

# **The Disruptive Technology Paradox: Smartphone OEM's in the Smartphone Transformation**

‘The rise and fall of Smartphone OEM's’

Nijmegen School of Management

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# The Disruptive Technology Paradox: Smartphone OEM's in the Smartphone Transformation

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**Research Summary:** Drawing on a longitudinal qualitative study of five smartphone OEM's this study examines how a company can successfully deal with the competing demands of early entering and flexibility. A tension which companies face when a disruptive technological innovation arises, putting them in front of the disruptive technology paradox. In analyzing how companies can address this paradox different sets of capabilities in line with the dynamic capabilities model of sensing, seizing and reconfiguring of Teece (2007) have been revealed. Similar to the work of Birkinshaw et al. (2016) a slight differentiation of the dynamic capabilities model is proposed. Leadership fit and an open culture namely have been identified as higher-order reconfiguring capabilities allowing the lower-order capabilities of continuous sensing and opportunity seizing to transpire. Next, operations management capabilities are stressed which support both the lower-order capabilities of continuous sensing and opportunity seizing. The interrelations of these capabilities enable a company to create radical innovations in periods of discontinuous change, incremental innovations in maturing markets and have a dedicated strategy to gain market share fast as well as retain it. Innovation and dedicated strategizing can be seen as paradox solvers enabling a company to cope with the competing demands of early entering and flexibility to deliver superior long term performance, addressing the disruptive technology paradox.

## INTRODUCTION

The world is undergoing rapid changes and environments become increasingly dynamic (Walker, 2000; Schmitt et al., 2016). Disruptive innovations and market transformation belong to this time period, hereby threatening incumbents in their existence (Henderson & Clark, 1990; Christensen, 1997; Christensen & Overdorf, 2000). This study focusses on a specific type of disruptive innovation 'disruptive technological innovation' (Markides, 2006). Theories of radical change, disruptive innovation and more recently strategic renewal have provided valuable insights in explaining how incumbents can deal with disruptive (technological) innovations and when needed alter their path dependency (Henderson & Clark, 1990; Tushman & O'Reilly, 1996; Kotter, 1995; Christensen, 1997; Christensen & Overdorf, 2000; Christensen, 2006; Danneels, 2004; Volberda et al., 2001; Argarwal & Helfat, 2009; Schmitt et al., 2016). Despite this theorizing, incumbent failure remains extremely prevalent even when managers are aware of the need to change (Johnson, 1988). In fact, it has almost become a truism for incumbents to experience difficulties in adapting to a dramatic technological change (Taylor & Helfat, 2009). A clear proof is provided by the very

innovative and successful incumbents like BlockBuster Video, Nokia, RIM, Kodak, and General Motors that recently have been disrupted and faced rapid decline's (Vuori & Huy, 2015; Lucas & Goh, 2009; Manzerolle & Herman, 2014).

In this world of dynamic and intricate environments, marked by disruptive technological innovations, paradox becomes a critical theoretical lens to understand and lead contemporary organizations (Smith & Lewis, 2011; Smith et al., 2010). The reason for this is that paradoxes are revealed and intensified in dynamic and intricate environments because organizational tensions that form the underlying source of paradoxes increase under these conditions (Lewis, 2000). Organizations for example face tensions to collaborate and control (Sundaramurthy & Lewis, 2003), be flexible and efficient (Adler et al., 1999) and to explore and exploit (Smith & Tushman, 2005). Adopting a paradox lens, this research aims to provide new insights in how incumbent organizations can face disruptive technological change. The essence of a paradox study is to adopt an alternative approach to these tensions by exploring how organizations can attend to competing demands simultaneously (Smith & Lewis, 2011). The idea is to combine the conflicting logics via different mechanisms to have the best of both worlds (Smets et al., 2015). An additional advantage of using a paradox perspective is that it helps to explore theoretical and organizational complexity and therefore extends the scope, relevance and creativity of a research (Lewis & Grimes, 1999).

The paradox this research takes as its epicenter to address the challenge incumbents face in coping with disruptive technological change is that of early entering versus flexibility (Eggers, 2016). Organizations are confronted with this paradox as soon as a new potential disruptive technology appears (Eggers, 2016). Hence, this paradox can be termed 'the disruptive technology paradox'. The tension underlying this paradox consists of on the one hand the pressure of early entering in the new technology to build industry-specific knowledge (Eggers, 2014), resources (Dierickx and Cool, 1989) brand preference (Carpenter & Nakamoto, 1989) and entry barriers for later entrants (Lieberman & Montgomery, 1988). On the other hand the need for flexibility because failure of an emerging technology which becomes the nondominant design can be disastrous for early entrants as they might not recover (Gurad et al., 1997; Eggers, 2012). This paradox is thus closely related to the long survival of an organization (Christensen & Overdorf, 2000; Eggers, 2016; Downes & Nunes, 2013). Addressing this paradox successfully would enable organizations to better deal with disruptive technological innovations, creating superior long-term performance.

Through a longitudinal study of the smartphone industry this study examines how organizations can face the disruptive technology paradox. An industry that just recently faced a major transformation because of a disruptive technology, the software revolution first captured in the iPhone (Vuori & Huy, 2015). The iPhone introduced in June 2007 fundamentally transformed the market via its iOS operating system, based on the OS Apple for its computers, which enabled a large touch screen and advanced user interface which delivered the 'real internet' experience (Vuori & Huy, 2015; Grønli et al., 2014; Wingfield, 2008; West & Mace, 2010). Herewith, the iPhone perfectly addressed and embodied the change toward totally new game in which smartphone became the next device and smartphone original equipment manufacturers, abbreviated as OEM's, were about to create tremendous value through product engineering, design and system integration (Dedrick et al., 2011). For the first time in the industry the differentiation lay in software rather than radio technology (Vuori & Huy, 2015). This shift led to the opening of opportunities for software-led innovation and the key role of software platforms such as iOS which was quickly followed by Google's Android (Cecere et al., 2015; Grønli et al., 2014; Vuori & Huy, 2015). Companies like Nokia and Blackberry and others suddenly had to scramble to develop software capabilities that were radically new to them (Vuori & Huy, 2015). These companies had to make a crucial choice whether to further develop their own software platform or to dive into the new direction and develop a new software platform or adopt an open-sourced software like Google's Android OS, not having the time to wait out for uncertainty to resolve (Hall & Anderson, 2009; Vuori & Huy, 2015). The smartphone OEM's found themselves right in front of the disruptive technology paradox. Analyzing the strategies smartphone OEM's adopted to face this paradox is intriguing as there is no obvious answer. And even if a firm seems to address the paradox appropriately this does not immediately result in success. HTC for example, with its HTC Dream, was the first to adopt Google's Android OS but on the contrary to Samsung HTC didn't become very successful. Some smartphone OEM's were thus able to successfully meet the paradox while others clearly failed. The main question this research examines therefore is:

*How have smartphone OEM's addressed the disruptive technology paradox in order to insure their long-term prosperity?*

Because the emerging software platforms played such a crucial role for the smartphone OEM's, being the disruptive technological change. In extension of the first question this research examines the strategies smartphone OEM's adopted the deal with the emerging software platforms. Proposing the following sub-question:

*What strategies have the smartphone OEM's adopted to deal with the emerging software platforms in order to successfully address the disruptive technology paradox?*

Answering these questions addresses the needs of future research to provide new insights in what determines why incumbents fail or succeed in the face of disruptive technological change (Danneels, 2004). In order to appropriately answer these research questions a thorough research via explorative interviews as well as the use of both academic and professional literature in a qualitative study is proposed. Explorative interviews with managers and entrepreneurs who each have over 20 years of experience in different industry's will be used as an extra more creative source of how organizations can deal with the disruptive technology paradox. The main analysis of this research consists of an inductive analysis in the setting of a multiple case study. Five smartphone OEM's are highlighted to form the cases. These companies are Apple, Samsung, HTC, Nokia and Blackberry(RIM) because of their different performances during the smartphone transformation. Via academic and professional literature the developments these smartphone OEM's went through are researched.

The remainder of this study will be organized as followed. First the theoretical framework will be outlined. Here the literature about disruptive innovation and technological change will be elaborated on to explain what constitutes the disruptive technology paradox. Furthermore the phenomenon of platforms, the software platforms that initiated the transformation of the smartphone industry, is discussed. Second, the applied research context, methodology and data will be elaborated on and explained. Third, the analysis will be executed and the results will be presented to the reader. A theoretical model will synthesize how the disruptive technology paradox can successfully dealt with. With this model the research questions will be answered. Finally, the study will close with the conclusion, the contributions of this study, its limitations and suggestions for future research.

## **THEORETICAL BACKGROUND**

### **Explaining the Disruptive Technology Paradox: The Pressure for Entering Early**

When a new technology changes the nature of a product by redefining the core technology that underpins a product one can speak of a disruptive technological innovation, or discontinuous technological change (Markides, 2006; Taylor & Helfat, 2009; Bessant et al., 2005). For an incumbent a threatening situation arises because the new technology is about to replace the existing one, the one in which the incumbent had its business (Eggers, 2014; Eggers, 2016). Studying the disk drive industry, an industry known for its pervasive and unrelenting technological changes, Christensen (1997) was able to develop an argument why incumbents had such a difficulty in dealing with emerging disruptive technological innovations. Drawing on resource dependency theory Christensen made a distinction between sustaining innovations and disruptive innovations. Sustaining technologies are the innovations that make a product, or service, perform in better ways than customers in the mainstream market already value. Sustaining innovations are nearly always developed and introduced by established industry leaders because these organizations are embedded for the creation of new products and services that better fulfil their customer's needs. Disruptive innovations however create new markets through the introduction of a new kind of product or service, one that's actually worse initially but is improved so rapidly that it's ultimately able to better address the needs of customers in the mainstream market. Christensen argued that incumbents are focused on their existing customers, i.e. creating sustaining innovations, and therefore face exceeding difficulties to allocate resources to initiatives that serve new customers, i.e. disruptive innovations. It actually comes down to the fact that the practices that led the company to be successful in the first place eventually will lead to its demise.

With this argument Christensen explicitly rejected the earlier supply-side focused explanation in which incumbents appeared to fall victim to competence-destroying innovations (Henderson & Clark, 1990; Tushman & Anderson, 1986). According to this explanation incumbents had such a hard time to cope with disruptive technology's because the new technology altered the relevant competences needed to make the next kind of product (Tushman & Anderson, 1986). Meaning that to produce for example electric cars required different skills and knowledge than fossil-driven cars or similar the technological

transitions from steam- to diesel locomotives or record- to compact-disks (Tushman & Anderson, 1986).

Although the immense success of Christensen's work, having dramatic impact on practice and reigniting debate within academia, his work received criticism (Danneels, 2004; Henderson, 2006; Markides, 2006). Criticizing on the idea of Christensen some scholars argued customer competence is vital to introduction of new disruptive technologies (Danneels, 2004; Henderson, 2006). According to this argument it's not the narrow focus on the existing customers of the company but the difficulty in understanding the deep shifts in consumer behavior that make it hard to create disruptive technologies (Danneels, 2004; Henderson, 2006). Others have argued that organization have to act as entrepreneurs (Dew et al., 2008). According to Dew et al. (2008) instead of striving to predict technology trajectories more accurately or strive to build immortal firms in mortal markets, organizations must focus on building new markets. A nice metaphor of George Washington's' axe is given to explain that when shown to the comers the axe was still 'shiny' as if it was brand new. How can this be? Because the steel has been replaced five times and the blade three times. For organizations the same principle is applicable. Although legally firms have an immortal life, one must realize economically firms are not because markets are not there to stay forever. To survive firms must be conscious about the artificial mortality of markets and therefore simultaneously focus on competing in existing markets as well as having an entrepreneurial mindset to create new markets.

Up until now, many different approaches and theories have added to the understanding of disruptive technological innovation and incumbents' failure in coping with this phenomenon. Although disagreement exists there is one thing all these scholars agree on. In order to cope with disruptive technological innovations and foster a firms' long term survival organizations have to create disruptive technologies themselves (Tushman & Anderson, 1986; Christensen, 1997; Dew et al., 2008) or act quickly if a new disruptive technology emerges (Downes & Nunes, 2013). In either way this means that organizations face the pressure to enter early in a new technology (Buisson & Silberzahn, 2010; Eggers, 2014; Eggers, 2016).

Next to this core argument, the importance of entering early is stressed by multiple other arguments (Eggers, 2016). Firstly another argument for early entering is the ability to build industry specific knowledge (Eggers, 2014). A possibility for firms to already create

useful market knowledge during the technological exploration process, most useful if this would be knowledge about the needs and wants of customers (Helfat & Raubitschek, 2000; Slater & Narver, 1998). Second, entering early would also mean that the relationships a firm has already made with potential suppliers and complementors can be used to be better able at creating technological solutions (Eggers, 2014). A third argument for early entering into a new technology is the fact that this enables the creation of resources that are built over time and are subjected to learning curves (Dierickx & Cool, 1989). Fourth, an early entrant has the advantage that arise from cognitive processes of individual consumers (Carpenter & Nakamoto, 1989). The first entrant namely has the possibility to set consumer beliefs about the ideal combination of attribute values in a market for which consumers do not have established preferences (Carpenter & Nakamoto, 1989). Last but not least early entrants have the possibility to create entry barriers which make it difficult for later entrants to get into this 'new' market (Lieberman & Montgomery, 1988). According to Lieberman and Montgomery (1988) options to create these entry barriers mainly exist in the ability to increase switching costs or take a preemptive position. By making the product in such a way that customers are getting used to it and find it difficult to adapt to something else switching costs can be created, providing an early entrant advantage. Another possibility is the creation of switching costs via contractual agreements such as long-term agreements or long-term incentive systems like frequent-flyer programs. Taking a preemptive position is done by claiming scarce physical resources to position the firm in the specific area where these resources are. Herewith the company virtually secures the entire supply chain. The later of course is an advantage that is very context specific.

To sum up, entering early in a new technology for firms thus provides many advantages. The advantages that can make the difference in a firm's survival in the new market, created by a disruptive technology (Christensen & Overdorf, 2000).

### **Explaining the Disruptive Technology Paradox: The pressure for flexibility**

An important notion is that the early stages of a new industry are often uncertain and complex (Eggers, 2014). The fact that the term dominant design exists implicates that there are nondominant designs as well (Garud et al., 1997). An organization in many cases cannot be certain if the technology they are investing in, is the one that will become the dominant design. As stated by Rosenberg: *'The simultaneous advance in new technology, along with*



*the substantial upgrading of old technology, underlines the pervasive uncertainty confronting industrial decision makers in a world of rapid technological change'* (Rosenberg, 1996, p. 107). To provide some examples think of technology failures like Google Glass, STAP Cells and Nanotainers (Regalado, 2014; Regalado, 2015) or think of contesting technologies like Betamax, VHS or Video 2000 for video recorders, Blu-ray or HD DVD for high-definition movies or hydrogen or electrically driven motors for the car industry. The fact that organizations can make the wrong choice, i.e. investing in the technology which becomes the nondominant one, complicates things. This stresses the fact that the temporary monopoly award of entering early is only realized if uncertainty resolves favorably for the early entrant (Klingebiel & Joseph, 2016). Other less risky strategies besides choosing to fully devote the firm to one emerging disruptive technology might be more preferable. These other possible strategies an organization has are twofold. An organization can, if applicable, bet on multiple technologies or wait out uncertainty to resolve before investing fully into an emerging disruptive technology (Eggers, 2012; Eggers, 2014). It is argued both of these strategies do not offer an appropriate solution (Eggers, 2012).

Betting on multiple technology's seems a poor choice because these firms are likely to suffer the incentive and coordination-driven innovation penalties of generalists (Eggers, 2012). Generalists are likely to deal poorly with environmental change and uncertainty because their organizational breadth reduces incentives to learn and adapt to changing conditions (Morris & Moore, 2000). On top of this, the breadth of organizational scope makes adaptation and communication challenging (Haunschild & Sullivan, 2002). According to Eggers (2002) this could very well explain why early entrant experience in the plasma was helpful for firms that specialized in plasma but not for generalist. Lastly, betting on multiple technology's is the most costly alternative because no matter what technology will become the dominant design investments in the 'other' technology will be superfluous. Choosing one technology, even if it doesn't become the dominant design, will be more profitable because a right timed switch would mean resources aren't lost for investing on the 'other' technology as well.

