from noted newspapers such as *The Wall Street Journal* and *The New York Times*<sup>78</sup>.

Patricia Dunn told *Newsweek* in an interview that she knew that the investigators were getting the phone records but understood “it was all legal”<sup>79</sup>. After the leak, George Keyworth, was found, HP lost in total three directors: Keyworth; Tom Perkins, who resigned in protest; and

Patricia Dunn, who was asked to step out of her Chairman position.<sup>80</sup>"What began as an investigation with the best intentions has ended up turning in a direction we could not have possibly anticipated,"<sup>81</sup> were Mark Hurd's words concerning the public scandal in which he was not relevantly involved, promising to restore HP's ethical standards.

Adding to the negative press surrounding HP due to the "pretexting" incident, investors and analysts were starting to worry if Hurd would be capable to overcome the company's long-term internal and external challenges: HP not only had to deal with small-and-declining margins on computers and inconsistent results, but the company had also to figure out how to outperform Dell and IBM, its biggest competitors<sup>82</sup>.

By now, IBM had successfully sold its PC business to Lenovo Group Limited, the leading PC brand in China and across Asia<sup>83</sup>, and decidedly focused on services, with the acquisition of PricewaterhouseCoopers' global business consulting and technology services business unit, PwC Consulting, for \$3.5 billion in 2002<sup>84</sup>. "HP has moved down-market, not up," were the lighthearted words of Steven Mills, IBM's group executive for software<sup>85</sup>.

Meanwhile, Steve Job's innovative ideas had managed to turn Apple into the most admired company in America<sup>86</sup> by 2008. With the launch of the first version of the iPod in 2001<sup>87</sup> and the inauguration of the iTunes Music Store in 2003, Apple redefined the music industry<sup>88</sup>. With the launch of the iPhone in 2007<sup>89</sup>, Jobs managed not only to upstage an established lead player, Research in Motion, but also to create a demand for other smartphones, which skyrocketed Apple into the limelight of innovation.

Dell, on the other hand, had established itself as a case study for efficiency. The company managed to become extremely lean and incentive its suppliers to replicate its just-in-time strategy<sup>90</sup>. Contrarily

to its competitors, Dell produced all its goods in national territory, and its direct distribution channels resulted in a rare negative cash-conversion cycle<sup>91</sup>. However, problems in the company's results made Michael Dell, who had retired as CEO of Dell in 2004, return to the top position in 2007 to rescue the company<sup>92</sup>. Later, Dell acknowledged that, following the steps of IBM and HP, he should have diversified sooner, "but we looked out and saw that we could grow from \$5 billion to \$10 billion to \$15, then \$30 billion"<sup>93</sup> based only on computers.

Taking advantage of Dell's recent situation, Hurd's cost-cutting efforts finally managed to re-establish HP, by now the 14<sup>th</sup> on the Fortune 500 list<sup>94</sup>, as the world's leading PC maker in 2007<sup>95</sup>. HP's PC business had seen an impressive turnaround, not only in market share, both in the consumer and corporate segments, but also in profitability, with operating margins surpassing 5%, making it the second most profitable in the world, after Apple's<sup>96</sup>.

Mark Hurd's ruling code, "it's the company first, the employees second, and you're last,"<sup>97</sup>, seemed to be working. In just three years, he managed to not only bring HP back to life, but to take it to unprecedented levels, as the company dethroned IBM as the biggest tech company in the world, with \$104 billion in revenues and 172 thousand employees in 2007<sup>98</sup>.

Continually trying to become a stronger competitor to IBM, Hurd announced in May 2008 that HP was to buy EDS – Electronic Data Systems – for \$13,9 billion, which would be the largest acquisition by value in the IT services sector and the second largest in the technology industry, following HP's earlier acquisition of Compaq<sup>99</sup>. Despite the negative feedback from most investors, mostly due to EDS's current bad performances, the CEO calmly stated "I already know the math, this work will get done"<sup>100</sup>. And his confidence paid off: he managed to successfully apply his efficiency strategy to EDS, and later, during the

2008 financial crisis, HP profited from the fact that tech-consulting businesses were countercyclical<sup>101</sup>. In fact, Mark Hurd confidently affirmed in a conference call with investors in late 2008 that "great companies excel in tough times, and in tough times customers turn to great companies"<sup>102</sup>.

Nevertheless, market insiders were apprehensive regarding Hurd's efficiency strategy and its long-term consequences. Since his debut as HP's CEO, and continuing Fiorina's actions, Hurd had cut R&D expenditures into half (see Exhibit 4). "The religion of efficiency has a dark, dark side,"<sup>103</sup> said Michael Tushman, a Harvard Business School professor whose research had highlighted the limitations of prioritizing operations to innovation. "For too many general managers, the certainty of today trumps the uncertainty of the future"<sup>104</sup>.

In fact, Steve Job's groundbreaking strategy was once again showing incredible results. In March 2010, Apple introduced its touchscreen tablet, the iPad. "This will be the most important thing I've ever done", declared Steve Jobs<sup>105</sup>. The device caused mixed reactions: while some observers portrayed it as "an overgrown iPod Touch"<sup>106</sup> and Google's executive chairman Eric Schmidt asked for "the difference between a large phone and a tablet"<sup>107</sup>, others strongly trusted that the iPad was going to revolutionize the tablet PCs market. The *Wall Street Journal* believed it had "potential to change portable computing profoundly, and to challenge the primacy of the laptop"<sup>108</sup>; the *Chicago Sun Times* wondered "if any other company is as committed to invention as Apple"<sup>109</sup>; *USA Today* predicted that "the iPad will likely drum up mass-market interest in tablet computing in ways that long-time tablet visionary and Microsoft co-founder Bill Gates could only dream of"<sup>110</sup>; "this is big, and it's going to change the computer industry" was the opinion of Jen-Hsun Huang, CEO of chipmaker Nvidia<sup>111</sup>. More conservatively, *The New York Times* confirmed what many experts were

saying: “the iPad is not a laptop. It’s not nearly as good for creating stuff”<sup>112</sup>. But the newspaper rapidly added that it was “infinitely more convenient for consuming it”<sup>113</sup>. At the eyes of most technology experts, Apple’s pioneering user-friendly tablet was an overall winner. And the numbers confirmed: the company sold two million iPads in less than 60 days<sup>114</sup>. It was the beginning of the rise of a “post-PC” world, characterized by constant connection and mobility.

Inside HP, many believed tablets to be a “terrific complementary device” but that “if you’re sending Junior off to college, the first computing product needed for homework is a PC,”<sup>115</sup> as the general manager of HP’s personal computer global business unit, James Mouton, put it, emphasizing the idea that PCs were still highly necessary, specially for content creation and edition. Nonetheless, while discarding the idea that HP was behind Apple, Phill McKinney, HP’s CTO, reminded that HP already had thought of a product between a phone and a PC a few years, but the technology necessary, like touchscreens and low-power processors, was not yet available<sup>116</sup>.

A little more than a month after the iPad’s launch, HP announced a new strategic acquisition – the struggling smartphone maker and WebOs creator Palm – for \$1.2 billion<sup>117</sup>. Emerging as Palm’s much needed saviour, HP trusted that the combination of its “global scale and financial strength with Palm’s unparalleled webOS platform will enhance HP’s ability to participate more aggressively in the fast-growing, highly profitable smartphone and connected mobile device markets”<sup>118</sup>. Todd Bradley declared, enthusiastically, that “the smartphone market is large, profitable and rapidly growing, and companies that can provide an integrated device and experience command a higher share”<sup>119</sup>. Nevertheless, most analysts, as HP, believed that Palm’s real value was in its operating system, WebOS. In Mark Hurd’s somewhat surprising words, HP “didn’t buy Palm to be in the smartphone business. We

bought it for the IP”<sup>120</sup>. And specialists believed this deal gave HP the necessary weapons to respond adequately to Apple’s popular iPhone and iPad.

However, in August of 2010, Hurd’s former promise for quieter and more ethical days was broken when the tech company was once again in the media headlines. This time, the topic was Mark Hurd’s resignation, due a sexual harassment claim made by reality TV and soft-core pornography actress Jodie Fisher, who worked as an outside contractor for HP<sup>121</sup>. Though there was no violation of the company’s sexual harassment policy, HP’s board forced Hurd to resign, because an internal investigation had concluded that the CEO had indeed broken HP’s standards of business conduct: Hurd had filed false expense reports, amounting to about \$20,000<sup>122</sup>. Some speculated that the decision was also based on the board’s fear that the details of Ms. Fisher’s allegations could later cause more damage to the company’s reputation<sup>123</sup>. Larry Ellison, Oracle’s CEO and Hurd’s long time friend, wrote to The New York Times that “the HP board just made the worst personnel decision since the idiots on the Apple board fired Steve Jobs many years ago”.<sup>124</sup>

### ***Léo Apotheker, the incoherent (2010 – 2011)***

Mark Hurd’s shoes were not going to be easy to fill. In fact, *The New York Times* affirmed “Mr. Hurd pulled off one of the great rescue missions in American corporate history, refocusing the strife-ridden company and leading it to five years of revenue gains and a stock that soared 130 percent”<sup>125</sup> (see Exhibit 5).