The option of waiting out uncertainty to resolve before making irreversible investments in a technology seems to be a poor option as well (Eggers, 2012). This option of becoming a late entrant does have the clear advantage of avoiding investing in the wrong technology but it faces more substantial disadvantages. For starters, a late entrant misses

the advantages of an early entrant. Next however a late entrant faces multiple hurdles when entering the new now dominant technology. Among other things, these hurdles exist in the form of entry barriers that have likely been created by early entrants. Barriers consisting of switching costs disadvantages, preempting positioning by early entrants and created brand preferences for the early entrant or a combination of these things (Lieberman & Montgomery, 1988; Carpenter & Nakamoto, 1989). A next hurdle a late entrant faces is that without basic knowledge, gained in earlier faces, the late entrant might be unable to assimilate and use the newest knowledge (Cohen & Levinthal, 1990). A final disadvantage may exist in a missed opportunity to form alliances. The forming of alliances is practically important for firms in a vulnerable strategic position, i.e. in emerging markets, innovative technologies and high competition, to create additional resources such as technical know-how, cash and legitimacy (Eisenhardt & Schoonhoven, 1996). A late entrant which has not build any specific knowledge might have difficulties finding a partner to enter the new technology. Viable partners who are also getting harder to find because earlier entrants are likely to have already formed strategic alliances with key suppliers, complementors or competitors to be successful in this new technology.

Out of the disruptive innovation literature, the crucial advantages of entering early and the arguments that indicate the inappropriateness of other strategies follows that an organization can best choose to fully invest in one technology. However, because pervasive uncertainty in times of rapid technological change is prevalent firms face a pressure for flexibility as well. Flexibility which is needed to have the possibility to switch to the winning technology. A move that is likely to increase the chances of firm-survival (Tegarden et al., 1999; Bayus & Argarwal, 2007) but is far from easy (Eggers, 2014). Altering a firm's path dependence in general is hard (Volberda et al., 2001; Argarwal & Helfat, 2009; Schmitt et al., 2016), but under the circumstances of switching from a losing towards the winning technology is expected to be even harder (Eggers, 2014). In such a situation firms namely face internal resistance (Eggers, 2012) because of persisting R&D activities (Helfat, 1994; Breschi et al., 2003) and biased myopic behavior emanated from experienced failure (Denrell & March, 2001). Firms thus face the pressure to fully invest into one technology but simultaneously need to stay flexible despite the inertial forces risen by commitment in one technology. When a disruptive technological innovation emerges firms are put in front of a paradox, the disruptive technology paradox. A paradox characterized by the contradictory

yet interrelated elements of entering early and flexibility (dualities) that exist simultaneously.

### **The disruptive technological change: Software Platforms**

The disruptive technological change central in this study is the emersion of software platforms, like Apple's iOS. To understand the technical change that transformed the smartphone industry one has to question what 'software' platforms actually are?

According to Gawer and Cusumuno (2014) platforms are internal or external. External platforms, or industry platforms, are *'products, services, or technologies developed by one or more firms, and which serve as foundations upon which a larger number of firms can build further complementary innovations and potentially generate network effects'*. A different label is given to these kind of platforms namely *'multisided platforms'*: *platforms that support interactions across multiple sets of actors and can facilitate technical development* (Parker & Van Alstyne, 2005). Important is the distinction from internal platforms which aren't open to outside firms (Gawer & Cusumuno, 2014). In an internal platform a firm is either working by itself or with its suppliers to build a family of related products or set of new features (Gawer & Cusumuno, 2014). The software platforms in the smartphone industry are external platforms. These platforms namely have a large number of firms connected to build complementary innovations and generate network effects to improve the 'programs' and data that tell a computer what to do (Boudreau, 2012). Just like other external platforms like Microsoft's Xbox and Sony's Playstation for the video gaming industry and the platform of SAP for enterprise software development, third parties are invited to innovate to push the platform as a whole from which the platform leader can benefit (Boudreau, 2012).

The key aspect on which external platforms can differ is to what degree it is open to outside firms (Gawer & Cusumuno, 2014). This aspect knows multiple levels such as the level of access to information on interfaces to link to the platform or utilize its capabilities, the type of rules governing the platform and the costs of access. A platform leader has to choice to have tight control over these aspect or to limit their control, Herewith there are two basic forms: 'open platforms' and 'closed platforms' (Eisenmann et al., 2009). Closed platforms, or proprietary platforms, consist of an architecture of related standards which are controlled by one or more sponsoring firms (West, 2003). Open platforms, or open 'source' platforms,

represent the antitheses of a proprietary technology strategy in which collaborators are sought to maximize the adoption throughout the value chain and create open standards that are shared with one or more competitors (West, 2003). A complex trade-off between 'open' and 'closed' exists because opening up should increase complementors' incentives to innovate but some sources of revenue and profit are important to preserve as proprietary (Eisenmann et al., 2009; Greenstein, 2009; Gawer & Cusumano, 2014). Smartphone OEM's had to deal with this tension in their strategies from the moment that iOS was launched on the iPhone in 2007. These companies had to make a crucial choice whether to further develop their own software platform or to dive into the new direction and develop a new software platform or adopt an open-sourced software like Google's Android OS, knowing limitations it would have for their profitability. Ideally one would have the ability to enter early into a chosen direction stay flexible to be able to switch if the chosen path didn't work out. These observations motivate the inquiry into how the smartphone OEM's have dealt with their disruptive technology paradox, necessary to stay prosperous for the long term.

## RESEARCH CONTEXT AND METHODS

The smartphone industry has been chosen to conduct this exploratory study for a number of reasons. First, the smartphone industry provides an intriguing and revelatory research context because it recently went through a major transformation. Hereby, generally matching the research questions as it put smartphone OEM's right in front of the disruptive technology paradox. Second, the smartphone industry allowed for the studying of polar types that were likely to extent the emerging theory (Eisenhard, 1989a). During the transformation the complete industry had been turned around. In just half a decade this industry saw Apple and Samsung becoming the fierce competitor's to dominate the smartphone industry surpassing the world's most dominant smartphone OEM 'Nokia' as well as another dominant smartphone OEM 'Blackberry' from Canada's RIM (Cuthbertson et al., 2015; Song et al., 2016; Bouwman et al., 2014; Cecere et al., 2015; Manzerolle & Herman, 2014). The smartphone industry thus perfectly allowed to examine successful OEM's as well as non-successful OEM's. The five OEM's that were therefore chosen are Apple and Samsung, i.e. successful OEM's during the transformation, HTC, a mediocre performer, and Nokia and Blackberry(RIM), the non-successful OEM's. To capture the complete transformation the industry went through, the period that is being studied ranges from 2006 to 2015 (Strategy Analytics, 2011-2015). Third and last, the fact that the smartphone industry is also one of the most competitive and R&D intensive industries in the world makes this research context even more interesting (Ericsson, 2015). In a world in which environments 'markets' will become increasingly dynamic, studying one of today's most hyper competitive markets increases the relevance of this research (Schmitt et al., 2016; D'Aveni, 1995).

### Data sources

*Professional Data.* Multiple professional sources have been used to thoroughly research the smartphone OEM's during the smartphone transformation. These professional sources are: Analytic reports from the research company Strategy Analytics, the Dow Jones Analyst recommendations from 2013 to 2016 for the smartphone industry, the first 200 articles of Major World Publications sourced on the LexisNexis Database as well as the top 50 New York Times articles whereby a focused search query containing the five smartphone OEM's and the smartphone industry has been adopted. Lastly the annual reports of the five smartphone

OEM's during the period 2009 to 2013 have been researched as well. The Strategy Analytics reports from 2011 to 2015 consist of professional analysis of strategic moves from the five smartphone OEM's. The main focus of these reports lie on the factual numbers of market share and products shipped as well as topics like marketing, relationship management, market divestment, market targeting etc. are being discussed. The Dow Jones Analyst Recommendations are collected articles from and for professionals. These articles provide in depth information about smartphone OEM's and the market they are operating on. Multiple topics like share prices, market shares, market strategy, stakeholder viewpoints, products releases and many more are being discussed. The Major World Publications are the 200 most relevant articles from world wide's leading newspapers such as The Times, The Guardian, Financial Post, Korean Times etc. The New York Times as one of America's most prominent financial newspaper is added to have an even more very complete search query. To include the strategies and insights from the smartphone OEM's themselves the Annual Reports from 2009 to 2013 have been examined as well to capture all the relevant perspectives at the time the market shares radically changed.

*Interviews.* Four interviews with business experts, having over 20 years of experience in business as a manager and/or entrepreneur have been conducted. The interviewees account for a very diverse data source containing the experiences from four different careers in different industries and various extreme conditions. The industry's these interviewees worked in vary from IT, to FMCG, to Telecom, to Electronics and many more. The interviewees worked on transformation processes in companies during the rise of the internet, privatizations period's, but also during the transformation from a communistic to a capitalistic regime in Hungary. This wide variety of sources has been selected in order the answer the research question with a broad range of perspectives simultaneously keeping close to business reality.

### **Data analysis**

This research adopts an inductive approach in the setting of a multiple case study. This means that prior to the observations no theoretical expectations are formulated and that the events happening in the empirical environment should be leading for the theory formulation (Glaser & Strauss, 1976; Bleijenbergh, 2015, p. 52). The advantage of this approach is that theoretical arguments cannot limit the observations, which therefore

remain pure (Bleijenbergh, 2015, p. 52). Sensitizing concepts formed during the literature study and interview process will guide the study as not everything can be relevant for the research (Brown, 2006; Verschuren & Doorewaard, 2010; Bleijenbergh, 2015). These interpretive devices form the starting point of the qualitative study of the multiple cases (Glaser, 1978; Padgett, 2004; Patton, 2002). The research will be conducted via two steps. In the first step open-ended interviews will be conducted. In the second step the multiple case study will be conducted.

*Step I.* Before the multiple case analysis, open-ended interviews will be conducted. These interviews are, next to the literature study, aimed at the creation of insights for the shaping of the sensitizing concepts that provide the guidelines for the research (Brown, 2006). Next to this, these interview insights are used as an extra close to business practice source of how organizations can deal with the disruptive technology paradox. The interviews are conducted in the form of an open-ended design. Open-ended interviews allow for plenty of room for elaboration, follow-up questions and gives freedom to the respondent in his or her answering (Bleijenbergh, 2015, p. 74). Via this way richer information can be gathered (Bleijenbergh, 2015, p. 74). The open-ended interviews will be half structured and contain plenty of room for further elaboration and follow-up questions. Via this way a high degree of validity and simultaneously reliability will be achieved (Bleijenbergh, 2015, p. 74). The choice to use half structured interviews is also necessary to prevent too much freedom diminishing the relatedness to the subject. The interviewees have been selected according to the following criteria: The interviewee needs to have at least 10 years of experience in a management function. Second, the interviewee needs to have experience on such a level that the challenges a company faces in addressing the disruptive technology paradox are felt. Not specifically requiring them to have worked in the smartphone, or less specific 'the electronics industry', allows for broader views and experiences concerning the same topic of interest.

*Step II.* A multiple case study will be used. Via the comparison of multiple cases a better understanding of the researched phenomenon can be gained (Swanborn, 2010; Bleijenbergh, 2015, p. 48). Unconstrained by the rigid limits of questionnaires and models, case studies can lead to new and creative insights for the development of a theory and have a high validity with practitioners (Voss et al., 2002). As already mentioned the companies that form up the cases are the five smartphone OEM's: Apple, Samsung, HTC, Nokia and

RIM(Blackberry). The method that will be used to analyze these cases is the theory of descriptive meta-synthesis. Meta synthesis is: “the bringing together and breaking down of findings, examining them, discovering essential features and, in some way combining phenomena into a transformed whole” (Schreiber et al., 1997, p. 314). This relatively new technique for qualitative research has first been mentioned by Stern and Harris (1985). According to Walsh & Downe (2015) the aim was the development of an explanatory theory or model which could explain the findings of a group of similar qualitative studies, here used for the explanation of multiple cases. This method is useful for the opening up of spaces for new insights and understandings to emerge, for the constructing of larger narratives of general theories (Walsh & Downe, 2005; Sandelowski et al., 1997). Three steps according to Noblit & Hare (1988) have to be taken to conduct meta-synthesis:

I) The reciprocal stage in which recurring themes are recognized. This stage is aimed at identifying the main tensions experienced during the disruptive technology paradox and the practices to cope with them. This will be addressed via inductive coding of the empirical data, i.e. the professional data sources describing the decisions and behavior of the five smartphone OEM's, in steps of open and axial coding (Boeije, 2014). The data is organized in an Atlas.ti database to efficiently index, search, code and theorize, and recode data as patterns emerges (See Appendix II and Appendix III).

II) The refutational stage in which themes and ideas that go against the common themes and ideas will be recognized. The aim of this stage is to identify opposing findings contrasting the findings of the reciprocal stage. For this the same process of open and axial coding will be used. To ease the comparison this stage is conducted at the same time as stage one (See Appendix II and Appendix III).

III) The line of argument face in which a statement will be constructed that can summarize and express what you have found. The previous stages will be combined to provide a coherent whole. Here, selective coding will be used to multitude phenome into a concise description of theory done by determining the key concepts and the relationship between them (Verschuren & Doorewaard, 2010) . A theoretical model will be created to synthesize how the different smartphone OEM's have coped with the disruptive technology paradox. Via this theoretical model and the interpretations of this model the research questions will be answered. The findings of these stages will be discussed in the next section.

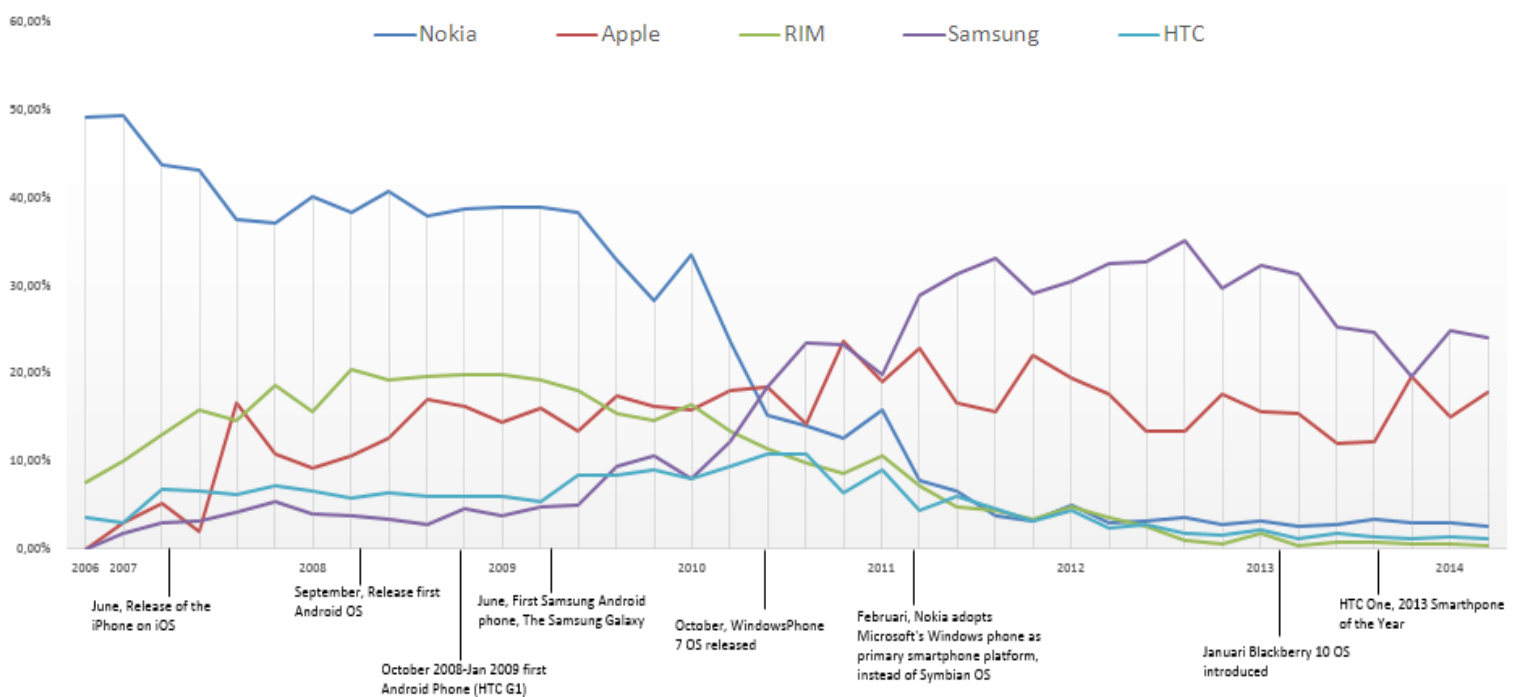


## FINDINGS: MANAGING THE DISRUPTIVE TECHNOLOGY PARADOX

Before going into the management practices that explain how the smartphone OEM's addressed the disruptive technology paradox first the staggering figures of the smartphone OEM's market shares are shown, figure 1. The developments in market share are a direct and important figure showing the consequences of the management practices and choices of each smartphone OEM. Although the translation from bad- or good management into markets share can have a delay, the use of this broader time frame allows to draw conclusions.