And this job belonged to Léo Apotheker, former CEO of SAP, one of Germany’s largest companies and Oracle’s tough competitor<sup>126</sup>, which was widely seen as a sign that HP would focus on software. Apotheker, a German-born Jew whose Polish parents escaped the Nazis<sup>127</sup>, took over the top job at HP, by then valued at \$93 billion, on November 1, soon

after HP's quiet launch of the Slate 500, a business-focused tablet based on Windows 7<sup>128</sup>, which was quickly forgotten.

Apotheker expressed that his strategy was far different from the one carried out by his predecessor. He believed "HP had lost its soul"<sup>129</sup> and he was going to retrieve it by expanding the company's higher-margin software business, mainly through acquisitions, and by reviving HP's emphasis on innovation and product quality<sup>130</sup>. "HP is not just any other company. There's a history behind us: the HP way"<sup>131</sup>, said Apotheker in an interview with InfoWorld, adding that HP was "a company that hasn't done a very good job in selling itself"<sup>132</sup>. In fact, many analysts and even employees agreed with Apotheker, in the extent that HP needed to revive its founding principles, "The HP Way", focused on a great community involvement and on a strong egalitarian focus – which was somewhat put on hold by former CEOs Fiorina and Hurd – and aggressively reinvest in R&D to guarantee that the company would return to its differentiating competencies: the user-focused innovation and the unique company culture.

The new CEO, known as the "polar bear" by former SAP colleagues, as he was "solitary, approachable-looking, but deadly if crossed"<sup>133</sup>, was ready to rectify that situation. In March 2011, he finally disclosed his strategy for HP: the cloud, a term used to describe products and services delivered online<sup>134</sup>, which Gartner believed would be a \$150 billion market by 2014<sup>135</sup>. Despite strongly affirming that the company was "not playing catch-up to anyone, particularly IBM"<sup>136</sup>, it was clear that HP had a challenging job ahead, as there were already several established players, such as IBM, Oracle and SAP, both in software and in cloud services.

"Yes, HP is strong, but we also recognize that the world around us is changing faster than ever"<sup>137</sup> admitted Apotheker. And it was, indeed, as, in the same month, Apple was releasing its new iPad 2. "We're here

to talk about Apple's third post-PC blockbuster product. We started with the iPod, then we added the iPhone, and then the iPad. Every one has been a blockbuster” were the confident words of a fragile but vigorous Steve Jobs<sup>138</sup>. Additionally, Jobs gave an advice to Apple’s competitors: “our competitors are looking at this like it's the next PC market. That is not the right approach to this. These are post-PC devices that need to be easier to use than a PC, more intuitive. The hardware and software need to intertwine more than they do on a PC. We think we're on the right path with this”<sup>139</sup>. In fact, Apple had just sold its 100 millionth iPhone, and three months later, the company announced iPad sales of 9.25 million in the ending quarter<sup>140</sup>. Meanwhile, Apple’s market value was escalating to an all time high, and analysts were reducing PC sales estimates with the fear of iPad cannibalization (See Exhibit 6).

Days before the announcement of second fiscal quarter results, a memo from HP’s CEO to ten senior executives was leaked into the press, disclosing Apotheker’s concerns with the company’s costs and the need to rapidly boost sales<sup>141</sup>. It would be “another tough quarter”, he said, alarming the investors<sup>142</sup>. Later, Apotheker announced second-quarter revenue growth, with PCs still representing the biggest segment, and software being a mere 2% of revenues (see Exhibit 7). Nevertheless, the CEO saw himself in the need to lower the revenues’ forecast for the fiscal year, blaming mostly the Japanese earthquake and the anaemic U.S. PC market<sup>143</sup>. To this, the market reacted with a 7.3%<sup>144</sup> drop, resulting in a \$73 billion market capitalization.

Meanwhile, Michael Dell, trying to avoid direct competition with so far unbeatable Apple, proudly flaunted the results of Dell’s diversification, announcing that “Dell today is a very different company than Dell five years ago. Two-thirds of our margins and profits come from the non-PC business”<sup>145</sup>.

In a need to be a part of what many analysts were no longer calling a tablet market, but an “iPad market”<sup>146</sup>, HP announced the launch date of its much awaited TouchPad, the company’s first WebOS based tablet: the device would hit U.S stores on July 1<sup>147</sup>. Many experts, believing the device had potential for competing with the iPad, praised the TouchPad after its announcement back in February. Unlike most of its competitors, such as Samsung, Motorola and RIM, HP hadn’t rush into the tablet market and had taken the time to build a stronger and more finished version of the device. Or so they thought. Upon launch, experts realized the TouchPad had an absurd amount of bugs and a short number of relevant apps available<sup>148</sup>, with a total of 6.200 WebOS apps, only 70% of which available for the tablet, comparing with 425.000 total apps for the iPad and 200.000 for Android tablets<sup>149</sup>. Offered at the same price as the iPad, the TouchPad had the same screen size as Apple’s device, but many believed it was built still in the time of the first iPad, as it was covered in black plastic, was 13,7 mm thick and weighted 740 grams, being clearly bigger than the iPad 2<sup>150</sup>. It had a camera on the front of the tablet and had a great audio system. But the most positive aspect was undoubtedly its WebOS, simple and user friendly as Apple’s iOS (see Exhibit 8). “This tablet bears the burden of great potential; it’ll be a real shame if it turns out to be nothing more than yet another unsatisfying, unfinished iPad alternative,”<sup>151</sup> were the strong supportive words of *Time* magazine. Others, though, did not consider the unfinished and unsatisfactory TouchPad to be a threat to the iPad in any way.

Regardless, HP was confident about its product, as one can see from the words of HP’s European head, Eric Cador, who affirmed that “in the PC world, with fewer ways of differentiating HP’s products from our competitors, we became number one; in the tablet world we’re going to become better than number one. We call it number one plus,”<sup>152</sup> promising to dethrone the iPad from its number one spot. More

conservatively, Apotheker admitted it was going to be a “marathon, not a sprint”<sup>153</sup> to overtake Apple and its iPad. “Right now the tablet business is basically iPad. In the early ’80s, there was one PC company, Apple. Five years later the market changed completely,”<sup>154</sup> said Apotheker, insinuating that HP was ready to start changing the tablet market.

However, HP rapidly succumbed to the pressure for better results and dropped the tablet’s price by 20% little more than a month after it went on sale<sup>155</sup>, proving that, as an analyst at Creative Strategies, Tim Bjarin, had greatly put it, “there’s an iPad market, and then there’s everyone else”<sup>156</sup>.

But the breaking point came when, in August 18, Léo Apotheker announced to the world that HP was terminating the production of its tablets and smartphones and potentially preparing to leave the PC market altogether, as the company was studying alternatives for its Personal Systems Group (PSG)<sup>157</sup>. Surprising, to say the least, as the CEO had affirmed just four months before that HP was “committed to the PC business. It’s a great business for us to be in, we enjoy a strong position there. We are the number one in that business”<sup>158</sup>.

Everyone was mesmerized by the world’s leading PC maker’s drastic and, at first sight, somewhat irrational and incoherent decision. “If there’s a notch on the technology timeline demarcating the PC and post-PC eras, we might have just crossed it”, wrote the San Francisco Chronicle<sup>159</sup>. “Pioneering Firm Bows to ‘Post-PC World’”, headlined the Wall Street Journal<sup>160</sup>. Former HP director Thomas Perkins told The New York Times “I didn’t know there was such a thing as corporate suicide, but now we know that there is. It’s just astonishing”<sup>161</sup>. Phil McKinney later wrote a book where he declared that “this is an example of not committing long term to the resources and not having patience for innovation, and I’m disappointed that HP made that decision”<sup>162</sup>.

Steve Jobs' words were spot on when he said back in 2010 that "we like to talk about the post-PC era, but when it really starts to happen, it's uncomfortable"<sup>163</sup>. And "uncomfortable" did not even start to describe HP's position.