**Figure 1:**

### Market share of the Smartphone OEM's during the smartphone transformation



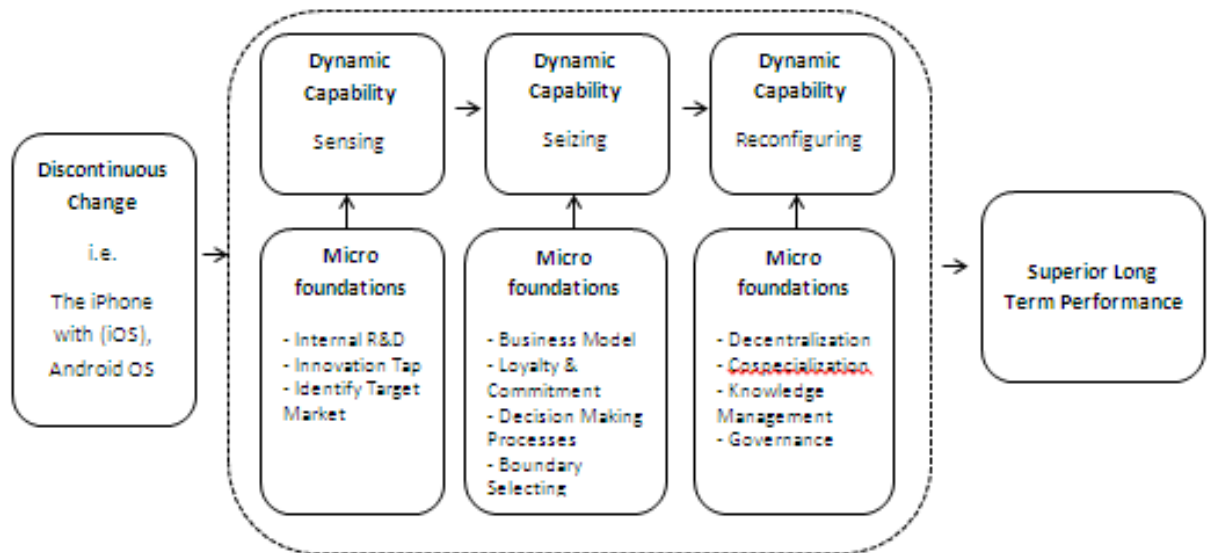
As can be seen its Apple Inc.'s game-changing iPhone from 2007 in combination with the free Android operating system that was released in September 2008 that made it hard for the incumbent smartphone OEM's to maintain margins. The introduction of these new platforms enabled the new smartphone with touchscreen, an easy user interfaces and a real browser experience herewith redefining the smartphone industry. The figure shows how Nokia who once dominated the industry with 49% market share dropped to a mere 5% market share in just five years. A same story which can be told for RIM (Blackberry) who

faced a steep decline of 16% market share in just four years. During the same period from 2007 to 2012 the market shares of the two victors, Apple and Samsung, rose to respectively 20% and 25%. These jaw dropping numbers overshadowed the story of HTC. A smartphone OEM that was the first to successfully adopt Google's Android OS, which became the leading operating system having a 68.8% market share in 2012. To compare iOS in that year had a 18.8% market share and Blackberry, Symbian and Windows all beneath the 5% (Cecere et al., 2015). HTC however from 2010 onwards saw a drop in market share as well. Where it from 2008 to 2010 according to Strategy Analytics *'had been quadrupling its volume taking advantage of the exploding Android market'* . From 2010 onwards it was not able to continue their path of success. HTC's path herewith shows an inverted U-shape. So HTC reacted extremely well on the disruptive change initiated by Apple's iPhone, something that Nokia and RIM were never really able off. But despite its fast start faced a similar decline as Nokia and RIM ending at mere 2% market share in 2013. In analyzing how the smartphone OEM's coped with the disruptive technology paradox HTC deserves some extra attention.

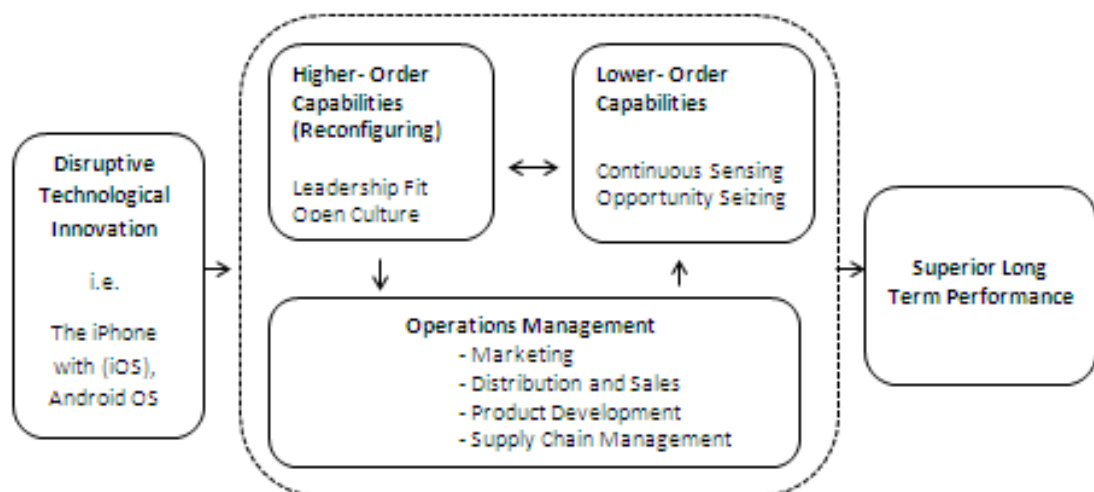
In analyzing of how the five smartphone OEM's coped with the disruptive technology paradox themes very similar to the themes of sensing, seizing and reconfiguring as discussed by Teece (2007) did emerge. Teece's approach of dynamic capabilities is one of the most influential approaches of how firms can deal with the more general subject of discontinuous change (Birkinshaw et al., 2016). The 'dynamic capabilities' of sensing, seizing and reconfiguring are the firm's organizational and strategic routines by which firms are able to address rapidly changing environments (Teece et al., 1997). This research emphasizes some different aspects and in line with Birkinshaw et al. (2016) agrees that Teece's model of dynamic capabilities needs to be slightly adjusted. This without being inconsistent with Teece's view that excellence in dynamic capabilities undergirds an enterprise's capacity to successfully innovate and capture superior long-term performance (Teece, 2007). Including the role of operations management, abbreviated as OM, explicitly as proposed in this research is also something which is not inconsistent with Teece's work. Many of what Teece (2007) describes as micro foundations -the distinct skills, processes, procedures, organizational structures, decision rules and disciplines which undergird the dynamic capabilities- namely can be supported via operation management capabilities (See Figure 2).

**Figure 2:**  
**Theoretical Models**

**Teece (2007):**



**This Paper:**



Broadly speaking, four themes were revealed by the analysis. A first theme exists of the two capabilities of leadership fit and open culture which allow continuous sensing and opportunity seizing to transpire. Herewith, in line with Birkinshaw et al. (2016) these capabilities can be seen as higher-order reconfiguring capabilities. If a company develops these capabilities it namely enables companies to reconfigure it's intangible and tangible assets. Continuous sensing and opportunity seizing are herewith seen as lower-order

capabilities, enabled by and in close relation with the higher-order reconfiguring capabilities. The model at this point differentiates from Teece's linear model where sensing, seizing and reconfiguring are all seen as higher-order capabilities.

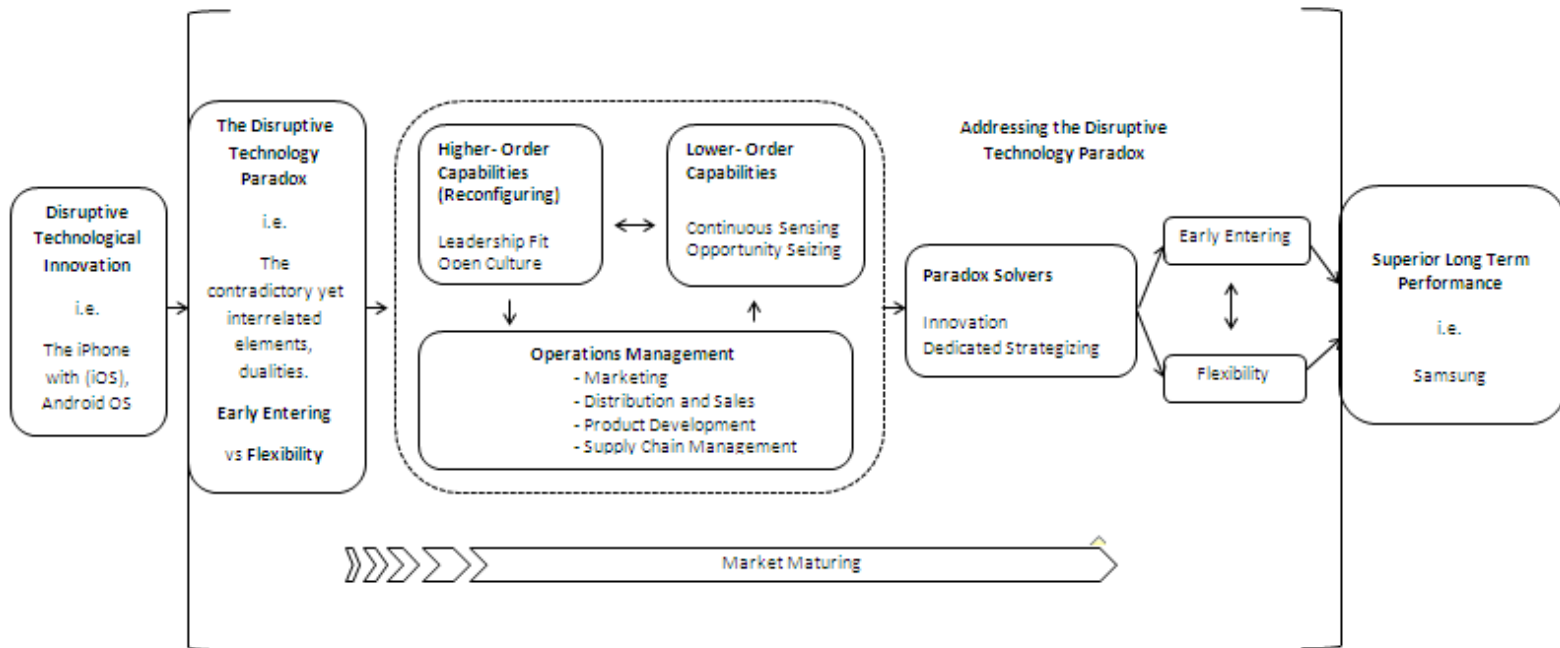
The second theme consists of the continuous sensing and opportunity seizing capabilities. Capabilities which are crucial for a company to first see opportunities coming but also keep on the lookout for market changes and next seize opportunities to create competitive advantage. A company thus has to be able to use individual capacities and organizational processes to monitor the environment (Teece, 2007). The capacity to seize opportunities according to Teece (2007) involves to decide in which new technologies to invest, which business models to build, to select enterprise boundaries and build loyalty and commitment among employees. Important seizing activities emphasized in this research are diversification in product portfolio and markets.

The third theme is operations management. The key Operations Management (OM) capabilities are according to the analysis marketing, distribution and sales, product development and supply chain management. Business practices which are necessary to support the sensing and seizing capabilities. The higher-order reconfiguring capabilities of leadership fit and open culture allow these operations management capabilities to change in focus from marketing focused efforts to identify customers and new product development in early market phases to a focus on faster product cycles, distribution and sales, supply chain management and branding when markets mature. As argued by Teece (2007) superior operations management is not a dynamic capability but it is here emphasized as being a critical enabler of the lower-order capabilities of sensing and seizing.

The last theme is made up out of the outcomes of the interrelations of the three themes where the higher-order capabilities enable a company to sense and seize as well as change focus of operations management capabilities to create radical innovations in periods of discontinuous change, incremental innovations in maturing markets and a have a dedicated strategy to gain market share fast as well as retain it. The ability to innovate allows a company to enter early in a new market and also switch to a new technology if another didn't work out. Dedicated strategizing allows a company to become an early entrant as well as recognizing (un)successfulness fast. Innovation and dedicated strategizing can thus be seen as paradox solvers enabling a company to cope with the competing

demands of early entering and flexibility to deliver superior long term performance (See Figure 3, extensive theoretical model).

**Figure 3:**  
**Managing the Disruptive Technology Paradox**



This study will now turn towards the cases, the five smartphone OEM's, from which these insights are deducted. The themes will be discussed in the same order. Finally a brief summary is given in which the most crucial aspects are summarized that explain why Apple and Samsung successfully coped with the disruptive technology paradox during the smartphone transformation and why Nokia, RIM(Blackberry) and HTC failed.

### **Higher-Order Reconfiguring Capabilities: Leadership Fit and Open Culture**

#### *Leadership fit*

Leadership fit is the capability of a company to have the right leader and leadership form to have a constant fit with the environment. Timely changes of leadership are needed to allow a company to focus on the required capabilities for each period of time hereby enabling a company to reconfigure it's intangible and tangible assets. This research founds that in the

early stages of an industry leadership should stress more radical innovation, stressing sensing capabilities. Entrepreneurial leadership, charismatic leadership or autocratic leadership focused on innovation have been found suitable. In a maturing market focus should shift towards opportunity seizing, incremental innovation and efficiency. Leadership style's such as strategic leadership and transactional leadership are more appropriate. Findings which are consistent with the work of Vera and Crossan (2004).

Apple is a prime example that really benefited from a perfect leadership fit. In one of the most famous tech-titan turnarounds the revival of Apple began when co-founder Steve Jobs in 2000 returned to the company. One of his first steps was calling a truce with Microsoft and winning commitment from them to write a version of Office software for Apple's Mac computer. Steve Jobs connections, entrepreneurial spirit and marketing sensibility led to create Apple's success products of the iPod and later iPhone. When Steve Jobs passed away and Tim Cook replaced him as the new CEO of Apple the smartphone market was already maturing. Tim Cook focused on operations management, exploring new markets such as China in which the company would double its Apple Stores as well as staying put about the company's premium image. Herewith maximum profitability was aimed for without overemphasizing an entrepreneurial perspective in a maturing market.

HTC on the other hand was forced to replace its visionary and autocratic leader Peter Chou. Although the company faced a rapid decline in market share starting in 2011 Peter Chou kept on focusing on product developments and innovativeness although the high end market was now being dominated by Apple and Samsung and the low-end market was largely denied which was now addressed by Chinese vendors such as Huawei. Out of Taipei in 2013 reports filtered out of an autocratic leader who is out of touch with the industry. Peter Chou got replaced by Cher Wang in 2014. HTC in its 2014 annual report confirms the importance of leadership fit stating that:

*'The Board of Directors agreed on a strategic change at the top herewith laying the foundation for the next stage of HTC's development. '*

Arguably this change came too late as HTC already made some crucial mistakes focusing too much on product development with multiple platforms burning money fast and losing in its most important US market from Samsung. HTC therefore missed out on revenues and scale

advantages facing an increasingly difficult situation. Where Peter Chou's visionary and strong leadership lead HTC to great heights in the early industry faces he lacked the capacity to steer HTC successfully in the maturing smartphone market. As critics say he is aloof and autocratic and does not realize that a great product will not fix sales, marketing and distribution problems.

At Nokia and RIM leadership misfit dragged the companies down as well. To start with Nokia. Olli-Pekka Kallasvuori, Nokia's CEO from 2006-2010, was the CEO that needed to respond on Apple's disruptive iPhone. During his reign he changed the culture of the company towards a culture of management by numbers (Bouwman et al., 2011). This is something which is explained by his background as lawyer and CFO of Nokia as well as the change of American mutual funds who followed up Finnish investors (Bouwman et al., 2011). As mentioned by De Wit and Meyer (2010) he was fit to deal with the financial markets and to optimize production but was not the visionary that was needed in times of disruptive innovation and market change. The visionary CEO capable of turning Nokia around had to be Stephen Elop who at the end of 2010 replaced Mr. Kallasvuori. Mr. Elop however became famous for his too radical changes letting Symbian and MeeGo drop for a new unproven Windows Platform. In arguably his most famous statement, of a leaked memo, Mr. Elop compared Nokia to a burning platform. In jumping to something new he lost a lot of market share fast, too fast for a new platform to back it up. According to an analyst of Bernstein & Co.,: *'Precipitous market-share losses will take Nokia's brand visibility to all-time low levels and potentially create negative brand equity amongst consumers'*. Hiring a CEO from outside the company did bring a change in Nokia's strategy however such a big change, in which its entire business had been dropped fast left Nokia unable to turn its revenues into a new profitable direction.

Lastly, at RIM the CEO's Lazaridis and Balsillie, like Kallasvuori, didn't have the stomach for a radical change. Apparently for people that build a successful company it's hard to change the product that made the company so successful, once. When the company finally changed CEO's in January 2012 it already knew two years of rapid declining market share. The new CEO Thorsten Heins found himself in the situation in which two separate companies had been created. QNX focused on outfitting high-end cars with machine to machine technology which was created by technical genius 'Mr. Lazaridis' and RIM which was still focused on the smartphone wars where business man 'Mr. Balsillie' who oversaw sales and

marketing was busy with. According to a former executive of RIM: *'The minute the management structure settled and the minute they eliminated any debate about who was first, they could just lock and commit. So although there was a lot of work going on on Blackberry 10 prior to Thorsten, from January 2012 it moved from No. 1 priority to being the only thing anyone did'*. These efforts have come too late, RIM now faced the challenge to expand the developer base around its ecosystem and convince developers to work and innovate with BlackBerry 10. With Android and iOS having already an immense app base this became increasingly hard, undoable, and as a specialist of RBC Capital Markets said in an ultra-competitive market in which most consumers have made up their mind BlackBerry now needed to really wow the audience.

### *Open Culture*

A second higher-order reconfiguring capability stressed by this research is having an open culture. In order for a company to successfully change, adapt a new technology whether if an old technology was replaced or not, the culture of a company needs to be open to decrease the tendency to stick to the old and trusted. The fully benefit from the sensing capabilities an open culture is required. Instead of avoiding discussions and tensions a culture is needed in which these tensions are encouraged to learn from and relieve emotional stress (Smith et al., 2010). In an article by Ed Catmull, the CEO of Pixar, he describes how a culture of openness allows for creativity, the innovativeness in the film industry (Catmull, 2008). Creativity is seen in people he argues and promoted via no ego group sessions and working together as peers. Only if clear values, constant communications and the regular injection of outsiders who will change the status quo plus strong leadership is combined blindness can be prevented and success be sustained (Catmull, 2008).

At Nokia and HTC clear indications were found these companies failed in having this open culture. The fact that HTC leader Peter Chou is often pictured as an autocratic leader at first indicates engagement and open discussions about the direction of the company are out of question. HTC also had to file complaints at executives who were accused of stealing company secrets which shows serious issues in the company's culture because it was even the vice president of product design, Thomas Chien, that for this was arrested in august 2013. HTC's strong corporate culture is further confirmed when it searched for the replacement of CEO Peter Chou. When no clear internal successor could be found because of



the top-heavy Taiwanese culture an outsider also was unlikely. Which is contrary to for example Catmull's argument for having outsiders challenging the company's status quo.

At Nokia where the corporate culture had been changed into one of a culture by numbers (Bouwman et al., 2011), stresses the change and focus on something which is counterproductive for engagement. The introduction of a matrix organization in 2004 also expanded a growing bureaucracy in which people spend less time on their jobs and more time in bureaucratic procedures waiting for clear decisions. So although Nokia still had innovative talent the organizational structure and culture was such that skills could not be deployed (Bouwman et al. 2011). The radical switch made by Mr. Elop to leave Symbian and MeeGo further harmed the company's culture. Chief technology officer Mr. Green left the company because of his disagreement with management decisions to abandon the plans to introduce devices based on MeeGo OS. Putting aside Symbian and MeeGo in the way done by Mr. Elop is likely to face resistance as many executives for a long time worked on these platforms. Put forward by Vuori and Huy. (2015) this inappropriate culture at Nokia was the prime reason Nokia lost the smartphone battle. According to them shared emotions of fear where top managers were afraid of external competitors and shareholders and middle managers were afraid of internal groups, including superiors and peers the tendency to share information was reduced which lead to misinterpretations and subsequent integration of attention influencing the innovation processes resulting in temporal myopia.

A company that did have this open culture and sought to embrace tensions and learn from them is Samsung. A study by Song et al. (2016) fully devoted to Samsung's capability of managing co-optition, the simultaneous forces of competition and cooperation within the business group, points this out. Cooperation fosters knowledge sharing and learning between organizational parts hereby improving innovation capabilities and competition in contrast enhances organizational flexibility as well as challenging the status quo. Combining both lead for Samsung to have dynamism and synergies simultaneously. Herewith Samsung was able to innovate while still staying open to embrace new business opportunities in the smartphone industry.

Having an open culture in which tensions are engaged and the status quo is regularly challenged is thus crucial for to be able to reconfigure. Besides the case analysis and supporting articles the interviews with business experts pointed this out as well. One of the

interviewees who worked at Apple for example told that there they had a policy of 'Fit and Stand Out':

*'Fit is adapting to your environment, survival of the fittest. Stand out means you are the best in that. That is actually the cultural side that must be there. One of staying open, keep looking for new things'.*

Here Apple thus created the possibility to change focus by having people being open for this. Or as described differently by one of the other interviewees in order to change to something new: *'it's really building a culture, be open, positively open to change'* .

### **Lower-Order Capabilities: Continuous Sensing and Opportunity Seizing**

#### *Continuous Sensing*

Continuous sensing is the capability of a company to not only sense new opportunities by scanning and interpretive activities (Teece, 2007) but keep doing this during every market stage. As stated by Teece (2007) investments in research and related activities are necessary. As indicated by this research following the market trends to spot for example emerging markets is as important too. Being able to do this continuously holds an important feedback function towards the higher-order reconfiguring capabilities. This argument follows the paper of Lumpkin and Dess (2001) in which it is argued that in dynamic environments or growth stages proactiveness 'acting in anticipation of future demand' is an appropriate mode whereas in hostile environments or in mature industries companies are more likely to benefit from competitive aggressiveness. Companies thus need to stay alert, sensing the market and possibly alter their strategy (Lumpkin & Dess, 2001).

Looking at HTC it is clear they profited tremendously from their aggressive bet on Android. Demonstrating great sensing capability's in the early market stages. HTC however was slow to recognize the enormous potential in Asia missing out on the demand in the lower end of the market. As late as 2012 HTC's CEO Chou unveiled a strategy that included cultivating business in Asia and Europe. At the time already knowing that the market shares it once had in the US, where it was the number one vendor until 2011 with 5.7 million smartphones shipped according to Canalys, would be hard to get back.

RIM as well as Nokia both did not sense well in the first place, at least lacked the openness to do something with their sensing capabilities. Nokia's CEO for example blamed capacity constraints for a lack in sales although it was clear only their smartphone division sold significantly less. According to Nokia's Mr. Vanjoki (President of Markets at Nokia) their lack in sales were caused by *'aiming on too geeky a community'*. It is clear for Nokia it was hard to recognize the new smartphone trend. RIM also saw only late that in order to meet the needs of the new market it had to replace its software platform that had become antique, according to a former RIM executive.

Apple and especially Samsung on the other hand did not only recognized what the market was looking for in the beginning but kept doing this during the market's maturing. Apple's CEO Mr. Cook in 2012 for example clearly stated that:

*'China has an enormous number of people moving into higher income groups, middle-class if you will, and this is creating a demand for goods'.*

So after creating a market need with the iPhone Apple continued to read the market carefully. Samsung from 2010 adopted an aggressive strategy for entering the smartphone market, seeing an enormous growth potential but kept on understanding the game perfectly innovating incrementally to sell well. Or as Kevin Packingham, chief product officer of Samsung said:

*'Studying the market helps Samsung to build confidence for the wireless carriers that its mobile devices will sell well, which in turn persuades the carriers to aggressively sell'.*

Next to this when the market was maturing, 2013, Samsung responded to cheaper Chinese Android devices by launching more affordable devices as well. To keep options open, know at what direction the company needs to head continuous sensing is a necessary competence. If mastered well fast gained market share can be retained because as HTC showed market share could otherwise leave you very fast as well.

### *Opportunity Seizing*

When opportunities are recognized in order to capitalize companies need to seize opportunities. This must be done via new products, processes or services (Teece, 2007). The

importance of diversifying the new products as well as diversifying the product portfolio has not been stressed by the work of Teece (2007). This study agrees that the microfoundations of choosing an appropriate business model, selecting decision-making protocols, manage complements and control platforms and build loyalty and commitment (Teece, 2007) are important. However, to spread risk and generate large sales hereby gaining economies of scale diversification in product portfolio and markets is important as well.

Starting with diversification practises, on the product base this was actually done pretty well by HTC. Because of its broad product portfolio from the HTC sensation to the Wildfire it had delivered HTC a number one spot in the US smartphone market in 2011. Samsung also did a good job in offering a diversified portfolio of products having a good mix in the smartphone market ranging from smartphones from \$120 to \$600. Apple with only one phone experienced falls in global market share in the quarters leading up for the next launch allowing Samsung to take over its number one Smartphone OEM position according to Strategy Analytics.

In terms of diversification in markets HTC made a crucial stumble in comparison to Apple and Samsung. HTC according to Strategy Analytics shipped in 2011 50% of its smartphones to the US. When however Asia came up as a high growth market HTC was slow to expand. In that same time they lost from Samsung and Apple in their most important US market. The Chinese Market, where demand at the same point in time (2011) started to explode was at that point a however still a nascent market to HTC. Market diversification thus had now to be executed fast. Samsung on the other used a diversity in markets to grow their market share. This is one aspect where Samsung really distinguished itself from Apple too gain the number 1 spot and why HTC lost market share rapidly. As stated by an analyst of IDC's:

*'Samsung has used its established relationships with carriers in a mix of economically diverse markets to gain share organically'.*

To create large sales, seizing the opportunities, diversifying in both product portfolio and markets is thus important. Relying on one market as shown by HTC or on one product as shown by Apple arguably lead to less sales and less profitability not fully seizing the opportunities.

## Operations Management

Lastly, the analysis highlighted the importance of having excellent operations management capabilities. OM encompasses the ability of an organization to produce goods and services (Slack et al., 1998). OM is concerned with managing capacity, flows and bottlenecks, more generally OM plays a central role in executing a company's strategy and encompasses multiple capabilities such as order entry, purchasing, financial controls, inventory controls, sales and marketing (Coughlan & Coughlan, 2002; Kleindorfer et al., 2005; Teece, 2007). The key OM capabilities revealed by the analysis are marketing, distribution and sales, product development and supply chain management which support the low-order capabilities. Marketing can for example focus on identifying the customer needs to support the sensing capability of a company. Distribution and Sales management are crucial in seizing opportunities bringing the product successful to the market. If organized in an excellent way OM supports the company to achieve agility, adaptability and alignment (Lee, 2004). This is also confirmed by Teece (2007) who states that superior operational competence has the potential for a time to support superior performance (Teece, 2007).

## Marketing

Samsung and Apple both putted a lot more effort in marketing as well as distribution channels than HTC. Estimated by a broker at Sanford Bernstein Samsung spends about six times more than HTC supporting its sales, while Apple spends nearly four times as much. So as said by a former HTC executive: *'HTC had always made great products. It just can't sell to save itself'*. Aggressive advertising and marketing spend by Samsung, which dwarfs even the likes of Coca-Cola, is one of the reasons for Samsung's success according to Mr. Mawston executive director of Strategy Analytics. Apple who is based in the US always have been big in its home market, relying on the power of its brand, one of Apple's strong suits. HTC which from 2011 had not been able to grow its brand and distribution capabilities therefor was beaten by Samsung and Apple in its most important US market. When it attempted to come back with in terms of computing speed the most powerful smartphone, HTC One X, attention was drowned out by the buzz around Samsung's Galaxy SIII model.

### *Distribution and Sales*

In terms of distribution and sales according to a Goldman Sachs research in 2013 HTC lacked at this point performing below industry standards. The report pointed to:

*'HTC's recurring inventory problems and said that sales execution and channel management remain below industry standards'.*

Samsung the other Android smartphone OEM at this point fared extremely well, using its established relationships with carriers in a mix of economically diverse markets to gain share organically. Apple to other giant in the smartphone market also is known for its power to compel carriers to make commitments to buy a certain number of handsets. In 2013 Apple even succeeded in having Verizon Wireless made a multiyear, multibillion-dollar commitment to buy iPhones in order to get Apple's smartphone onto its network. Apple even seemed to have greater power to compel wireless carriers than Samsung despite its market share gains. One possible explanation for the differences in distribution and sales capacity among these smartphone OEM's can be found in the amounts spend to sales support. According to an analyst of broker Sanford Bernstein:

*'Samsung spends about six times more than HTC supporting its sales, while apple spends nearly four times as much'.*

To support especially the seizing capability of a company having distribution and sales management on par seems to be a necessity.

### *Product Development*

Companies which are able to develop new products quickly in such a way that people are anxious to buy are likely to win the nexus of competition (Brown & Eisenhardt, 1995). The smartphone OEM that excels in this competence of product development is Samsung. As expressed by Mr. Mawston ,the director of Strategy Analytics, the speed and urgency of Samsung is exactly what differentiates them from all other Android players. As argued by Anthony Michell the author of 'Samsung Electronics and the Struggle for Leadership of the Electronics Industry' Samsung has the competence to go from design to production faster

than anyone at the present time. Which thus in line with the work of Brown and Eisenhardt (1995) allows to win the competition.

Proof of this is provided when Samsung shortened the life cycles of its flagship products which enabled them to stay ahead of rivals by bringing models with slightly superior specifications to the market. Samsung's operating speed even helped them in retooling the Galaxy S III at incredible speed to stay ahead of the patent battle with Apple. Apple who in 2011 delayed their new iPhone 4S saw an immediate drop in sales, which were disappointing in the third quarter of 2011. The fact that Samsung in the meanwhile, 2013, is completely vertically integrated owning the factories that make everything from memory chips to the screens and writing its own apps have only improved their product development competence.

Two smartphone OEM's that did not have this competence are Nokia and RIM. To provide some examples, Nokia in 2010 saw its market share drop dramatically for the first time. This was in the year that Nokia announced that it wouldn't ship the product meant to challenge Apple's iPhone until it was of the quality needed to meet the end-user needs, as pointed out by Nokia's CEO Olli-Pekka Kallasvuo. Delaying the sale of its flagship because of software upgrades that took longer than expected have made Nokia pay twice, as figuratively pointed out by Wayne Lam, a senior wireless analyst at IHS. When it was as late as 2012 an enormous pressure was on Nokia's Lumia device which had to be sold, according to analyst, over 10 million times for Nokia to survive in the smartphone industry. Having a lot of troubles getting from design to production really tripped Nokia.

RIM actually showed the same issues only roughly a year later in time. In 2011 the new BBX platform which is a combination of QNX and Blackberry OS shed some light but flagships for this new platform, which later has been renamed BB10, were delayed from the beginning of 2012 to the first quarter of 2013. Herewith RIM's position as top five smartphone vendor became under tremendous pressure. In fact loosing 10% market share dropping from 10.50% in 2011 to 1.76% in 2013.

### *Supply Chain Management*

A last OM competence emphasized by the analysis is supply chain management. Supply chain management which in operational terms involves the flow of materials and products needs to be adequately managed to bring products fast to market (Mentzer et al., 2001).

According to Mentzer et al. (2001) bringing products fast to market is crucial because of an increasing emphasis on time and quality-based competition. Improving relations with suppliers to coordinate the flow of materials is a way of improving supply chain management. Getting a defect-free product to the consumer faster and more reliable than the competition has turned from a form of competitive advantage into a requirement.

HTC during their highest market share position according to Strategy Analytics was believed to have built a reliable reputation for building not only attractive models but also on-time models hereby gaining its favor at operators which as we have seen is important to increase sales. When HTC's market share fell in the years after 2011 it wanted to release its new flagship the HTC One in the beginning of March. However a shortage of the phone's camera components delayed its release to the end of April. Releasing a product on time however is necessary and delays are a bottleneck especially in a hyper competitive market such as the smartphone business. Apple with its new CEO Tim Cook on the other hand from 2011 onwards delivered its new orders on-time and on-quality allowing to handle new orders with great speed. Samsung the other successful smartphone OEM also showed high execution power and was even able to ship 12.6 million units worldwide in the first quarter of 2011. Samsung kept improving their supply chain management by vertically integrating everything besides its Google Android operating system. By owning factories that make everything from memory chips to the screens and writing own apps Samsung was able to keep delivering the most units in the industry.

## **Paradox Solvers**

### *Innovation*

Although the creation of radical innovations is perceived much harder and is critical to enter early into a new market this study emphasizes that in an evolving market a constant stream of incremental innovations is important too for superior long-term performance. The interrelations of the higher-order- and lower-order capabilities and operations management allow a company to create the required innovations needed to deliver superior long-term performance. These findings are in line with the innovation literature stream in which innovation is widely regarded as a critical source of competitive advantage in an increasingly



changing environment (Dess & Picken, 2000; Tushman & O'Reilly, 1996), as well as for the viability of the firm (Lekkerkerk & Dankbaar, 2012).