While announcing the end of the TouchPad just six weeks after its launch, Apotheker's words only strengthened the idea of a post-PC era, recognizing that "consumers are changing the use of their PC. The tablet effect is real and sales of the TouchPad are not meeting our expectations."<sup>164</sup> But then why was HP exiting the tablet market if "the tablet effect" was indeed real? Simply because it was not "the tablet effect", it was "the iPad effect". Even Ray Lane, HP's Chairman, candidly admitted that the TouchPad was "a generation behind" the iPad<sup>165</sup>. The company was clearly suffering the consequences of several years of divesting from R&D activities in a search for better performance, pioneered by Fiorina, and later taken to an extreme level by Hurd, which led to the downfall of HP's long acclaimed reputation of being an innovative company. And Apotheker had just killed the last bit of innovation left in HP. In other words: "Apple, you win".

And as HP bowed to its long time innovative competitor, others, such as Michael Dell, rejoiced to their luck. "If HP spins off their PC business," Mr. Dell sarcastically tweeted, "Maybe they will call it Compaq?"<sup>166</sup>. Ironically, one of his followers reminded him that the "last time [he] made fun of another company (Apple), they ended up being worth 13 times as much as [his]"<sup>167</sup>. Direct competitors, such as Dell and Samsung, clearly stated they were not interested in buying HP's PC business, hinting that this would not be a successful acquisition as IBM's and Lenovo's case back in 2005. Moreover, the company affirmed that they preferred "a spinoff as a separate company", as it would benefit "HP's shareholders, customers and employees"<sup>168</sup>.

As HP said goodbye to tablets and PCs, it focused on competing with giants like IBM and Oracle in software and data services. “Apple and IBM both resurrected themselves in recent years, but each did it in opposite ways. The Apple plan didn’t work for HP, Apotheker decided. He now clearly believes the IBM plan will,” cleverly wrote TechCrunch<sup>169</sup>. One groundbreaking product from its pioneering competitor was enough to send HP’s consumer focus up a blind alley. And Apotheker’s first step in HP’s new direction would be the acquisition of UK-based Autonomy, a global infrastructure software company, for \$10.2 billion<sup>170</sup>. “Autonomy presents an opportunity to accelerate our strategic vision to decisively and profitably lead a large and growing space,” explained Léo Apotheker<sup>171</sup>, but the majority of analysts considered the deal to be overpriced. In fact, even Cathie Lesjak, HP’s veteran and current CFO, advised Apotheker against the acquisition, saying it was too expensive and the company was not ready for it<sup>172</sup>.

The revelation of Apotheker’s new plans for the Silicon Valley’s company was clearly not well received by the market, as the company’s stock plummeted 20% in the next day, costing HP an astonishing \$12 billion in market value, to \$48.9 billion, and several downgrades by analysts<sup>173</sup>. HP’s shares were back to July 2005’s levels, a value lower than at any moment during the financial crisis<sup>174</sup> (see Exhibits 1 and 5).

After a few days of HP’s major news, Apple’s innovative co-founder and CEO Steve Jobs resigned, as he “could no longer meet [his] duties and expectations as Apple’s CEO”<sup>175</sup> due his publicly disclosed health problems. Tim Cook would replace him, with Job’s strong recommendation<sup>176</sup>. The news caused Apple’s stock to stumble around 5%<sup>177</sup>, still having an incredible market capitalization of \$349 billion<sup>178</sup>, the second biggest in the world.

Following the disclosure of HP’s future path and consequent discontinuation of the TouchPad, the company was selling the tablet,

initially priced at \$499, for only \$99, and announced they would produce one last run of the product “to meet unfulfilled demand”<sup>179</sup>, which market insiders believed was a poor excuse to cover suppliers’ component overload<sup>180</sup>.

Less than a year after the beginning of his journey as HP’s top man, Léo Apotheker stepped down of his leading role on September 22<sup>181</sup>. Under his control, HP’s market value was cut almost into half<sup>182</sup> (see Exhibit 5), as the company was characterized by contradictory strategic shifts: the TouchPad was quickly killed after launch; and the company announced that the world leading PC business would be spun off.

Shockingly, after Apotheker’s departure, HP’s board confessed that the former CEO was chosen without the directors meeting him in person, justifying that they were “too exhausted from all the infighting”<sup>183</sup>. “Among the finalists, he was the best of a very unattractive group,” one director admitted<sup>184</sup>. And clearly the best was not good enough.

### ***Meg Whitman, the saviour? (2011 – 2012)***

While announcing HP’s fourth quarter results, Meg Whitman, former eBay CEO and the new HP’s leader, resorted to a well known three-part formula to deal with troubled companies: she acknowledged the past mistakes, she declared that HP’s resurgence would take time, and she commended on the company’s achievements and expressed her enthusiasm in leading such legendary firm, now with over than 324 thousand employees<sup>185</sup>. “We need to get back to putting our heads down, getting out of the news cycle and reducing the drama here”<sup>186</sup>, said Meg Whitman. As a consequence of past mistakes, the new CEO presented the results of Apotheker’s “wind down of HP’s webOS device business”, which cost HP \$3.3 billion<sup>187</sup>, a number 2.5 times higher than the amount the company originally paid to acquire Palm in 2010. This figure also included the \$142 million loss incurred from selling TouchPads at heavily discounted prices.

To investors' concern, Whitman promptly announced that the company would keep the strategies begun by Apotheker<sup>188</sup>. She added that HP would "make a decision as fast as we possibly can"<sup>189</sup> concerning the fate of its PC business. In fact, a mere month after taking over, Whitman soothed investors by announcing that HP was keeping its PC division after all<sup>190</sup>, which was the first repudiation of Léo Apotheker's strategy. "As a board member, I supported the idea of exploring strategic options. When I came on as CEO, I asked for a really data-driven analysis. And the math was very compelling on this. The costs to separate were far greater than the costs to remain together,"<sup>191</sup> explained Whitman. Supporting her decision, Todd Bradley, HP's executive vice president and responsible for the Personal Systems Group, laughed while saying that "everyone always says the PC business is really hard. I'm anxious to find a business that's easy, because I'm ready to sign up"<sup>192</sup>.

Nevertheless, investors remained concerned about Whitman's lack of experience in running a hardware and software company. "She doesn't have the background to turn around HP", declared Shaw Wu, an analyst at Sterne, Agee & Leach Inc., to Bloomberg<sup>193</sup>. And once again, the new CEO was chosen by the same board that had erroneously named Apotheker CEO one year earlier, leaving the market apprehensive on the quality of its choices<sup>194</sup>. "To some people, it appears hasty and premature. It appears investor confidence in the board is very low" where the worried words of Toni Sacconaghi, analyst at Bernstein Research<sup>195</sup>.

After acknowledging that "Apple may overtake HP in 2012", the CEO rapidly added that "we are trying to become champions again in 2013"<sup>196</sup>, disclosing plans for returning to the market of WebOS software and for launching a tablet based on the much anticipated Microsoft Windows 8<sup>197</sup>.

### ***HP: Help, Please***

Like most technology companies, HP had a good start of the year. In February, Meg Whitman was confidently proclaiming that HP had its “swagger back”<sup>198</sup>, after the launch of the Z<sub>1</sub> workstation<sup>199</sup>. But that soon changed, when the company released its first fiscal quarter results, with profits plunging 44% and revenues falling 7%<sup>200</sup>. “Frankly, it was a tough quarter and every business had its challenges,” said Ms. Whitman, who had managed to raise HP’s shares by more than 20% since she had taken over<sup>201</sup>.

Apple, on the other hand, announced incredible 2011 results in the beginning of March. Proclaiming the new iPad as “the poster-child” for a “post-PC world”<sup>202</sup>, Tim Cook disclosed that now 76% of the company’s revenues came from post-PC devices, as Apple sold 172 million iPads, iPhones and iPods in 2011<sup>203</sup>. Cook also revealed that the iPad sales managed to surpass PC sales of each of the big players - HP, Lenovo, Dell and Acer<sup>204</sup>. By the end of the month, Apple’s shares had hit highest-ever levels, at a whopping \$559 billion market value (see Exhibit 9).

Apple’s results just confirmed what many analysts were saying: the tablets were here to stay. After exceeding analysts’ expectations for the last quarter of 2011, tablet sales were expected to reach around 109 million units for 2012, from which around 63,5 million would be iPads (see Exhibit 10). Several analysts also highlighted that the PC was not dead, and, similarly to 2007 with the netbooks, the market would experience a boom with the introduction of ultrabook laptops, pioneered by Apple’s Macbook Air<sup>205</sup>. In fact, according to IHS iSuppli, by 2015, ultrabook sales would represent 43% of total notebook sales, with 136,5 million units sold<sup>206</sup>. However, only one million ultrabooks were sold in 2011<sup>207</sup>.

In an attempt to reorganize the company, HP announced the merger of its two main business units, the Personal Systems Group and the Imaging and Printing Group, and the centralization of marketing, communications, and major account sales inside the rest of company<sup>208</sup>. Together, the businesses represented \$65 billion in yearly revenue, around 50% of HP's sales<sup>209</sup>, and would be led by current PSG director Todd Bradley<sup>210</sup>. This was not a new change for HP, as Carly Fiorina had already combined the two businesses, which Mark Hurd undid six months later<sup>211</sup>. For most analysts, this was not a game-changer move, and investors weren't "buying it"<sup>212</sup>, with HP's stock continuing to fall.

By now, HP was the biggest loser in the Dow Jones since the beginning of the year<sup>213</sup>. Compared to its closer competitors, HP was tumbling around 4%, while Dell and IBM were rising 10% and 12%, respectively and Apple was flying at around 50% (See Exhibit 11). In the meantime, reports from the last quarter of 2011 showed that Asian Lenovo was experiencing rapid growth, profiting from higher exposure to less-developed economies, and managed to establish itself as the second biggest world PC maker, with 14% market share, surpassing Dell and getting closer to HP<sup>214</sup>.

"I am increasingly confident and optimistic about what we're doing," were Meg Whitman's optimistic words<sup>215</sup>. Despite applauding the effort to focus on higher-margin businesses and to return to innovation, gradually more worried analysts were wondering: would the CEO be able of a company turnaround like HP was requiring, in order to compete with giants like Apple and IBM, and the fast growing Lenovo, and in new steeply emerging markets, like the tablets? Or was it time for HP, Fortune 500's number 10<sup>216</sup> and the world's largest IT company<sup>217</sup> valued at \$44 billion (see Exhibit 5), to pack up and go back to the garage?