Apple clearly disrupted the mobile phone industry when it introduced the iPhone in June 2007 creating a new industry. It was Apple's ability to recognize that building a for once fun, simple and intuitive user-interface would be ground breaking. HTC already in October 2008 was able to come up with an answer being the first to adopt Google's creation 'the Android OS'. HTC thus had the right mix of elements to come up with innovate products. From 2008 to 2011 HTC with a strong range of Android products realized strong market share growth. In the same year HTC lost its crucial position in the US market to Samsung it according to an analyst at IDC also had a lack of innovation in that year. According to this analyst:

*'It's almost like a fashion market. They have had some great devices, but they didn't have that little sparkle or pizzazz'.*

In 2013 HTC's one was named best smartphone of the year because of its great design and excellent user interface which provided a differentiated user experience herewith standing out from the crowd. HTC thus in that sense kept the ability to create great product which in times when market share and profitability are decreasing is somewhat counterintuitive. An explanation is HTC's continuous focus on innovation stressed by CEO Peter Chou causing a lot of knowledge and capabilities still to be in the company. However as we have seen a lack of reconfiguring capabilities soon caused HTC to lose on many other point, lacking in operations management as well as sensing and namely seizing capabilities hereby soon losing its capacity to innovate as well.

Samsung, who was not so fast as HTC, showed a similar innovative capability. When Samsung released its Galaxy S smartphone line according to the intelligence firm IDC it shipments boosted fivefold. As expressed by Mr. Mawston the director of Strategy Analytics: *'Samsung's strategy was to build something similar than another company's product but make it better, faster and at lower cost, and when it pounced Samsung flooded the market with a wide range of models that were constantly updated with incremental improvements as a speed its rivals found hard to match'*. Samsung who did not have strong software capabilities adopted Google's Android OS hereby filling this gap. Contrary to HTC Samsung's

reconfiguring capabilities of leadership fit and open culture did keep them constantly improving their position, generating profits to further invest to stay on top.

Nokia who was first mainly innovative with hardware improvements also showed innovative capacity when they released their Lumia range in November 2011 because the phone showed low-level code, coordination and lots of design effort. However, similar to HTC resources would soon dry up because of a lack of leadership fit, an open culture and other aspects to see Nokia not being able to rise from its ashes.

RIM saw a similar but innovative wise an worse path than Nokia. RIM strangely never really believed in the new smartphone. They updated their Blackberry OS in 2009 and 2010 but this was not on par with Android or iOS due to the lack of touchscreen features, slick UI and Browser. A similar story can be told for its later products released on BB7 and BBX, the two newly created operating systems by RIM. Although most smartphone OEM's had a some point managed to innovate, although too late, RIM never really managed to come up with something innovative resulting in market share loss and eventually irrelevancy.

### *Dedicated Strategizing*

To be successful in the new market of smartphones marked by user friendly interfaces, touchscreens and easy to use browsers the analysis turned out a company needs to have a dedicated strategy. What is meant is that a focused strategy needs to be followed and executed aggressively. Apple and Samsung are both were able to execute such a strategy. Both companies possessed the higher-order reconfiguring capabilities, lower order capabilities and OM capabilities to execute their strategies aggressively. Nokia, RIM and HTC lacked various points, not having leadership fit, an open culture or OM capabilities and therefore were not able to have such a dedicated strategy.

Starting with the latter, Nokia's path in dealing with the disruptive technology paradox shows many inconsistency's. It was only in the beginning of 2010, three years after the launch of the iPhone when Nokia and Intel merged their software platforms to form a single Linux-based and fully open source platform MeeGo. Not soon after CEO's had been switched and Stephen Elop replaced Olli-Pekka Kallasvuo, in which Nokia writes in their annual report of 2010 it might not maintain viability of the current OS Symbian as well as see a return of its investments in MeeGo. In June 2011 however Nokia launched the N9, the

outcome of efforts in Nokia's MeeGo platform, the platform that would be used to emphasize longer-term market exploration of next-generation devices. Then later in that same year Nokia unveiled a completely revamped smartphone strategy with plans to shift the majority of its future volumes to Microsoft's Windows Phone. Meanwhile, dropping Symbian and MeeGo almost completely. In short these unfocussed efforts led to a drop of 46% market share in the Asia Pacific Region in the years 2010/2011, and a drop of 10% in global market share in the year 2011, when the switch towards Microsoft's platform was realized. These inconsistencies for Nokia turned out to result in a loss of 5,- € billion. Losing so much in these years, from 2012 onwards it would become almost impossible to come back for Nokia.

HTC that first very successfully adopted Google's Android also suffered from a similar failure. According to an analyst of Topology Research Institute in Taipei '*HTC's portfolio was a mess. They wanted to make Android, Microsoft and Facebook phones*'. He argued they should have concentrated instead of wasting their money. From 2010 onwards this was one of the issues HTC faced, spending a lot resources not really making profits mainly because of losing from Samsung in the US on the Android Market.

Apple and Samsung both showed a dedicated strategizing. Apple from the beginning fully devoted all their resources and attention to iOS, similar as Samsung which according to IDC from 2010 onwards almost solely shipped Android driven smartphones. Both companies saw the market shares of their OS's growing and aggressively boosted their products into the markets. In a hyper competitive market such as the smartphone market these companies benefited from the unfocussed efforts of their competitors, gaining profits and market share quickly. From 2010 to 2012 Apple and Samsung grew their market share with roughly 4% and 21% to respectively 20% and 30% market share. Where Apple already realized a lot of growth in 2008-2010.

Herewith it is indicated that in line with the earlier discussed literature a generalist approach is unsuccessful (Eggers, 2012). Possibly because organizational breadth reduces incentives to learn and adapt (Morris & Moore, 2000). Certainly because a lack of resources is about to trip the company impeding it from executing an aggressive strategy as well, something which is needed to gain market share quickly. Although dedicated strategizing thus seems in contradiction with the demand of flexibility this is not the case. A focused and aggressive approach is guided by sensing and seizing capabilities. The changes of being

completely wrong are thus minimized and because an aggressive strategy allows companies to recognize (un)successfulness faster even enables it to move faster into the successful direction. In early stages a dedicated strategy thus can harness flexibility as well as successful early entering. When markets mature as we have seen with HTC betting on too many horses is costly, changing success into failure.

### **Summary of Smartphone OEM's addressing the Disruptive Technology Paradox**

After the disruptive innovation of the iPhone in 2007 a period of high pressure to come up with an appropriate answer for the incumbent smartphone OEM's Nokia and RIM starts. A lack of leadership fit and open culture prevented them from having the right sensing and seizing capabilities. Both smartphone OEM's almost completely missed out on the new market that was arising so quickly that as soon as Nokia was ready for the market it had already lost too much to come back. RIM not soon after Nokia faced a similar path and even worse than Nokia never really acknowledged that the smartphone market had transformed. HTC which was led by its visionary and powerful leader Peter Chou was the first to react fast but after that missed the leadership fit and opportunity seizing capacity to capitalize and become one of the top smartphone OEM's of today. Samsung and Apple showed that possessing the capabilities of leadership fit and an open culture allowed them to have the right focus of OM capabilities and to continuously sense the market and capitalize on their opportunities. They both pursued a dedicated strategy to build their empires in such a way it would become increasingly hard for competitors to get into their market. When the market began to mature and shipment growth peaked competing with Apple and Samsung who both used their OM capabilities extremely well competing became increasingly difficult. The established OS's of Android and iOS attracted most developers attention and consumers began to have largely made up their minds. So within a short period of time the smartphone battle had been played. The question whether an open or more closed platform is better remains unanswered. In this industry dominant OS's have been arising, one more proprietary 'iOS' and another open 'Android' (Tracy, 2012). In line with the findings even a third or fourth OS could have existed as well. If Nokia would have had the right leadership fit and open culture it could have explored a new direction while still embracing its old self to provide revenues for the new, from that point forward using its already existing brand and distribution network to sit alongside Samsung and Apple. What one could have known is that

key requirements such as touchscreen, slick UI and great browser experience needed to be met and the OS needed to enable that. In that sense if a company did not have the capabilities to develop such an OS adopting an open platform such as Android would be a critical step. Overall these elements contribute to an understanding of strategy as a process (Mintzberg, 1978). There is no grand strategy from the beginning but higher-order reconfiguring capabilities such as leadership fit and an open culture, lower-order capabilities of continuous sensing and opportunity seizing and operations management capabilities that help a company to move through unknown and complex periods of a looming disruptive technology. If a company possesses these capabilities it is able to innovate and follow a dedicated strategy to deliver superior long-term performance.

## DISCUSSION AND CONTRIBUTION

This study began by asking how a company can address the challenges of the competing demands of early entering and flexibility raised by a disruptive technology that was introduced. Out of the analysis a theoretical model has been created that contains the elements at which the successful and unsuccessful smartphone OEM's differ in order to understand what is needed to cope with the challenges companies are faced with during the disruptive technology paradox. In this section the contributions of this study to different literature streams will be highlighted.

### *Contributions to the literature on Dynamic Capabilities*

Researching how superior enterprise performance can be sustained in an open economy with rapid innovation and globally dispersed sources of invention, innovation, and manufacturing capabilities Teece and others came up with the notion of dynamic capabilities (Teece et al., 1997). These authors identified the dynamic capabilities of sensing, seizing and reconfiguring as the firm's organizational and strategic routines by which firms are able to address rapidly changing environments (Teece et al., 1997). This research emphasizes some different aspects and in line with Birkinshaw et al.(2016) agrees that Teece's model of dynamic capabilities needs to be slightly adjusted. Leadership fit and an open culture have been identified as higher-order reconfiguring capabilities allowing continuous sensing and opportunity seizing capabilities to transpire. Herewith the same differentiating is made as by Birkinshaw et al. (2016). Next OM capabilities are stressed as a specific set of capabilities which support both the lower-order capabilities of continuous sensing and opportunity seizing. Although Teece (2007) did not specifically address OM capabilities in his model he does agree that superior operational competence have the potential for a time to support superior performance (Teece, 2007). Here OM capabilities are therefore explicitly taken into account. Lastly this research puts more emphasize on the fact that sensing capabilities need to be stressed during each market phase for an organization to timely alter it strategy into a state of competitive aggressiveness (Lumpkin & Dess, 2001). In general, although some different aspects are emphasized this research is consistent with Teece's view that excellence in dynamic capabilities undergirds an enterprise's capacity to successfully innovate and capture superior long-term performance (Teece, 2007).

### *Contributions to the literature on Paradoxes*

For this study a paradox perspective has been chosen to find new insights in how incumbent organizations can face disruptive technological change. Herewith this study aimed to adopt an alternative approach to combine conflicting logics to answer how companies can attend to competing demands simultaneously. Existing research distinguished many different strategies to address paradoxes (Schneider, 1990; Smith & Lewis, 2011; Smith, 2014). Among the strategies mentioned by different scholars there are actually three ways of coping with a paradox that have been identified. The strategy of 'accepting' encourages actors to 'live with' the paradox, implying that actors shifted their expectations to see paradoxes as unsolvable puzzles (Lewis, 2000; Smith & Lewis, 2011). The strategies of 'resolution', 'confronting' and 'choosing' are strategies aimed at discussing the tensions to socially construct a more accommodating understanding or practice (Smith & Berg, 1987). These strategies are bringing the opposites to the foreground to be able to meet the competing demands (Smith & Lewis, 2011; Smith, 2014). The strategies of 'accommodating' or 'transcendence' are aimed at finding a novel synergy between competing demands, understanding the paradox and be creative or think in a paradoxical way to find a solution (Lewis, 2000; Smith, 2014). This study finds that having an open culture in which the status quo is challenged allows companies to stay flexible. Next this research found that leadership fit in close relation with sensing capabilities allow an organization to stay open and make changes in strategy. Herewith this study adds to the strategies of resolution, confronting and choosing as paradoxical strategies that enable a company to meet competing demands simultaneously.

### *Contributions to the literature on the Era of Ferment and Strategy as a Process*

Lastly, this study contributes to the research gap of firm-level processes that explain how organizations adapt during the era of ferment. This is the period after the new technology emerges but before standardizations and commercialization (Moeen & Agarwal, 2015; Eggers, 2016). When Apple in June 2007 introduced the iPhone driven on iOS this 'smartphone' was still far from being the 'new' standard. Identifying the required capabilities in this era of ferment adds to this literature stream. So besides structure and framing which have been stressed by Eggers. (2016) the interrelation of leadership fit an open culture, sensing, seizing and OM capabilities are needed to be successful in the era of ferment.

The insights of this study also adds to the literature of strategy as a process (Mintzberg, 1978). This study shows that in dealing with the disruptive technology paradox not a deliberate strategy from the beginning can be formulated. A constant fit with the changing market needs to sought. The company's strategy changes but the corner stones in the form dynamic capabilities and OM capabilities allow a company to shift in focus and expertise.

## **CONCLUSION AND LIMITATIONS**

There was no obvious answer to the main question how the smartphone OEM's have addressed the challenges that were caused by the disruptive technological change embodied by the iPhone. This research revealed leadership fit and an open culture as higher order reconfiguring capabilities which allow the lower-order capabilities of continuous sensing and opportunity seizing to transpire. Operations management capabilities are stressed as supporters of the lower-order capabilities. The interrelations of these capabilities enable a company to create radical innovations in periods of discontinuous change, incremental innovations in maturing markets and have a dedicated strategy to gain market share fast as well as retain it. Innovation and dedicated strategizing can be seen as paradox solvers enabling a company to cope with the competing demands of early entering and flexibility to deliver superior long-term performance. Herewith the main research question is answered. Although a clear contribution to Teece's theoretical model of dynamic capabilities has been presented, a qualitative study of multiple cases has its limitations. A first limitation of this study is that all measurements are qualitative and even the most advanced qualitative studies have therefore their limitations to objectively measure (Brymann, 2006). A second major limitation exist in the limited generalizability of qualitative research in comparison to quantitative research (Atieno, 2009). This is because in qualitative research causalities and relations are not tested on statistically significance to exclude chance as a factor (Atieno, 2009). Future research could therefore test these qualitative findings by conducting quantitative research, testing the causalities of the relations have been made in this research. Next, to test the generalizability of the findings, quantitative studies are needed. Via similar research in different industries the generalizability of the findings presented here can also be tested. Lastly, follow-up research could study the different elements more in depth, analyzing how leadership fit and an open culture can be promoted within the



company. Although this research identified these capabilities as crucial it would be very relevant to study how these are created in the company. How for example can leadership fit be created? How can a successful CEO be replaced because in future phases a different leadership is required? How can an open culture be created and sustained? Many future research is thus needed to further strengthen the findings of this research.

## REFERENCES

- Adler, P.S., Goldoftas, B., & Levine, E. (1999). Flexibility vs. efficiency? A case study of model changeovers in the Toyota Product System. *Organization Science*, 10, pp. 43-68.
- Argarwal, R., & Helfat, C.E. (2009). Strategic renewal of organizations. *Organization Science*, 20, pp. 281-293.
- Atieno, O.P. (2009). An analysis of the strengths and limitations of qualitative and quantitative research paradigms. *Problems of Education in the 21<sup>st</sup> Century*, 13, pp. 13-18.
- Bayus, B.L., & Agarwal, R. (2007). The role of pre-entry experience, entry timing, and product technology strategies in explaining firm survival. *Management Science*, 54, pp. 1887-1902.
- Bleijenbergh, I. (2015). *Kwalitatief onderzoek in organisaties (2nd edn)*. Den Haag: Boom Lemma uitgevers.
- Bessant, J., Lamming, R., Noke, H., & Phillips, W. (2005). Managing innovation beyond the steady state. *Technovation*, 25, pp. 1366-1376.
- Birkinshaw, J., Zimmerman, A., & Raisch, S. (2016). How do firms adapt to discontinuous change? Bridging the Dynamic Capabilities and Ambidexterity Perspectives. *California Management Review*, 58, pp. 36-58.
- Boeijs, H. (2014). *Analyseren in Kwalitatief onderzoek Denken en doen*. Den Haag: Boom Lemma uitgevers.
- Boudreau, K.J. (2012). Let a Thousand Flowers Bloom? An Early Look at Large Numbers of Software App Developers and Patterns of Innovation. *Organization Science*, 23, pp. 1409-1427.
- Bouwman, H., Carlsson, C., Carlsson, J., Nikou, S., Sell, A., & Walden, P. (2014). How Nokia failed to nail the Smartphone market, 25<sup>th</sup> European Regional Conference of the International Telecommunications Society (ITS), pp. 1-18.
- Breschi, S., Lissoni, F., & Malerba, F. (2003). Knowledge-relatedness in firm technological diversification. *Research Policy*, 32, pp. 69-87.
- Brown, S.L., & Eisenhardt, K.M. (1995). Product development: Past research, Present findings, and Future Directions. *Academy of Management Review*, 20, pp. 343-378.
- Brown, G.A. (2006). Grounded Theory and Sensitizing Concepts. *International Journal of Qualitative Methods*, 5, pp. 12-23.
- Brymann, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6, pp. 97-113.