### Exhibits

#### Exhibit 1 – HP’s Stock Performance (1978 – 2012)



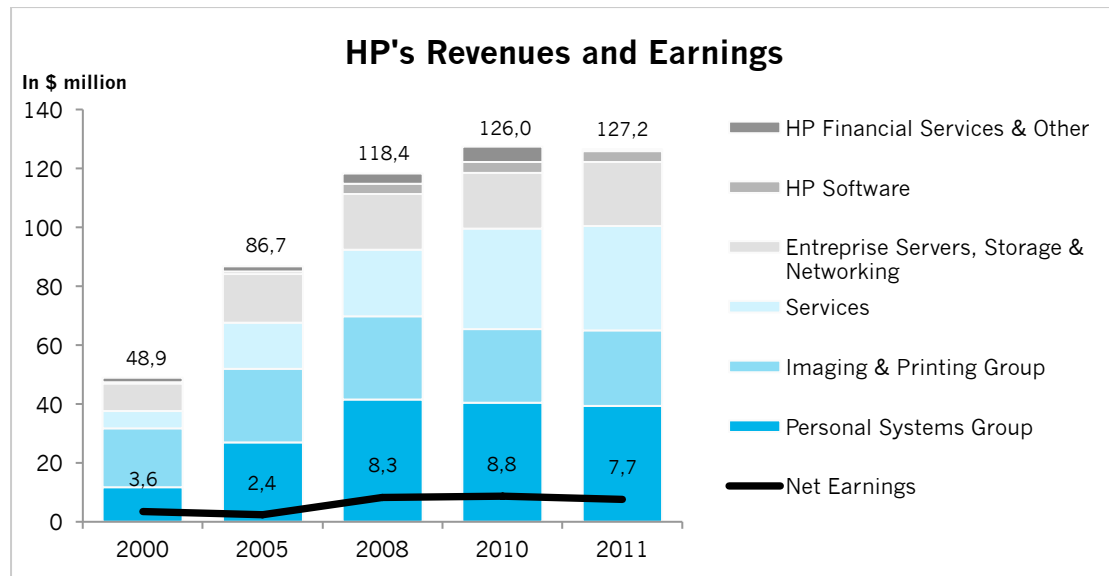
Source: Google Finance

#### Exhibit 2 – HP’s Stock Performance compared with S&P 500 and Dow Jones (2007 – 2012)



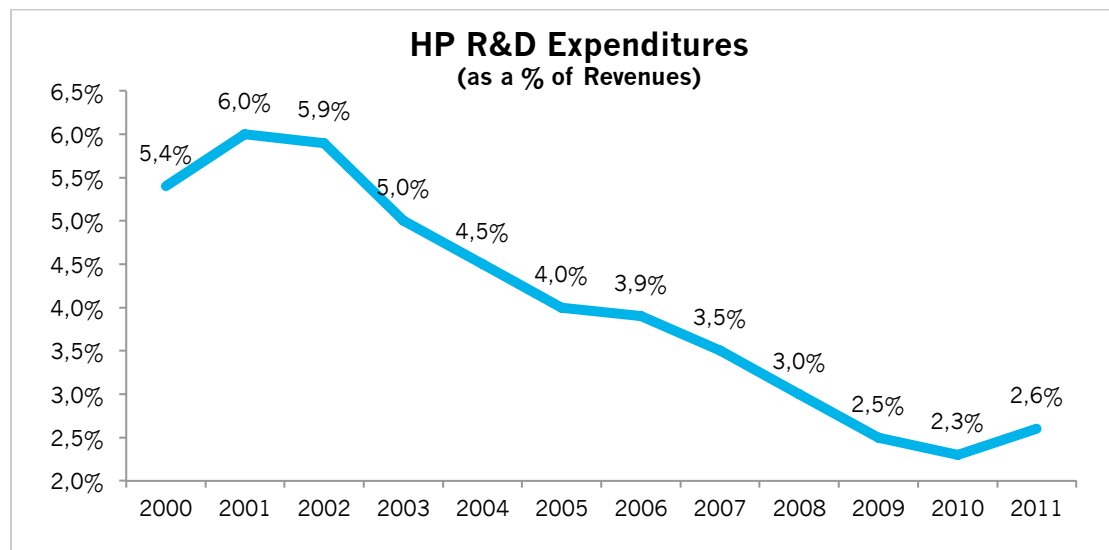
Source: Google Finance

**Exhibit 3 – HP’s Revenues per Segment and Earnings (2000 – 2011)**



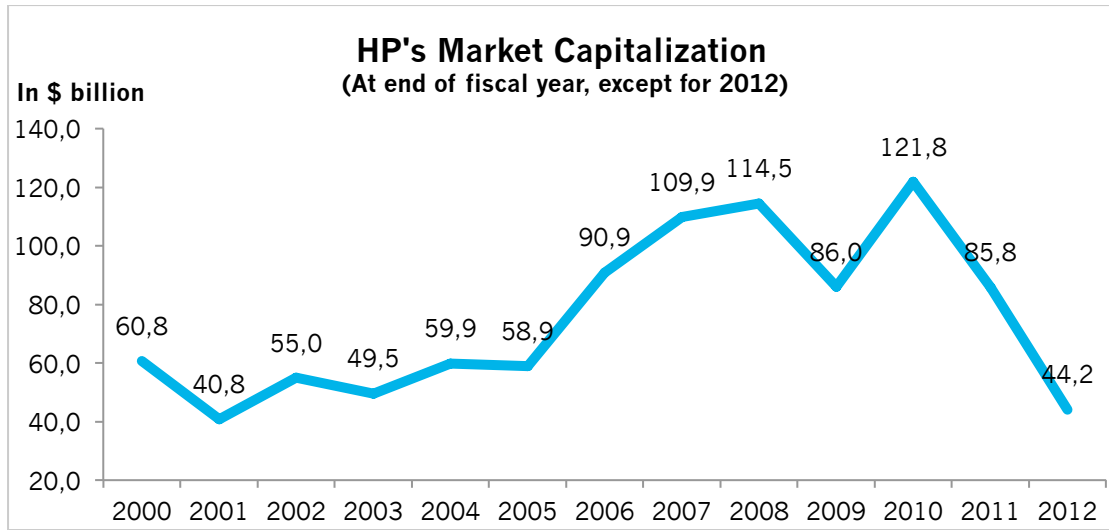
Source: HP’s Annual Reports

**Exhibit 4 – HP R&D Expenditures (2000 – 2011)**



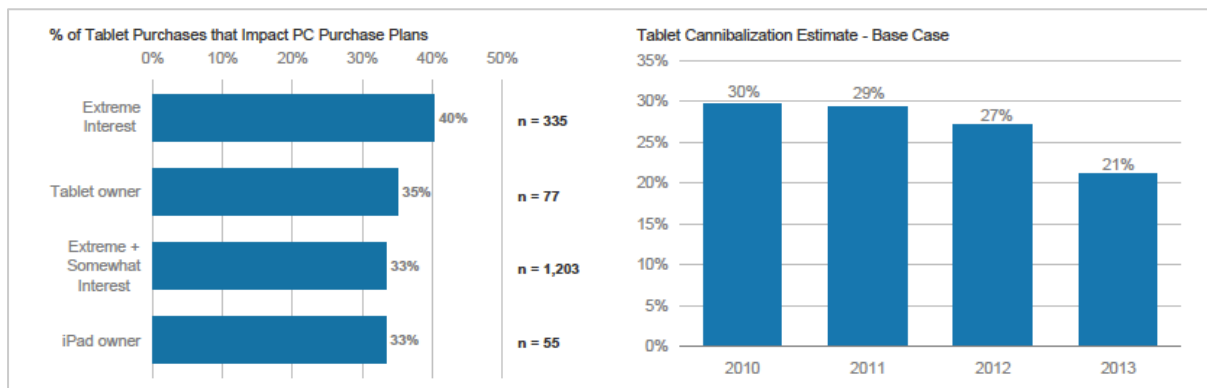
Source: HP Annual Reports

**Exhibit 5** – HP’s Market Capitalization (2000 – 2012)



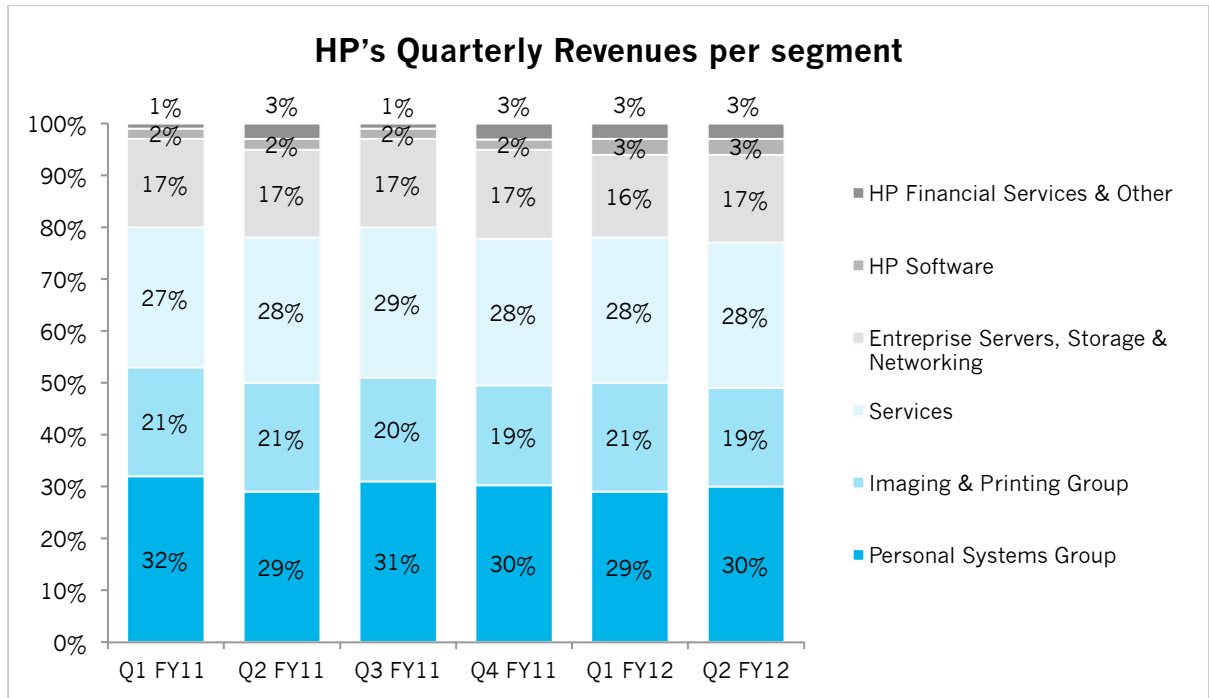
Source: HP’s 10K SEC filings and Google Finance

**Exhibit 6** – Cannibalization effect of Tablets on PC Sales



Source: Morgan Stanley Research (Tablet Demand and Disruption, February 14, 2011)

**Exhibit 7** – HP’s Quarterly Revenues per Segment (2011 – 2012)



Source: HP’s Quarterly Results Presentations

**Exhibit 8** – Tablet Comparison: iPad 2 vs TouchPad

**Apple iPad 2**



**HP TouchPad**



Platform	iOS 4.3	WebOS 3.0
Display	9.7-inch IPS LCD	9.7-inch LCD
Resolution	1024x768	1024x768
Memory	512 MB RAM	1 GB RAM
Storage	16 GB   32 GB   64 GB	16GB   32GB
Front Camera	VGA	1.3 megapixel
Rear Camera	720p/ 30 fps video	None
Battery	25 Wh	6,300 mAh
Thickness	8.8 mm	13.7 mm
Weight	601g to 613g	740g
Price	From \$499	From \$499

Source: Apple’s and HP’s websites

**Exhibit 9** – Apple's Stock Performance (2000 – 2012)

Source: Google Finance

**Exhibit 10** – Tablet Market and iPad 2012 Estimations**Global Tablet Market 2012**

<b>Analyst</b>	<b>2012 Estimations (in millions)</b>
Jeffries	158,00
RBC Capital	83,78
Digitimes Research	100,00
Gartner	103,50
IDC	106,10
IHS	123,50
Informa	100,00
TrendForce	94,40
<b>AVERAGE</b>	<b>108,66</b>

**Global iPad Shipments 2012**

<b>Analyst</b>	<b>2012 Estimations (in millions)</b>
Barclays Capital	51,00
Jeffries	65,00
Citi	70,00
Deutsche Bank	60,00
Gartner	69,00
Goldman Sachs	53,40
IDC	58,00
IHS	75,30
IMS Research	70,00
Informa	62,50

J. P. Morgan	55,70
Merril Lynch BofA	60,00
Morgan Stanley	81,00
TrendForce	58,60
<b>AVERAGE</b>	<b>63,54</b>

Source: Forbes.com (<http://www.forbes.com/sites/sap/2012/03/28/ipad-and-tablet-market-forecasts-for-2012-and-beyond-charts/>, accessed on 09/04/12 18:07)

### Exhibit 11 – HP's Stock Performance compared with Apple's, Dell's and IBM's in 2012



Source: Google Finance

## Endnotes

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# TEACHING NOTE

# 4

## *Synopsis*

This case analyses the impact of a technological exogenous shock on Hewlett-Packard, a 73-year old company that is the world's largest IT company and the global leading PC maker, but that has been struggling since the launch of Apple's iPad. For the past two years, the technology giant has been living in a whirlwind of scandals, contradictory and ever changing strategic options, new CEOs and sinking revenues and market value. This case allows the reader to clearly understand each CEO's point of view on how to lead HP and how their choices and actions affected the company's fate.

The first part of the case focuses on explaining HP's early years and the visions of founders Bill Hewlett and Dave Packard. The company, founded in 1939, broke standards when it came to innovation and corporate culture, as the founders highly believed in a great community involvement and in a strong egalitarian organization. By the '80s, HP was starting to establish itself in business segments where it would later become world leader: printing and personal computers.

The following part describes HP's period under its first outsider CEO, Carly Fiorina. Realizing that most competitors were outperforming HP in the PC business, Fiorina announced one of the most dramatic and controversial mergers in tech history, between HP and Compaq, in an effort to create a market leader to face Dell's rapid growth. The complicated merger did manage to bring HP to the top spot in world computer making in 2002, but the company rapidly lost its position to Dell once again. As HP's performance was stumbling, Fiorina was forced to resign.

The third part explains how Mark Hurd rose as HP's saviour from 2005 to 2010, lifting the company and more than doubling its market capitalization under his leadership. By highly focusing on efficiency through cutting costs, the CEO managed to transform HP into the world

leading PC maker. In 2010, after the incredibly successful launch of Apple's tablet, the iPad, Hurd announced that HP would be acquiring the dying Palm, in order to strengthen its presence in the mobile devices with Palm's experience and its innovative WebOS. Soon after, Mark Hurd resigned as HP's CEO due to a sexual harassment scandal.

The succeeding section portrays HP's darkest days, under German CEO Léo Apotheker. Despite his efforts to establish HP's path to brighter days in the cloud, the former SAP CEO shocked everyone by announcing in August 2011 that HP's was not only terminating its newborn tablet TouchPad and the WebOS, but it was also leaving the PC business, where it was still the world's number one. This announcement came in line with Apotheker's efforts to focus HP on software, which was fortified by the future acquisition of Autonomy. Nevertheless, the strong negative repercussions of Apotheker's actions led to his resignation later in September 2011.