- Buisson, B., & Silberzahn, P. (2010). Blue Ocean or Fast-Second Innovation? A Four-Breakthrough Model to Explain Successful Market Domination. *International Journal of Innovation Management*, 14, pp. 359-378.
- Cameron, K.S. (1986). Effectiveness as paradox: Consensus and conflict in conceptions of organizational effectiveness. *Management Science*, 32, pp. 539-553.
- Carpenter, G.S., & Nakamoto, K. (1989). Consumer Preference Formation and Pioneering Advantage. *Journal of Marketing Research*, 26, pp. 285-298.
- Catmull, E. (2008). How Pixar Fosters Collective Creativity. *Harvard Business Review*, pp. 65-72.
- Cecere, G., Corrocher, N., & Battaglia, R.D. (2015). Innovation and competition in the smartphone industry: Is there a dominant design? *Telecommunications Policy*, 39, pp. 162-175.
- Christensen, C.M. (1997). *The innovator's Dilemma. When New Technologies Cause Great Firms to Fail*. Boston, MA: Harvard Business School Press.
- Christensen, C.M., & Overdorf, M. (2000). Meeting the Challenge of Disruptive Change. *Harvard Business Review*, 78, pp. 66-76.
- Christensen, C.M. (2006). The ongoing process of building a theory of disruption. *Journal of Product Innovation Management*, 23, pp. 39-55.
- Cohen, W.M., & Levinthal, D.A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35, pp. 128-152.
- Coughlan, P., & Coughlan, D. (2002). Action Research for Operations Management. *International Journal of Operations & Production Management*, 22, pp. 220-240.
- Crossan, M.M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies*, 47, pp. 1154-1191.
- Cuthbertson, R., Furseth, P.I., & Ezell, S.J. (2015). *Innovating in a Service-Driven Economy: Insights, Application, and Practice. Apple and Nokia: The transformation from Products to Services*. Hampshire, UK: Palgrave Macmillan.
- Danneels, E. (2004). Disruptive Technology Reconsidered: A Critique and Research Agenda. *Journal of Product Innovation Management*, 21, pp. 246-258.
- D'Aveni, R.A. (1995). 'Coping with hypercompetition: Utilizing the new 7S's framework', *Academy of Management Perspectives*, Vol. 9, No. 3, pp. 45-57.
- Dedrick, J., Kraemer, K.L., & Linden, G. (2011). The Distribution of value in the mobile phone supply chain. *Telecommunications Policy*, 35, pp. 505-521.

Dess, G. G., & Picken, J.C. (2000). Changing roles: leadership in the 21st century. *Organizational Dynamics*, 28, pp. 18-34.

Denrell, J., & March, J.G. (2001). Adaptation as information restriction: 'The hot stove effect'. *Organization Science*, 12, pp. 523-538.

De Wit, B. & Meyer, R. (2010). *Strategy Synthesis. Resolving strategy paradoxes to create competitive advantage*. Andover, Cengage Learning EMEA.

Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35, pp. 1504-1511.

Downes, L., & Nunes, P. (2013). Big-Bang Disruption. *Harvard Business Review*, 91, pp. 44-56.

Eggers, J.P. (2012). Falling flat: Failed technological investments and industry evolution. *Administrative Science Quarterly*, 57, pp. 47-80.

Eggers, J.P. (2014). Competing Technologies and Industry Evolution: The benefits of making mistakes in the flat panel display industry. *Strategic Management Journal*, 35, pp. 159-178.

Eggers, J.P. (2016). Reversing Course: Competing Technologies, Mistakes, and Renewal in Flat Panel Displays. *Strategic Management Journal*, 37, pp. 1578-1596.

Eisenhardt, K.M., & Schoonhoven, C.B. (1996). Resource-based view of strategic alliance formation: strategic and social effects in entrepreneurial firms. *Organization Science*, 7, pp. 136-150.

Eisenhardt, K.M. (1989a). Building theories from case study research. *Academy of Management Review*, 14, pp. 532-550.

Eisenmann, T., Parker, G., & Van Alstyne, M. (2009). Opening platforms: How, when, and why? *Platforms, markets and innovation*, ed. A. Gawer, 131-162. Cheltenham, UK: Edward Elgar.

Ericsson (2015). Ericsson Mobility Report, *Ericsson Online*.

Garud, R., Nayyar, P.R., & Shapira, Z. (1997). *Technological choices and the inevitability of errors*. Cambridge, UK: Cambridge University Press.

Gawer, A., & Cusumano, M.A. (2013). Industry Platforms and Ecosystem Innovation. *Product Development & Management Association*, 31, pp. 417-433.

Glaser, B.G., & Strauss, A.L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine De Gruyter.

Glaser, B.G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, CA: Sociology Press.

Greenstein, S. (2009). Open platform development and the commercial internet. In *Platforms, markets and innovation*, ed. A. Gawer, 131-162. Cheltenham, UK: Edward Elgar.

Grønli, T., Hansen, J., Chinae, G., & Younas, M. (2014). Mobile application platform heterogeneity: Android vs Windows Phone vs iOS vs Firefox OS. *International Conference on Advanced Information Networking and Applications*, 28<sup>th</sup>, pp. 635-641.

Haunschild, P.R., & Sullivan, B.N. (2002). Learning from complexity: Effects of prior accidents and incidents on airlines' learning. *Administrative Science Quarterly*, 47, pp. 609-643.

Helfat, C.E. (1994). Evolutionary trajectories in petroleum firm R&D. *Management Science*, 40, pp. 1720-1747.

Helfat, C.E., & Raubitschek, R.S. (2000). Product sequencing: co-evolution of knowledge, capabilities, and products. *Strategic Management Journal*, 21, pp. 961-979.

Henderson, R., & Clark, K. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of existing firms. *Administrative Science Quarterly*, 8, pp. 61-82.

Henderson, R. (2006). The Innovator's Dilemma as a Problem of Organizational Competence. *Product Innovation Management*, 23, pp. 5-11.

Kleindorfer, P.R., Singhal, K., & Van Wassenhove, L.N. (2005). Sustainable Operations Management. *Production and Operations Management*, 14, pp. 482-492.

Klingebiel, R., & Joseph, J. (2016). Entry Timing and Innovation Strategy in Feature Phones. *Strategic Management Journal*, 37, pp. 1002-1020.

Kotter, J.P. (1995). Leading Change: Why Transformation Efforts Fail. *Harvard Business Review*, 73, pp. 259-267.

Johnson, G. (1988). Rethinking incrementalism. *Strategic Management Journal*, 9, pp. 75-91.

Lee, H.L. (2004). The triple-A supply chain. *Harvard Business Review*, pp. 102-112.

Lekkerkerk, L.J., & Dankbaar, B. (2012). Towards better innovation structures using the Dutch STSdesign approach. Paper presented at: SocioTechnical Systems Round Table 2012 Working Conference, September 12-15, Canterbury, UK.

Lewis, M.W. (2000). Exploring paradox: Toward a more comprehensive guide. *Academy of Management Review*, 25, pp. 760-776.

Lewis, M.W., & Grimes, A. J. (1999). Metatriangulation: building theory from multiple paradigms. *Academy of Management Review*, 24, pp. 672-690.

Lieberman, M.B., & Montgomery, D.B. (1988). First Mover Advantages. *Strategic Management Journal*, 9, pp. 41-58.

- Lucas Jr, H.C., & Goh, J.M. (2009). Disruptive technology: How Kodak missed the digital photography revolution. *Journal of Strategic Information Systems*, 18, pp. 46-55.
- Lumpkin, C.T., & Dess, G.G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environments and industry life cycle. *Journal of Business Venturing*, 16, pp. 429-451.
- Manzerolle, V., & Herman, A. (2014). The Rise, Fall and Future of BlackBerry(TM) Capitalism. *Theories of the Mobile Internet: Materialities and Imaginaries*, pp. 105-133.
- Markides, C. (2006). Disruptive Innovation: In Need of Better Theory. *Product Innovation Management*, 23, pp. 19-25.
- Mentzer, J.T., De Witt, W., Keebler, J.S., Min, S., Nix, N.W., Smith, C.D., & Zacharia, Z.G. (2001). Defining supply chain management. *Journal of Business Logistics*, 22, pp. 1-24.
- Mintzberg, H. (1978). Patterns in Strategy Formation. *Management Science*, 24, pp. 934-948.
- Moeen, M., & Agarwal, R. (2015). Incubation of an Industry: Heterogeneous Knowledge Bases and Modes of Value Capture. Available at SSRN: <http://ssrn.com/abstract=2628172>
- Morris, M.W., & Moore, P.C. (2000). The lessons we don't learn: Counterfactual thinking and organizational accountability after a close call. *Administrative Science Quarterly*, 45, pp. 737-765.
- Noblit, G.W., Hare, R.D. (1988). *MetaEthnography: synthesising qualitative studies*. Newbury Park: Sage.
- Padgett, D.K. (2004). Coming of age: Theoretical thinking, social responsibility, and a global perspective in qualitative research. In D.K. Padgett (Ed.), *The qualitative research experience* (pp. 297-315). Belmont, CA: Wadsworth/Thomson Learning.
- Parker, G.G., & Van Alstyne (2005). Two-sided network effects: A theory of information product design. *Management Science*, 51, pp. 1494-1504.
- Patton, M.Q. (2002). *Qualitative research and evaluation methods* (3rd ed.) Thousand Oaks, CA: Sage.
- Regalado, A. (2014). The Top Technology Failures of 2014. *MIT Technology review*.
- Regalado, A. (2015). The 6 Biggest Technology Failures of 2015. *MIT Technology review*.
- Rosenberg, N. (1996). Uncertainty and technological change, in Fuhrer, J.C., & Sneddon Little, J. (Eds), *Technology and Growth: Conference Series No. 40*, Federal Reserve Bank of Boston, Boston: MA.
- Sandelowski, M., Docherty, S., & Emden, C. (1997). Qualitative Metasynthesis: Issues and Techniques. *Research in Nursing & Health*, 20, pp. 365-371.

Schneider, K.J. (1990). *The paradoxical self: Toward an understanding of our contradictory nature*. New York: Insight Books.

Schreiber R., Crooks D., & Stern, P.N. (1997). Qualitative meta-analysis. In *Completing A Qualitative Project: Details and Dialogue*. Thousand Oaks, CA: Sage.

Schmitt, A., Raisch, S. and Volberda, H.W. (2016). Strategic Renewal: Past research, theoretical tensions and future challenges. *International Journal of Management Reviews*, 00, pp 1-18.

Slater, S.F., & Narver, J.C. (1998). Customer-led and market-oriented: Let's not confuse the two. *Strategic Management Journal*, 19, pp. 1001-1006.

Smets, M., Jarzabkowski, P., Burke, G.T. and Spee, P. (2015). Reinsurance trading in Lloyd's of London: Balancing conflicting-yet-complementary logics in practice', *The Academy of Management Journal*, 58, pp. 932-970.

Smith, W.K., & Berg, D. (1987). *Paradoxes of group life*. San Francisco: Josey-Bass.

Smith, W.K., & Tushman, M. (2005). Managing strategic contradictions: A top management model for managing innovation streams. *Organization Science*, 16, pp. 552-536.

Smith, W.K., Binns, A., & Tushman, M. (2010). Complex business models: Managing strategic paradox simultaneously. *Long Range Planning*, 43, pp. 448-461.

Smith, W.K., & Lewis, M. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review*, 36, pp. 381-403.

Smith, W.K. (2014). Dynamic Decision Making: A model of senior leaders managing Strategic Paradoxes. *Academy of Management Journal*, 57, pp. 1592-1623.

Song, J., Lee, K., & Khanna, T. (2016). Dynamic Capabilities at Samsung: Optimizing Internal Co-opetition. *California Management Review*, 58, pp. 118-140.

Stern, P., & Harris, C. (1985). Women's health and the self-care paradox: a model to guide self-care readiness-clash between client and nurse. *Health Care for Women International*, 6, 151-163.

Strategic Management Society (2017). Strategies for Platform Ecosystems. <https://www.strategicmanagement.net/smj/overview/special-issues/open-calls>

Sundaramurthy, C., & Lewis, M. (2003). Control and collaboration: Paradoxes of governance. *Academy of Management Review*, 29, pp. 397-415.

Swanborn, P.G. (2010). *Case Study Research, What, Why and How?* London: Sage.

- Taylor, A., Helfat, C.E. (2009). Organizational Linkages for surviving technological change: complementary assets, middle management, and ambidexterity, *Organization Science*, 20, pp. 718-739.
- Teece, D.J., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18, pp. 509-533.
- Teece, D.J. (2007). Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance. *Strategic Management Journal*, 28, pp. 1319-1350.
- Tegarden, L.F., Hartfield, D.E., & Echols, A.E. (1999). Doomed from the start: What is the value of selecting a future dominant design? *Strategic Management Journal*, 20, pp. 495-518.
- Tracy, K.W. (2012). Mobile application development experiences on Apple's iOS and Android OS. *IEEE Potentials*, pp. 30-34.
- Tushman, M.L., & Anderson, P. (1986). Technological Discontinuities and Organizational Environments. *Administrative Science Quarterly*, 31, pp. 439-465.
- Tushman, M.L., & O'Reilly, C. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38, pp. 8-30.
- Vera, D., & Crossan, M. (2004). Strategic Leadership and Organizational Learning. *Academy of Management Review*, 29, pp. 222-240.
- Verschuren, P.J.M., & Doorewaard, J.A.C.M. (2010). *Designing a Research Project*. The Hague: Eleven International Publishing.
- Volberda, H.W., Baden-Fuller, C., & Van den Bosch, F.A.J. (2001). Mastering Strategic Renewal, Mobilising Renewal Journeys in Multi-unit Firms. *Long Range Planning*, 34, pp. 159-178.
- Voss, C., Tsikritktsis, N., & Frohlich, M. (2002). Case research in operations management. *International Journal of Operations & Production Management*, 22, pp. 195-219.
- Vuori, T.O., & Huy, Q.N. (2015). Distributed Attention and Shared Emotions in the Innovation Process: How Nokia Lost the Smartphone Battle. *Administrative Science Quarterly*, pp. 1-43.
- Walker, W.E. (2000). Policy Analysis: A systematic Approach to Supporting Policymaking in the Public Sector. *Journal of Multi-Criteria Decision Analysis*, 9, pp. 11-27.
- Walsh, D., & Downe, S. (2005). Methodological issues in nursing research, Meta-synthesis method for qualitative research: a literature review. Methodological issues in nursing research. *Journal of advanced nursing*, 50(2), 204-211.
- West, J. (2003). How open is open enough? Melding proprietary and open source platform strategies. *Research Policy*, 32, pp. 1259-1285.



Wingfield, N. (2008). iPhone Software Sales Take Off. Wall Street Journal, retrieved from: <http://online.wsj.com/article/SB121842341491928977.html>.

## APPENDIX I TRANSCRIPTS

### Interview I

Thesis research	Radboud Universiteit Nijmegen
Length of time	34:22 (34 minutes and 22 seconds)
File name	28 March 2017 13_12_12.mp3
Transcript (Sort)	<i>Literal :</i>  The transcript writer has typed out the text of the recording. Satisfaction has been sought: the sound recording has been repeatedly listened to - as far as possible - also accurately reproducing the hard-to-understand passages. In this transcription, the speaker's choice of words has been fully maintained and the language errors of the speakers are not corrected. The non-relevant text (such as stutter and repetitions) is not always displayed in this transcription.
Interviewer and Transcriber	Remco Klabbers

Interviewer = Remco Klabbers (R)

Interviewee = Interviewee 1 (I)

\*\*\* Start transcript

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R: Hello, thank you for giving me the opportunity to interview you.

I: No problem, I am happy to help you. Do you want to focus on some questions, or how ehmm, how are we going to do this interview

R: What I've done, I've made a half-structured interview. This means that I have made a couple of main questions but left plenty of room for completion. For you to elaborate on your thoughts and for me to ask further questions.

I: Yes, Oke

R: First discussing the topic of Research Ethics before we really start. This interview is solely used for research practices only and I will anonymize the interview.

I: Oke

R: I will now briefly describe the topic we are going to talk about. This is about strategic renewal, coping with radical changes by transforming yourself, beyond adaptation.

I: Yes

R: But first i would like to know your background. I want to make sure that the interviewees I interview meet certain requirements.

Profile Interviewee 1 (Over 20 years of experience as Manager and Entrepreneur):

- Studied Business Administration at the University of Rotterdam.
- First three jobs working at a purchasing department of companies active in the Electronics Sector.
- Working at Apple, in various functions. Strategic Marketing manager, Marketing Development, Channel Development, Business Development
- KPN, Final Manager Marketing for the Consumers Division.
- Becoming Entrepreneur supporting software and e-commerce companies
- Entrepreneur doing area development projects with a big role for technology.

R: Thank you, you far exceed the requirements form my research which is of course positive. Now I would like to start zooming in on the subject. The first question, in those different functions you have done, namely as a manager at Apple and KPN, to what extent did you notice that the company needed to radically adapt itself?

I: Yes

R: Did you notice this, was this a strong feeling?

I: Yes, certainly both apple and KPN. At apple I worked in the period when the internet just came up. We there used it before the internet came into the market. In the nineties it came to the market, in foreign markets as well. Then you see that the company needs to adapt because of a radically changing environment. At KPN, there was a disruptive change because a change in regime took place. The government said we are going to privatize you, bring you to the market. You will not become a monopolist, but 'one' of the providers offering telecom products. There the disruptiveness came from market organization. The company had noticed then that they no longer fitted the new environment. But the big disruptive power was in the stock exchange and in the fact that they were exposed to shareholders, shareholder value

R: Yes, yes

I: Before it relatively easy, a couple of civil servants who demanded how the service had to be delivered, demanding where to put down the masts etc.

R: That indeed is a big change.

I:Yes, yes, and those companies thus had the change right on the radar, but especially KPN was very inward focused. Apple on the other hand was already busy with the market, it was actually a player who caused the disruptive change.

R: So Apple was the disruptor.

I: Yes ... and did use colleague companies to make it disruptive. Like Amazon, Google, which made you realize and see the change in the market.

R: To further discuss this subject, where those companies busy with incumbent players as well, to enter into a cooperation, or in either way to strengthen the relationships with those companies? Can you say something about this?

I: Let me put it this way, Apple was really in a fight with Microsoft. A battle of titans.

R: Yes

I: Microsoft of course was a very innovative company, so it was actually a small innovative company such as Apple and a major innovative company Microsoft. But there were also companies such as IBM, Oracle and SAP. It was an environment of big innovative companies, helping each other but which also are each other's competitors.

R: Oke, But this is thus something else then the case of the Hotel market for example in which suddenly Airbnb comes up.

I: Yes, It's like this, everyone coming from a previous generation, there were mainframes, mini frames, and later computers, minicomputers and the pc computers, Everyone from the old guard sees the new guys as strange guys. The mini-companies such as Digital, They said those pc computer guys, that won't turn in something good. It's a sort of legacy that will become the old guard someday. IBM and Digital both very innovative did become at some moment the old guard. HP which was very innovative as well, the same case. For a lot of people this is hard, they see HP as very innovative and do not see, or don't want to, that it did not make the next step.

R: Oke this is exactly what intrigues me. What were the indicators you noticed when working there, that might be indicated as that something had to be changed. Did the company direct, drive these changes. Or was changing something that was in the company's DNA?

I: Yes at Apple, there was always the drive to be innovative, so they drove the market, in a sense. So from time to time there was a disruptive element. The indicators came from financial signals. You saw the margin on hardware decrease. As a company, this is a kind of early warning signal, you get a warning shot. If you stay in the hardware then you do not have business. So you have to move in the food chain.

R: And that was made clear by the company?

I: Yes, moving the business, the business is shifting. What in strategy is called the red queen effect. The market is moving fast but as a company you have to walk even harder. That Red Queen effect is an important phenomenon in those technology markets, because just walking fast is not enough. Then you run at the same speed as the others, the market. You really have to make an extra effort. So all those companies were in violation of the laws of More, so to say, technology pressure, cost erosion, or margin erosion, and that indicated that change was needed.

R: Were this also the effects you had interpreted yourself, what were your own indicators?

I : Yes ehh.. look partly, those companies also look at fairly traditional standards for success, such as market share and that kind of business. We did find that if you are a niche player, you could have a problem with volume and scale effects. That was of course a kind of squeeze where you came in. You could make a very nice computer, but if not enough was sold you could not survive. You had to search for scale. That was actually a continuous battle within Apple ... to say yes we now have a market share of 5%. Which was actually too low to get enough purchases going to be able to properly put those products on the market. We also saw that in our own figures.

R: Okay .... Yes, the next question. To what extent do you think that when a company is active in a high-tech market this creates an extra, what I mean is that Alber Heijn must also be busy with renewing itself, but to what extent does a high tech market face extra pressure?

I: Yes, to put it this way, innovation should of course be high and innovation only occurs if you have very heterogeneous teams, no monoculture, so diversity is important. So a good employee base resulting different countries, parts of the world, is important. All well connected, what we call open innovation today.

R: Yes..

I: You need people, but also different partners to get enough signals. You need to know what happens on the chip technology side for example as well as on the customer side, if you can match these two.. people are used to not throw away anything and save everything on their hard disc, than its good to know that these are getting bigger and bigger, faster as well. If you are able to make these connections and simultaneously think about developments in the technology world than the technology market offers an advantage. This of course is part of the success story of Apple. They were not just a Tech company, but were very busy with the human side as well. What is the human side of technology, the user-interface how can we serve people the best. How can we make these technologies accessible that people actually can do something with it.

R: This would mean that besides more or less pressure an innovative market offers more opportunities?

I: Yes what we saw is that many companies focused on technology, like HP. But if you're more involved with technology, you've got more to do with price pressure because there are many more businesses coming up who are going to make it. Unlike in the pharmaceutical market, because there they have patents, it is barely shielded here.

R: Because there are no patents?

I: Yes, there are patents but they do not work as effectively because people find ways to around them. If you can make a hard disk then anyone can make it. The design just had to

differ and instead you have to call it Motorola, and then it is allowed, you just need to do slightly something else. The fact that there is an enormous pressure to come up with technology's makes that if you can abstract from that by creating value with a design or brand, you in fact are able to turn around a bit of the pressure into margins, margins you can reinvest. Those clubs that were very much appreciated, who say we have great technology and also have the lowest price have little margin to reinvest. That's what you see at Apple, I believe wo has 93% of all margins worldwide on all phones. That does indicate how little the others can divide to reinvest in new technology's. So if you combine the strong brand, strong design and good ecosystem, it's more than just the technology that actually does the job.

R: Oke that, a clear story

I: Yes?

R: Yes... In your eyes what are the most important factors that make the transformation of a company successful, or not?

I: Yes, that is in fact a kind of holistic approach. It's not about doing one thing good, but doing all things good, at the same time. So you need to have a diverse team, you need to have open innovation, you need an ecosystem around your business, you need a platform strategy, work together in the chain. If you do it all, you've actually made the foundation for what we call, at Apple this was called, fit and stand out. Fit is adapting to your environment, survival of the fittest. Stand out means you are the best in that. That is actually the cultural side that must be there. One of staying open, keep looking for new things. Strategic renewal is today we're busy doing this we do not know what we are doing tomorrow but we are always open to learn new things. Its thus more important to look for people who can do something than people who can do something specific.

R: Yes

I : Because tomorrow those specific capabilities are no longer needed because then we'll do something different. It's more about searching people who can learn quickly than searching people who are good at one thing specific. In my opinion, it is also a sort of search of what kind of culture is needed and how can you cultivate it so that people do not get attached to a certain kind of position. So creating a kind of elite teams without a hierarchical structure having in mind that the journey is the reward. We are traveling and the fact that we are always traveling is the reward.

R: Not the destination

I: No. Not the destination, not the perks, the idea of being the boss of the department and having a big car, all of which are the perks. If you have many people who are attached to perks you have a wrong culture. Because if someone just comes in and says that we should look at it differently, it is said no 'we are not going to do it like that because we are doing it as we have planned to it'. So I think that this strategic renewal of an organization needs to be in the DNA, the culture, of a company and organizational wise it needs to be organized in such way such a culture can thrive. You can see companies doing this, if there is a new

innovation, then it's almost a kind of department outside the existing one which is established. Therefore you see companies like Cisco and Google also work with a corporate venture fund saying they invest in startups ..

R: and then picking the fruits

I: Yes, getting it from outside. Instead of being very good in letting it grow from the inside, you let it grow outside. Because if you want to let it grow from the inside you will need to detach people from their perks. If you are for example Shell, and you want to release a startup. You say oke, everybody say goodbye to your big car, we're going to an attic room to play as if we are a startup. This is something that doesn't work because people are attached to their perks.

R: Oke

I: So you have to create a kind of structure with a kind of continuous open connection with the outside. We have seen a nice club, so we invest. This allows us to grow that club quickly, and then you overtake it, that's what we call a strategic investment.

R: Do you believe that companies are able to continuously renew themselves, to stay there forever, is that possible?

I: Yes I actually do, you should read the book of Arie de Geus 'Living companies', in which he sketches the organization a living creature that continuously renews. An organization is like a rose bush, occasionally you have to prune the bush, you remove branches to make it grow again. If you look at shell, if we are going to prune all the divisions dealing with fossil fuels then the company would need to regroup in the direction of a new business. It needs to be deeply embed in the culture to say give space for a new business. Only than a company can change itself for the new market. But what you see is that shareholders are addicted to the drugs of shareholder value. At Shell you saw that they had headed to far in the direction of sustainability that they felt the need for more profit. They first wanted to create a fat cat, making a lot of profits out of fossil fuels.

R: Yes

I: In fact you get locked up

R: In that direction?

I: Yes in that direction. And so you actually kill the company. Because it means it cannot survive the next round because they are not suited to catch the next trend. So, despite the fact that there are companies that are constantly renewing, you see that there is a product life cycle for companies, just look at V & D, the retail company.

R: Yes, there are always big companies that eventually fade away, like we have seen in type machines and video recorders.

I: Yes, precisely, Xerox, IBM, of course has also been big in typewriters but moved to computers, to the Internet, now moving to networks. IBM is an example of a company that continuously makes that step. But they must tolerate parties like Google, Apple and Amazon, which, in fact, make the business much bigger than what IBM does. So they are always hindered, by a certain amount of limitations to renew themselves. So if you see it more like a type of jungle where you eat or eat, survival of the fittest, ehmmm, new combinations, the culture that has to be there and then you are not able to become the biggest. You always have to accept that there are faster ones in the field that although you were fast, will be faster. IBM could be Microsoft in a sense. But because they were hampered by their knowledge in those mainframes and those mini-games, Bill Gates was much faster in adjusting the PCs.

R: But to survive they were apparently fast enough.

I: Yes, yes, if you are prepared to prune quickly enough to cut the old branches and give the new branches more space. Then you make space for new branches. You free resources to work on something new.

R: Just like Philips recently did.

I: Yes, they did now. Not in the past. If you cannot say goodbye to your 'baby's' than you increasingly run out of nutrition, than you will continue to have less impact on the markets in which you are active. If you leave the lighting market than you are able to dive into the medical market with more power and you are able to better innovate in that direction.

R: We have already mentioned a lot of things. I would like to ask one final question. You mentioned that a holistic approach is needed for strategic transformations, could you however name three factors that are crucial in your eyes, or do not you believe that?

I: Ehm ... Yes, you must be able to organize for innovation. That's an important factor, I think. If you are unable to set up your organization in such a way it is able to speed up innovation it doesn't matter how well you know your customer or what technological is possible, it will not happen. These factors are important, understanding what the customer wants and knowing the technological developments but you miss something that allows you to make it work for you. What you obviously see today, with a lot with those platform strategies is that companies say we make a platform and I tap the innovative potential from another. Open innovation is also aimed at, knowing that I'm not the best in it, making a kind of license agreement with another party that the best. I want to benefit from that party. So what you now see Amazon doing is that it has this platform, which it used for all kind of smart technologies building an e-commerce platform. They do not actually know what's coming in, but someone can walk in, saying I do something in space, space travel, and I use Amazon as a platform to connect space travel to clientele. Something Amazon didn't thought of themselves.

R: Hahah



I: Haha... it is a part of the innovation that is enabled by a platform. A thing in which you invite other, saying come up with smart ideas. Just like the iPhone has a platform for apps. They do not know how the app looks like but provide a platform for people that develop a good application. In fact you invite brilliant people to share their thoughts and benefit from your development as well. It needs to be an open system.

R: Would this also explain what happened to Nokia?

I: Yes they have been closed too long. If you have a degree of openness. From the level of, okay, we are open to collaboration with all kinds of strategic partners, or we are open with a platform to connect all sorts of smart people to our platform, or open to new initiatives, we invite schoolchildren to get a good time programming and brilliant things to do. This is what Apple had at all levels, and which Nokia had limited, thereby cutting off crucial signals that were needed to bring the company to the next level. So eh... the fact that you have success with Nokia phones over a number of years does not imply say if there is a new bundle of elements, some form of telephones, the smartphones, during this transition again there is the danger of a company which is a lot better at handling this new bundle of elements. If you did not already prepared your team and your company to be the best in this new game, you are already too late. The startup that has been working for 15 years, and then is shoots up. You do not have the time to start training those people, once you have the start-up in sight it is already too late, unless you are over take them.

R: Yes and even than it is questionable if you succeed, facing a possible culture clash for example

I: Yes you can keep the companies apart but with that you the original company has not been renewed yet. But maybe it's a sort law of nature that companies do have a life cycle with you can stretch but that needs to be in the company's culture otherwise you will see companies replacing other ones. We had IBM, we had Apple and soon something will follow. Although Apple is doing a really good job, you don't know if they are able to survive for the next 10 or 20 years, maybe they grow so big that they are about to miss the next big step.

R: Oke thank you, that was definitely an interesting talk.

I: Yes, it was fun.

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End

## Interview II

Thesis research	Radboud Universiteit Nijmegen
Length of time	01:00:23. (1 hour, 0 minutes and 23 seconds)
File name	13 April 2017 15_04_28.mp3
Transcript (Sort)	<i>Literal :</i>  The transcript writer has typed out the text of the recording. Satisfaction has been sought: the sound recording has been repeatedly listened to - as far as possible - also accurately reproducing the hard-to-understand passages. In this transcription, the speaker's choice of words has been fully maintained and the language errors of the speakers are not corrected. The non-relevant text (such as stutter and repetitions) is not always displayed in this transcription.
Interviewer and Transcriber	Remco Klabbers

Interviewer = Remco Klabbers (R)

Interviewee = Interviewee 2 (I)

\*\*\* Start transcript

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R: Hello I how are you doing?

I: I'm doing fine, thank you, and you?

R: Great too, really good actually my sister made it yesterday into the top 12 female kitesurfers of the world.

I: Wow, what an achievement. Great to hear that!

R: Yes, because I train her so much this is a great feeling.

I: Oke, yes I can imagine. You have to learn me to become such a good kiter too, but tell me we are not here to talk about kitesurfing. I'm here to helping you.

R: Yes, no we're not, so let's start. The research I'm conducting is about a radical changes in an environment and businesses that have to cope with that. It's really about, not just adaptation, but completely renewal of attributes, so the direction the company is going to, but also its main processes. That's basically my main focus. I'm doing this in the smartphone industry. The smartphone transformation is my research context. There recently there was a big transformation starting with the introduction of the iPhone in 2007. I take this as a base, to distract the important lessons for firms to cope with the disruptive changes. It's basically

really an explorative interview. Talking about research ethics, I will make everything anonymous and confidential, it's really about your thoughts about the subject.

I : Oke, excellent.

R: What we are basically going to do, it in the first part we're going to talk about your career and experiences and then in the second part we are going to dive into the theoretical discussion and your thought on the subject.\

I: Oke

R: Can you describe your career and highlight the main events that were important for you.

Profile Interviewee 2 (Over 20 years of experience as Manager and Entrepreneur):

- Studied Engineering
- Working in IT industry
- Founded two IT companies, up to 600 employees. In Business Software.
- Founded two companies in the 'Medical Devices' Business/Robotics.
- Ceo of software company, business software service.
- Part-time job at University of Brussels.

R: In this extensive career and experiences. To what extent did you experience that the companies you were active in needed to transform/renew itself because the environment was changing?

I: Ooh that's a very interesting and wide question.

R: To make a bit more specific, what were the indicators for you, that the environment was changing and you needed to do something with the company to keep up with the developments happening in the business sector?

I: First of all, I have always been in businesses that were changing often and fast. So it's probably not the case in every industry, although nowadays with the digital revolution that is coming, actually field, when i mean all, it's really all the fields, are going to be touched. More than touched, they are going to be transformed. Whether you take the cars, the roads, the service it's all going to be transformed. For me a very important difficult things to change. The people. I've always been in the small organizations. Even in the first company was at some point with a few hundred people, we started small. These companies do not have a lot of staff to organize the company, to write procedures, to look it's not comparable, if you are Microsoft for example, or KPMG or whatever, or Shell, than you have a lot of people that are there to analyze the market, to look at the changes, to predict the future and try to deal with it. In the smaller or mid-size organization, the problem is that you do not have the budget. What I always see is that you have the same problems as the big organizations, but you do not have the same budget. You cannot invest a lot. I'm for instance now, totally aware that the field we're in that it's going to change dramatically in a couple of years but i do not have the money to prepare for that. I have to deal with the short and the long term at the same time. When you can dedicate millions to your longer term, it helps of course. That's one

thing. The second thing is changing people and taking the time to change people. In these kind of organizations, small to mid-size, almost all people are productive. If you want to change them, you are going to lose productivity. It's not easy to change people but you also lose productivity. The third pressure, more probably in the IT field, than in the medical field. We are a service company, I have ever been in service, if you want to be in service and remain alive. It's very simple. There's one key for that. You have to be good, an expert, in what you are doing. If you are lawyer, if you are a business lawyer, or a fiscal lawyer, you have to be an expert in fiscal law. If the law is changing you have to train in the new law. Now if we are an expert in something we are doing, for example in Microsoft office and Microsoft office is replaced by a new version you have to train for that. It's difficult to remain expert, you have to always invest in that and train people. So that's probably the most difficult. You have to be aware of that change is important for you to train the people and invest in the right place.