To conclude the case, the last two sections focus on HP's most recent CEO, Meg Whitman, and her challenges in leading forward the deteriorating HP. Notwithstanding Whitman's position in keeping HP's PC business, the company had continued to show declining results and had failed to successfully respond to the iPad's propagation and its influence in changing consumers' needs and preferences. In 2012, HP had already emerged as the biggest loser in the Dow Jones, leaving analysts and investors extremely doubtful of Whitman's ability of an extreme turnaround, as HP was desperately needing.

### ***Teaching Purpose***

This case is designed to be taught on both undergraduate and Master of Science levels, at courses of general management, and corporate and business strategy. It also may be used to illustrate the impact of new technological developments in a technology or innovation related course.

The HP case illustrates how an established world leading company like HP is forced to react to an exogenous shock – the iPad’s launch in 2010 – which highly transformed the PC industry in which it operated, by starting the “post-PC” era. The case demonstrates how HP roughly had the ability to sense opportunities and threats and made somewhat timely decisions in order to respond to the iPad, but failed to make market oriented choices and was not successful in changing its resource base.

The main teaching objectives of this case are:

- Introduce students to the impact of a technological shock in an industry’s structure and key success factors, and how it challenged established companies.
- Examine the inability of a world leading company to adapt successfully to new market conditions.
- Alert students for the need to constantly keep up with not only with industry technological changes, but also with competitors’ actions.
- Understand how the experiences and personalities of each CEO affected their strategic choices for the company, and what was the impact of these decisions in the firm’s outcomes.

### ***Intended Contribution***

This case’s focal contribution is to demonstrate how HP, a world leading company in the PC industry, failed to adapt to the introduction of the iPad. Despite launching new products to respond to the shock, HP was unable to make an impact in the tablet market and soon saw the need to remove itself completely from the emerging market. Successive failed strategies and the radical consideration of leaving the PC market altogether sent HP’s market value down more than 50% since the

beginning of 2010, and eradicated investors' confidence in the company that was once a leader in consumer-focused innovation.

The HP case intends to illustrate the topic of Dynamic Capabilities and, in particular, how its absence can completely change the fate of a world leading company, ultimately resulting in the firm's continuous collapse.

### ***Instructor Preparation***

In order to assure a great analysis and discussion of the case, it is crucial that both the instructor and the students understand the concept of Dynamic Capabilities. Therefore, it is recommended that the instructor and the students read the article "Dynamic Capabilities: A Review of Past Research and an Agenda for the Future", (Ilídio Barreto, 2010, *Journal of Management*), which covers the relevant theory for the case discussion.

Additionally, I believe the instructor should visit HP's corporate website and its interactive timeline, which gives a clear view of the company's history and milestones. For a more detailed view on HP's unique culture – "The HP Way" –, pioneer in its time, the instructor should visit HP's alumni website where it is minutely explained.

In order to have a more thorough understanding of HP's financial and market performance, the instructor should look through Bernstein Research's detailed analysis of HP in the report "Hewlett-Packard: Following a Series of Missteps, an Attractive Revaluation Candidate" (*Bernstein Research*, December 22, 2011).

If the instructor wishes to know more about the iPad, I recommend the reading of the article "The iPad Changes Everything" (Copeland, Michael, 2010, *Fortune*, March 22, p. 150-153), written in the same month as the launch of the first iPad, which should be compared with the more recent article "Three iPads later, other tablets still dead on arrival" (Pepitone, Julianne, 2012, *Fortune Tech*, March 7), published

after the launch of the third version of iPad, and only available on *Fortune Tech's* website. For a greater perception of the iPad's effect on the PC business, the instructor should read Morgan Stanley's report "Tablet Demand and Disruption" (*Morgan Stanley*, February 14, 2011), available for download at the company's website.

Moreover, with the purpose of presenting the clear contrast between HP, Apple and the overall technology industry to the students, the instructor should use tools such as Google Finance or Yahoo Finance to illustrate the companies' market performance in the last two years. To measure the industry's behaviour, I suggest the analysis of the S&P500 index.

### ***Recommended Assignment Questions***

This case focuses on how tech giant HP failed to adapt and respond to Apple's iPad launch in 2010, and how it resulted in a downfall of the world leading PC maker. In order to guide students' in-class discussion of the HP case, I believe there are three main questions that should be posed by the instructor.

**Question 1: After carefully reading the case, please identify and explain the exogenous shock HP was submitted to. What challenges did HP face? What actions were made by HP in order to respond to the industry's changes?**

Students should be able to clearly identify the exogenous shock and relate it to HP's performance. To attain a complete answer, they must elaborate on three different points:

- The shock of the iPad and Apple's supremacy;
- The different capabilities and resources required to succeed in the new industry;
- HP's failed attempt to enter the tablet market.

By analysing the company's market performance and the descriptions given in the case of the computing industry, I believe students should come to the conclusion that the focal point of the shock presented in the case is the launch of Apple's iPad and the beginning of the "post-PC" era announced by Steve Jobs. Affirmations referring to the iPad, such as "it has the potential to change portable computing profoundly, and to challenge the primacy of the laptop" and "this is big, and it's going to change the computer industry" corroborate this view. When observing HP's stock performance, students must be able to clearly identify the breaking point in April 2010, just after the launch of the iPad, which, despite the rise during Apotheker's first months as CEO, marked the beginning of a continuous plunge for the company. When comparing HP's stock performance to Apple's and the S&P500's, students must point out HP's tumble behind not only Apple but also industry's averages, and Apple's incredible capacity to continuously improve itself after creating the iPad phenomenon, establishing itself as a clear groundbreaking leader in the "post-PC" technology industry. This is supported by Tim Cook's recent announcements that 76% of Apple's 2011 revenues came from post-PC devices, and that the iPad sales managed to surpass the individual PC sales of HP, Lenovo, Dell and Acer.

The iPad had the capacity to reveal new consumers' preferences and needs when it came to computing products. As *The New York Times* wrote, the iPad was "infinitely more convenient for consuming [stuff]", and it emerged as the "poster child" for a "post-PC" era, where computing was no longer stationary, but mobile, and where consumers were constantly online and connected. Students should understand that, as Steve Jobs cleverly said, the tablet was different from the regular PC; "these are post-PC devices that need to be easier to use than a PC, more intuitive. The hardware and software need to intertwine more than they do on a PC."

Students should also point out that HP's acquisition of long time pioneer mobile player Palm was an attempt to buy the necessary abilities to enter such promising market. In fact, analysts believed the acquisition gave HP the necessary weapons to become a serious competitor to Apple, especially with Palm's unique operating system. However, as it is described in the case, the TouchPad, HP's tablet launched to respond to the iPad, failed to make an impact in the market. Despite promising, HP's tablet was far from perfect and needed a different approach by the company in order to succeed in the new market. However, HP's lack of commitment to its new product killed its opportunity to be a player in the tablet market.

**Question 2: Think about HP's three CEOs in the last couple of years. Evaluate how each one's personality and background affected their strategic choices for the company, and what was the significance of those actions to HP's current situation.**

The case is structured according to the various CEOs actions in order to respond to the iPad shock. Students must realize that every CEO had a great influence in HP's fate. To attain a complete answer, they must elaborate on three different points:

- Mark Hurd's cost-cutting strategy and the acquisition of Palm;
- Léo Apotheker's contradictory decisions which ultimately led to the great announcement on August 18, 2011;
- Meg Whitman's not so clear point of view and uncertain future.

Nevertheless, this is a question that should incite discussion between students, and, therefore, the instructor should promote the debate regarding their different points of view about HP's CEOs and their actions.

When referring to Mark Hurd, students might mention that he was chosen as CEO due to his clear and structured point of view, which differentiated him from the remaining candidates and especially from former CEO Carly Fiorina. Coming from an ATM manufacturer, he was highly focused on numbers and believed the best strategy to lift up HP was to focus on efficiency and carry out an intensive cost-cutting operation. By turning HP's performance and re-establishing HP as the world leading PC maker, Hurd became known as the responsible for "one of the great rescue missions in American corporate history". It is essential that the students comment on two points of Hurd's strategy: the debated acquisition of Palm, in an attempt to benefit from the WebOS; and the divesting from innovation, which later damaged HP's capacity to rapidly and appropriately respond to the iPad, confirming that "for too many general managers, the certainty of today trumps the uncertainty of the future". Concerning Hurd's resignation, students should discuss if the board's decision was indeed in the best interest of the company.

Léo Apotheker rose as "the best of a very unattractive group" to substitute Mark Hurd as HP's CEO. His strong background in software at the German giant SAP implied a new direction for HP. Apotheker's initial efforts in re-instituting the "HP Way" to revive the company's "lost soul" were well received by investors. The market even reacted positively when the new CEO announced his strategy for HP: the cloud and higher-margin businesses such as software and services. Concerning the tablet market, students should refer Apotheker's decision to launch the TouchPad only when it was perfect, which raised experts' expectations, only to disappoint them later on with an unfinished and defective product. Moreover, students should highly reflect on the CEO's rushed decision to terminate the tablet only 6 weeks after it entered the market. Concerning the PC market, students should discuss Apotheker's radical option to analyse "strategic alternatives" for the company's PC business

unit, when HP was still the world leading PC maker. In my opinion, this decision was a clear escape for Apotheker to focus on his comfort zone – the software. But by making such an unexpected announcement, the CEO managed to cause one of HP's biggest stock plunges ever, tumbling 20% in just one day, and to erase investors' and analysts' confidence in the company's future, placing HP in a weaker position than its competitors Dell and Lenovo.

Meg Whitman, former eBay CEO, stepped in as HP's CEO after Apotheker was ousted due to his drastic decisions. Students should comment on investors' apprehensive feeling towards Whitman due to her lack of experience in the software and hardware industry. Nonetheless, the new CEO assured she had the necessary weapons to transform HP, focusing on "reducing the drama" inside and around the company, returning to innovation and heading to higher-margin business segments. Additionally, Meg Whitman calmed the market by announcing that HP was in fact keeping its PC business, and later announced the merger of HP's PC and Imaging and Printing businesses. The CEO, who confessed that Apple would probably "overtake HP in 2012", guaranteed that HP would return in strength in 2013 with new products based on the much awaited Microsoft Windows 8. Students should refer that the new operating system could be HP's hope to try to compete with Apple's iPad and finally regain power in the industry, but that the CEO has yet to prove capable of a complete transformation of HP to its former glory.

**Question 3: Analyse HP at the time of the technological shock, focusing on Barreto's four dimensions of Dynamic Capabilities.**

Regarding this question, it is expected that students analyse each dynamic capability propensity individually in the context of HP and the introduction of the iPad.

- Propensity to sense opportunities and threats

In what concerns the first dimension, students should recognize that, according to HP's CTO, Phill McKinney, the company had already thought of a product between a phone and a computer, but the necessary resources, such as touch screens and low-power processors, were not yet available in the market. Despite understanding that consumers would appreciate an in-between product, HP did not perceive this to be an industry changing opportunity.

Soon after the launch of the groundbreaking iPad, and in order to quickly react to the perceived threat, HP announced the acquisition of Palm, a long time innovative player in the mobile market and the inventor of the WebOS. HP became one of the first players to respond to the shock, and was the most aggressive in its adaptative strategy. However, and contrarily to Steve Jobs, who considered the iPad "to be the most important thing [he had] ever done" and believed the new device would transform the PC business, the common thought inside HP was once again that tablets were simply "terrific complementary devices", underestimating the impact the iPad would have on its world leading PC business, creating and defining the post-PC era. Perhaps fearing the cannibalization effect that concerned analysts regarding the iPad and PC sales, HP did not commit itself totally to the new mobile strategy and, as most players, failed to take a bite out of the no longer "tablet market", but the "iPad market".

Additionally, the lost of the "HP Way" and the consequent increasing centralization of decisions inside HP had damaged the company's ability to innovate and to sense opportunities and threats.

Considering the above, students should conclude that, despite McKinney's words, HP failed to sense the opportunity of the tablet market. Additionally, despite rapidly detecting it, the company did not comprehend the scale of the threat of the iPad.

- Propensity to make timely decisions

When analysing Barreto's second dimension, students must focus on four main situations. First, despite recognizing the opportunity for a product between a phone and a PC, HP failed to be a pioneer in the tablet market as it had been in the PC and Printers markets. Second, it tried to rapidly adjust to the iPad, by announcing the acquisition of Palm just a month after its launch. Third, HP announced in February 2011 of its consumer-focused tablet TouchPad, which launched later in July. Apotheker said that HP refused to fasten its innovation and production process just to outrun its competitors in the launch of its tablets, emphasizing that the company would only launch the TouchPad when it would be ready. This pleased the analysts, as they believed HP was not rushing into the tablet market like most competitors, but was rather building a strong and finished tablet to compete with Apple's so far unbeatable iPad. Fourth, and despite the waiting time, HP failed to introduce a successful product, which led to the final radical decision of terminating the tablet six weeks after its launch. In conclusion, students should realize that HP's ability to make timely decisions was present in some periods of the case, but failed in the most critical situations.

- Propensity to make market-oriented decisions

In this case, I believe Barreto's third dimension, relative to making market-oriented decisions, is of extreme importance. As we have seen before, HP's timing in introducing its tablet would not have been a problem if the product had been great and somewhat differentiated from the leading iPad. However, and despite showing potential, the

TouchPad was introduced in the market with severe problems: it had an astonishing amount of bugs and it seemed to have been built at the image of the first iPad, in a time where the iPad 2 was already a blockbuster. Additionally, the TouchPad lacked a great number of apps, which were a clear success factor in the tablet market. In fact, HP's tablet had only roughly 10% of the number of apps available for the iPad, and most of them were designed for phones. On the positive side, the tablet had the great WebOS, which many considered the only true competitor to Apple's user-friendly iOS. *Time* magazine even affirmed that "this tablet bears the burden of great potential; it'll be a real shame if it turns out to be nothing more than yet another unsatisfying, unfinished iPad alternative". Nonetheless, the majority of analysts thought that the TouchPad was not a serious competitor to the iPad, as HP failed to create a strong and differentiated product that would offer added value to consumers. The experts liked that the tablet's screen had the same size as the iPad's, but complained about the lack of a camera in the back of the device, about the duration of the battery life and about the price, which was the same as the much better iPad's. In fact, the bad sales results of the TouchPad impelled the company to rapidly lower its price by 20% after a month of sales, continuing until an incredible loss-making \$99 price. Failing to solve the situation, Apotheker announced the termination of the newborn TouchPad and the praised WebOS just after six weeks of its launch.

Students must understand that, by failing to create a differentiated and market-oriented product, HP lost its chance to compete with the stronger-by-the-minute iPad. However, HP's new CEO, Meg Whitman, assured analysts and investors that HP would be introducing new mobile devices with Microsoft Windows 8 as soon as possible, in order to re-enter the tablet market.

- Propensity to change the resource base

HP made a clear and bold effort in order to try to change its resource base by acquiring Palm, a company with vast experience in mobile devices, in which it had once been a pioneer. The acquisition of Palm also guaranteed that HP would have access to its innovative operating system, the WebOS. In Hurd's words, HP "didn't buy Palm to be in the smartphone business. We bought it for the IP". In August 2011, Apotheker's clear lack of knowledge about hardware caused an expensive cancellation of the company's tablet and WebOS strategy, slaying the company's effort to change its resources. After Apotheker's resignation, HP chose a new CEO who, once again, did not have the experience in the business. Nevertheless, Meg Whitman seems focused on re-entering the rocketing tablet market, presenting the new leadership as a positive change of human resources towards the adjustment to the shock.

However, and despite making an effort to change its resource base, HP did not focus on developing the crucial capabilities for the new market, especially with the divestment in R&D, which had been gradually cut since Carly Fiorina's time, from 6% of revenues, to little more than 2%. Recently, Whitman has stressed the importance of re-investing in innovation, both to create stronger groundbreaking consumer-focused products and to develop the key capabilities to succeed in the market.

Therefore, students must conclude that, in the past, HP did try to change its resource base, unsuccessfully, and did not focus on building the capabilities needed in order to adjust to the post-PC era. The company's now former CTO later acknowledged that it was "an example of not committing long term to the resources and not having patience for innovation". Meg Whitman is now trying to relight HP's innovation flame and create new resources and capabilities so as to successfully enter the new "post-PC" reality, but that has yet to show results.

In conclusion:

Dynamic Capabilities Dimensions	At HP	
	Individually	Overall
Propensity to sense opportunities and threats	Low	<b>LOW</b>
Propensity to make timely decisions	Medium	
Propensity to make market-oriented decisions	Low	
Propensity to change the resource base	Low	

### *Teaching Plan*

This case is designed for a 90-minute lecture.

Activity	Time (min)
Dynamic Capabilities Review	15
HP Case Review	15
Question 1	15
Question 2	15
Question 3	25
Conclusions	5

**DISCUSSION**

**5**

Since Teece, Pisano, and Shuen's 1997 seminal article, the topic of Dynamic Capabilities has gained incremental importance within the management literature. In reality, one can easily observe that markets are becoming more volatile, forcing companies to react and adjust to exogenous shocks. Consequently, there has been the need to create a set of capabilities that would help firms cope with change and attain sustainable competitive advantages.

In my literature review, I have described and briefly explained the most relevant theoretical contributions so far to the Dynamic Capabilities view. After carefully analysing each individually, I have chosen to follow Barreto's (2010) view as the theoretical basis for my thesis. In his paper, the author managed to create a complete and coherent definition of Dynamic Capabilities as an aggregated construct of four distinct dimensions. The HP case seeks to illustrate the importance of each of these propensities in the case of a radical technological shock. Moreover, the focal objective of the case is to emphasize the relevance and applicability of the Dynamic Capabilities view in a real-life context.

Environments in which firms compete are more and more liable to radical changes. In fact, HP operated in the highly changing computer industry, more prone to change due to its constant technological developments. As defined by Eisenhardt and Martin (2000), this was a high-velocity market, where change became nonlinear and less predictable in terms of innovation, which was clear in HP's case, where a competitor-induced shock – the launch of Apple's iPad – caused an overall surprise and led to unforeseeable consequences in the industry.

The changing environments evidenced the relevance of Barreto's (2010) four dimensions for companies to "systematically solve problems" and create sustainable competitive advantages. When confronting the HP case with Barreto's (2010) view, it is clear that the company failed to

attain the four dimensions, which resulted in an unsuccessful attempt to adjust to the new post-PC era.

Barreto's (2010) first dimension, the *propensity to sense opportunities and threats*, gained importance since Teece (2007), who considered the entrepreneurial capability to perceive opportunities and threats crucial for firms' adaption to changing environments. This was, in fact, vital in shaping HP's adaptation to the technological shock.

Despite presumably understanding that consumers would appreciate a product between a phone and a PC, HP calibrated the tablet opportunity differently from its long-time competitor Apple. For HP, the tablet was a mere "complementary device", while Apple perceived it as an industry-changing product. When confronted with the successful iPad's launch, and with a new overall reality, HP showed strategic persistence in understanding the rise of the post-PC era, a "strategic straitjacket", as defined by Teece (2007), associated with narrow research scopes, especially due to its established success in the PC business. In fact, incumbent firms were known to have the tendency to perform too "local" search, failing to perceive opportunities outside the core of its business ecosystem (Teece, 2007). By failing to recognize the opportunity, HP interpreted the post-PC era as a threat to its current businesses, reacting in a more defensive manner. Fearing the probable cannibalization effect, HP did not commit itself totally to its new mobile strategy and, as most players, failed to successfully enter the post-PC market.

HP's founding culture, the "HP Way", was pioneer in decentralization and had highly contributed for the company's innovation process. However, the company had lost its unique culture in the last decades, which had damaged its capacity to sense opportunities. In fact, Teece et al. (1997) affirmed that more decentralized companies, with higher local

autonomy, were less likely to be blindsided by market and technological developments.

The ““capability monitoring” function that continuously scans the capabilities landscape and the environmental change” (Barreto, 2010: 272) was no longer present at HP, which had a deep impact on how the company responded to the shock, limiting itself to a shadowing role. Therefore, this capacity is confirmed as crucial for firms to cope with changes and to be competitive in changing environments.

Previously examined by Teece et al. (1997) and Eisenhardt and Martin (2000), Barreto’s (2010) second dimension, the *propensity to make timely decisions*, was focused on the importance of acting “sooner than later” and quickly ahead of competitors. It seems evident that the timing of firms’ decisions is of high importance, as it can instantly lead to either market successes or failures, and one can rapidly become the other. In HP’s case, by failing to be the first mover in the tablet market, it allowed Apple to create the market standards and establish itself as an unbeatable leader. However, while responding to the perceived threat, HP was one of the first to react, and the most aggressive, by acquiring Palm. Later, when developing the TouchPad, its response to the iPad, HP was pondered in the process of introducing the product in the market, trying to assure its full completion before launch. Nevertheless, the initial failure of the tablet triggered the radical decision of terminating the product, showing the company’s lack of patience and lack of commitment to the product. This case is a great example of the company’s lack of ability to make timely decisions was defining for its future in the new market.

Additionally, Adner and Helfat (2003) highlighted that decision-making was relevant not only in terms of the timing of firms’ decisions, but also regarding the content of such decisions. This was, in fact, the basis of the third dimension of Barreto (2010), the *propensity to make market-*

*oriented decisions*, namely, the ability to provide superior value to customers. HP's decisions clearly failed in creating market-oriented products that would offer added value to the company's customers. Despite developing new products, such as the TouchPad, HP was not able to differentiate itself from the prominent Apple, following a strategy of imitation of the iPad. The TouchPad was sold at the same price, had the same screen size and was even built at the image of the first iPad. Additionally, the TouchPad lacked a great number of apps, which were a clear success factor in the tablet market, and presented a great number of bugs, problems which led to its immediate flop after launch. The product's price was rapidly lowered to boost sales, but, ultimately, Apotheker terminated the tablet in August 18, 2010, a mere six weeks after its launch. The unsuccessful imitation strategy demonstrated the strength and sustainability of Apple's competitive advantage. This was a crucial dimension in HP's case, as, by failing to understand customers' new needs and preferences, the company was not able to successfully enter the rapidly growing post-PC era.

The final dimension identified by Barreto (2010), according to both earlier and more recent perspectives (Teece et al., 1997; Eisenhardt and Martin, 2000; Helfat et al., 2007), relied on the firm's *propensity to change its own resource base*, that is, "firm's propensity to create, extend, and reconfigure the resource base." HP made a clear and bold effort in order to try to change its resource base, by rapidly acquiring Palm, which had great experience in the mobile market and had developed the innovative WebOS. With this move, analysts believed HP had the necessary assets to respond effectively to Apple's steep rise.

However, the company only focused on changing its resources and spent no time in developing new capabilities, forgetting Teece's (2007) standpoint on the equal importance of both the organizational innovation and the selection of the physical technology to respond to the

shock. In fact, when confronted with the new reality, HP tried to maintain its business model, applying it to the tablet market, failing to understand that, in order to succeed in the expanding market, the company needed to develop innovative capabilities. This stressed the fact that, in high-velocity markets, companies needed to escape existing knowledge and rely much more on creating specific new knowledge to rapidly adjust to the new environments (Eisenhardt and Martin, 2000). The lack of ability to develop new capabilities was in part explained by the divestment in R&D, which had been gradually cut since Carly Fiorina's time, from 6% of revenues, to little more than 2%.

Furthermore, HP's CEOs had a relevant role in the decision making process, especially when related to changing the company's resource base. According to Augier and Teece (2009), in Dynamic Capabilities, the manager's role should include the selection and/or development of routines and investment choices, focusing on achieving efficiencies and returns from innovation. However, prior to Apotheker, the CEOs Fiorina and Hurd had focused on cutting the company's R&D costs and respectively cutting the company's ability to rapidly respond and adjust to changes. Concerning investment decisions, Hurd's polemical choice of acquiring Palm later resulted in a loss of \$3.3 billion, due to Apotheker's precipitation and lack of confidence in the hardware business. Meg Whitman, HP's current CEO, announced an effort to re-invest in research and development and to return to HP's leading consumer-focused innovation.

HP's case is visibly representative of the need to coordinate the company's strategy, the CEO's goals and the process of changing the resource base, in order to successfully adapt to the exogenous shock.

In sum, it is clear that Barreto's (2010) four Dynamic Capabilities dimensions are present in HP's case, even if in different magnitudes, and that their absence was the foundation of HP's breakdown.

**CONCLUSION**

**6**

The Dynamic Capability theory is evidently important in explaining how a company can achieve sustained competitive advantage in highly changing environments, proving to be one of the most relevant management theories developed in recent years. Barreto's definition revealed the necessary coherence and aggregation to the developing theory, opening way for further theoretical and empirical investigations.

This dissertation intends to provide an illustration of the Dynamic Capabilities theory, through the analysis of a real-life case, namely, of HP and its failed adaptation process to the post-PC era. The HP case exemplifies how the lack of the Dynamic Capabilities four dimensions led to the company's failure in the new environment. Additionally, the case demonstrates how the first dimension – the propensity to sense opportunities and threats – had the ability to shape the entire outcome, because, since HP failed to sense the opportunity of the tablet market, it had later to adjust to a no longer tablet market, but to an “iPad market”, dominated by Apple, the first to react to the opportunity. By trying to imitate Apple's groundbreaking product, HP instigated a series of falling results and contradictory strategic decisions.

Moreover, HP's case visibly shows the effect of CEOs' background in their strategic decisions for the company, and how the lack of decentralization, once pioneered by HP, affected the company's ability to perceive new market opportunities.

By writing and reading this thesis, it has become gradually obvious to me that Dynamic Capabilities are crucial and that managers must be attentive to every dimension in order to survive and to succeed in changing environments.

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