R: Oke, because I'm really taking the smartphone industry and the transformation that were there after the implementation of the iPhone. What are your ideas about this transformation, that Nokia in a couple of years, 4 or 5, dropped from 50% market share to something like 8% in 2010. They actually had a lot of money, had a lot of technology but didn't manage to keep up, and renew themselves.

I: That's something you see, that happened with several companies, that were leaders in their market. If you take Kodak for instance

R: Yes exactly

I: You have the same case. If you take, you are too young to know them, but the digital equipment organization. They were in the early 90ties the number two IT hardware manufacturer, behind IBM. They also disappeared.

R: Also Blackberry, RIM

I think it's already difficult to deal with change, in general terms. But when the change that is right at the door, kills your market, kills what you are doing than it's even more difficult. Because you have to do a much bigger shift. Also in your mind. You have to do a much bigger shift. First you have to realize you need to change. But it's more than a change, you need to get rid of what feeds you. Actually, it's your source of revenue that certainly is becoming your problem. It's more than changing. I'm not sure that for these companies there were alternatives. If suddenly...If you are a professional. If you dedicate your time totally to kitesurf and for some reason tomorrow there is something new that kills really kitesurf. Where your skills as a kite surfer are totally useless. You are going to have difficulties. But even this comparison is not good. Because if you have to train to something different, for you, it's probably not a huge problem. Ehh.. but here they have factories, they have subcontractors, they have long-term contracts for manufacturing things. So it's more than just evaluating. That's a problem of today, more than of the past. Is that the cycles are much shorter and much more violent. This is not just small evolution. It's simply your product disappears and another one is coming.

R: Yes, but there are some companies, like IBM, that were able to keep renewing themselves. They were not maybe every time the biggest, but they are still around and still do really good. Can you name, for you, the most important factors or, the key factors, that explain why... What should they do that they can make this transformation? You can be very broad about this, and i will ask further questions when we talk about it.

I: My feeling.. IBM is a good example i believe, because actually they changed totally their business several times. Now it's a software and service company. A couple of years ago they were a hardware manufacturer, they were the leading laptop manufacturer and desktop manufacturer.

R: and mainframes

I: and mainframes. What are they doing, i don't know. What i can tell you, what i tell to the people, that are coming to the courses in change management. What you can do as a company to be better prepared to change. Is first to realize being prepared to change is as important as having an accounting department. It's mandatory. So putting your organization in such a way that you are able to change fast is as important as just building your organization. It becomes part of your DNA. After a long analysis and quite some experience i came to the conclusion.. An organization can do three things to be well prepared, or to try to be well prepared.

R: Ehhmm

I: The three things an organization can do, is being more what i call alert. By this i mean building something in your organization to make sure that you detect fast enough, the drivers or elements that tell you that a big change is coming for you. Whether it's a new regulation. I take an example now. We are working for a big press group in Belgium and France. They already know that their business is dead. The press is dead, they still earn money. They don't know when it's going to be dead, but it's dead. So they invest a lot in digital transformation. In being present over the net also. Not knowing at all if they can replace their old business by their new business. But they believe they are going to build value in having data on the people. They sell advertising, the paper, the newspaper lives mostly through subsidies and advertising and a little bit what you pay for your newspaper. So their business is advertising. So they say we are going to do advertising over the net. We create our newspaper on the net, we gather a lot of information. We know for instance that Remco Klabbers is looking at.. when he goes on our website.. He clicks on sport because he's interested in sports. But he also clicks on international business because he's also interested in international business. So they track you on that. They believe that it is going to have value, this huge database they are building.

R: So this is the first step.

I: Yeah, but now you see, that from next year onwards. In a little bit more than one year there is the new European regulation on protecting the private data, the GDPR, it may just.. I don't know what is actually in this regulation. But this regulation is an external factor that may kill their strategy.

R: Yes

I: So, when i mean as a company you need to be more alert. I mean as a company you need to organize something in your company that you don't miss early.. Eh.. In the early days, the signals that tell you, ow there is something out there, that can radically change my business life. That's one element. And you can do that through many actions. Sending people to seminars, sending people to training, watching what your competition is doing, dedicating time but you can build, you can really build that in your human resource organization. Take the example of Google, who says in the engineering department are allowed to dedicate 20% of their time on projects, that are not defined by the company, on their own projects and some of these projects became Gmail for instance.

R: Yes, i know.

I: That's something you can build in your organization. The second action that you can.. Ehm.. Create is being more agile. More agile means building agility in your organization. So being able to react fast and that's something also you can build. For example what my students, business students or people with already 20 years of experience say, how to build that in their organization? Creating, if you are big enough, a multicultural approach by hiring people from different culture, from different gender

R: Like diversity

I: Sending people to training and agility, changing ehheh your ways to organize your projects, you can build that in your organization. Shifting people often enough from one job to another. So and the third thing you ...

R: One thing more, in this agility, you mainly talked about, making ehheh your persons, your human recourses agile. But there is also the agility or the inertia of resources and ehheh other aspects of agility. Because otherwise if you are stil investing or making use of a cash cow you should sometimes be fast enough also let go of that investment and get some money free to go to other directions.

I: Yes, exactly and this goes along with one of my first statement. For a small to mid-size company it's always difficult. If i take the example, just you know what I'm telling there, if have difficulties to do it in my 150 people organization. If have for instance a software engineer that is specialized in something and also is working for a big costumer for 2 or 3 years. Shifting this guy to another role, first the customer will not be happy because he's happy with this guy. Ehm than this guy suddenly, that i invoice for instance between 500 and 900 euro per day, i stop invoicing him. While he needs to be retrained at something. So i'm losing on three different fields i would say. So it's not easy but, but, that's very true. Company's need to, if they want to be better prepared to change, the need to agree to lose a little bit of their profitability because they need to embed in their organization some costs in order to, just like if you pay an insurance, you pay insurances as a corporations. You do not earn any money for you insurance, they do not participate to your benefit, it's just a pure cost, just in case. It's a little bit the same. So the second action is agility. The third one,

is not easy also, is building a culture ehmm. Ehmm.. In your corporation a culture of openness to change. Building a culture in an organization, or changing a culture in an organization is very difficult. It's something based on several experiences ehm... And literature between 5 and 7 years. And sometimes you never succeed in that. It's really building a culture, be open, positively open to change.

R: Yes

I: Also that's something you can facilitate in creating roles of people that switch from one department to another, again having different genders. Sending people to, sometimes, to special training.

R: And how do you believe, i know for example that ING recently fired 7000 people. Because of the digital revolution. They need new people with different kind of capabilities. They say we get rid of these people that are specialized in something else. It seems like instead of changing the people they just pick ehmm the route of get rid of them and attract other people. Ehmm is that something that is...ehmm besides ethical constraints.. Something that could work?

I: Yes I think so. That's very difficult subject of course. I think so and i think they are right in doing it. Although i never like to see people, especially older people, being fired. I believe to part of a bigger organization as a board director we are confronted the same kind of situation. This is why i very, i am very often upset by some politicians and what they are saying. It's not I'm against the left wing but i think they are very often mixing things in life. People presenting a world that does not exist anymore. And telling them things on which they have no influence. I take an example, I have been for many years teaching in Vietnam. When i was hearing people here saying, yes of course there is China, there is Vietnam. No problem, these guys, we are going to let them do things that are simple to do. With low quality and we are going to do things here that are sophisticated and high quality production. I was telling these guys here, do a scan, or a pd scan of their brain. If you can prove me if their brain is materially different that they are unable to sophisticated things, than i can believe you. Otherwise what i see with my students in Vietnam, they are as sophisticated as my students here ehmm.. I don't see why they would be unable to do sophisticated things. And ehh the problem of especially the left wings of .. Here also in Belgium, in Wallonia is that they are trying to protect the world that doesn't exist anymore. Which is the best way to go into a war.. I'm diverging a little bit, but it's a fascinating subject. I would be prefer to have free schools, free healthcare, to have a revenue for everyone even if you don't work. For me this would be fine. But if you have the money for that, if not you have to find something else. Yes the world is changing so fast, that unfortunately you have to get rid of people. That are unable to switch or are doing that are going to disappear. That are too expensive to retrain. That's inevitable.

R: Maybe it's the task of an organization to increase the employability of people, to keep them challenged with..by.. What you see is people do a job for two years and then switch with other people in different departments. That will make them not a specialist but more like a generalist. That is able to adapt and change and does not get scared in certain situations.

I: The world is really changing from 180% in ...in many many fields. Ehmmm.. If i take the group.. I think it's the group Accor. Do you know the group? It's the French group. It's the number 1 Hotel group in the world. Actually their market value on the stock market is lower than the one of Airbnb and the CEO of Accor said that's incredible. We own so many thousands of rooms in the world and have so many thousand employees and our value is lower than one of a few hundred people that have no asset at all.. No fixed asset at all.. And for instance what they did. It's a French corporation i don't know if its Accor. They have created an informal board of directors, of only young people. The CEO committed to agree that for every key decision he would talk about this in the real board of directors but also of the informal board of directors. We take the advice also of the informal board for every key decision. The way of thinking, the approach of young people to a subject are radically different. We are changing to a world where instability is structural. It's not something that happens here and there. I can prove that if you take the principle of automation you see that. Instability is structural now and therefore we have to live with this fact. The fact... You know want thing to protect the...the ..ehm...the employment ..like extreme left say and people believe them unfortunately. They say we are going to make redundancy illegal. It's just crazy. It's just crazy. Because you lose all flexibility. I have been working in Switzerland. You know unfortunately I had to fire people there. There is a 3% of unemployment. I fired a couple of years ago a guy that was 54. That was a real problem for me and for him but there were no other possibilities. The guy in three to four months found another job. Because..oke.. But he found another job..why because it's easy to get rid of people. If the new employer says I'm going to hire this guy. But he costs a lot of money because he has a lot of experience. But if he's in and i have to get rid of him and that would cost a half year salary than this guy would not have found another job. We are in a moment where system to choose..are we going for flexible world with some instability but we learn to live with that. Or do we want to protect the world and freeze everything. But then I'm pretty sure we are that.

R: Yeah, it's impossible to stop some developments. You see with Uber and Airbnb and all these kinds of initiatives, they keep coming up and disrupt the current environment. I agree it's not possible it's not possible to stop these things. But you have to adapt and transform yourself into the new environment.

I: That's the very definition of life, you know. If everything had been frozen there would be no life.

R:Yes, that's evolution basically. So than ehh.. One more last question. This is about the information or the first face ehh... You mentioned that is important. It was about the recognizing of the changes in the environment. How do you think platform strategies and platform based ecosystems are important in this face.

I: Ehmm.. There is a nice book but it's in French i read about platforms that is interesting. I think platforms are important and interesting. By nature they help ecosystems to first appear and then to survive. Ehh..and platform by definition put people or organization together around a subject. Around a common interest. So they facilitate the appearance of



ecosystem and of change. New things are very often coming from new interactions. And... So. .whatever facilitates interaction is for me positive.

R: Ah yes, oke. But you don't think it's a major influence having a platform strategy or not.

I: What kind of platform do you have in mind?

R: The idea I have in mind.. Is the platforms Amazon or Google have to generate open innovation.. Or to provide.. I think Sony did this as well for gaming and stuff.. So you can actually better sense and get a lot of new technology's or innovative ideas from the environment instead of inventing them yourself with limited people and limited capacity.

I: I'm not a specialist, first. So i can't tell much on that. But what i see is we have a team of people in my organization working on open software and that's by definition something that came alive through platform and it's quite impressive to see what is possible through these kind of platforms. Not structural at all, no boss, no predefined organization. To a certain extent they produce again live mechanism, live mechanism that are not... It's the opposite of a Cartesian approach. Actually these systems are driven by simple rules. These simple rules need to be respected by all the one that want to participate in the platform. You want to have someone defining the routes that come from the interaction. Yes i think, that's a real potential. I won't be surprised the future very surprising..things coming from kind of platforms. Like co-working environments. If you look at were Facebook. Where it came from. It's incredible. It's software you could write in two nights. If you are a medium kind of programmer. Not a genius. The early versions of Facebook. And it became one of the most powerful companies in the world within 10 years.

R: True. Oke, I thank you very much.

I: More than happy to answer more questions if you have them. Let me know.

R: Yes thank you i liked the interview it' was really interesting. Bye

I: It was a pleasure, bye.

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End

### Interview III

Thesis research	Radboud Universiteit Nijmegen
Length of time	29:00 (29 minutes and 0 seconds)
File name	26 April 2017 16_18_15.mp3
Transcript (Sort)	<i>Literal :</i>  The transcript writer has typed out the text of the recording. Satisfaction has been sought: the sound recording has been repeatedly listened to - as far as possible - also accurately reproducing the hard-to-understand passages. In this transcription, the speaker's choice of words has been fully maintained and the language errors of the speakers are not corrected. The non-relevant text (such as stutter and repetitions) is not always displayed in this transcription.
Interviewer and Transcriber	Remco Klabbers

Interviewer = Remco Klabbers (R)

Interviewee = Interviewee 3 (I)

\*\*\* Start transcript

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R: Hello, thank you for allowing me to conduct an interview with you.

I: Yes, no problem.

R: Before we start, is it oke for you that I will record this interview. This in order for me to transcribe the interview.

I: Yes, that's fine

R: Further I would like to say.. before we begin.. is that I anonymize the interview and that it's only used for research purposes only.

I: Yes

R: Where I would like to talk about is strategic renewal.

I: Yes

R: So that is, on the one hand strategic, on the one hand the long term, things that are crucial possibly impacting the whole business. And on the other hand renewal meaning that

it's about revising or structurally adapting. So not about just extending, or adapting but really altering you goals because a radical changing environment is demanding this.

I: Yes, oke

R: That is the context. The interview is an open interview containing two parts. The first, smaller part, is about your background, your career and the second part is about your thoughts about the subject. So let's start with the first part, which is only one question.

I: Oke that's fine

R: Could you describe your career, highlighting you most relevant career steps.

Profile Interviewee 3 (Over 20 years of experience as Manager and Entrepreneur):

- Studied Business Administration
- Marketing jobs at for example Douwe Egberts.
- Participating in Construction company
- Property Developer
- Manager at BDO, director region south Netherlands.

R: Thank you, I need to know this to make sure you meet some requirements. Within the different functions you did, to what extent did you experience that the company needed to transform itself because of a fast changing environment?

I: In any type of business you will encounter these kinds of processes. At my first marketing job at Sphinx Sanitair where the job was to sell washbasins and sanitary the concept of the complete bathroom in a certain style and color came to the foreground. Baths and bath furniture, the broader package in cooperation with the tile division. In the product-market combination you saw the diversification towards other kind of products to be able to live up the concept of the complete bathroom. At DE, I worked for that company in Hungary. There we were in the middle of a turnaround from a communist state-owned company to a commercial company. That meant that brand thinking had to conquer its place. So the fact that you have to sell your product in competition which meant you had to build a brand experience.

R: So during the communistic times there was a fixed number of products sold?

I: Yes, during the communism is a supply economy in which the state determines how much coffee you produce. As a factory you just made that and spread it across the country.

R: That is stable

I: Haha yes they thought so at that time, that people were happy with such a system. But this turned out to be otherwise. The demand economy has a bigger trigger for realizing what people really want and how the industry needs to adjust itself. In this process of change it was about creating all kind of projects and products to realize the change. This was all about changing from a communistic system into a capitalistic one. At the construction company,

you saw that the city of Maastricht grew very well. You have to reorganize to oversee everything and keep in control. You have to organize things differently. This was a trajectory of changing how you conduct your business. It was changing the supply side of the company, the way you organize projects. In this project I was part of a big transformation process as well.

R: More specifically, what were the goals that were set during these transformation processes and how were they implemented? How was dealt with cultural changes? What was emphasized?

I: Yes, we had a couple of goals during these changes. First it was about preventing doubles, working on efficiency, finding a fit between budgets and what was needed to fulfil the demand. To successfully run through these processes we were guided, which was very important this was one of the most important lesson for me, by a key person who had been appointed to guide the process. The problem owner he was called. This person also takes full responsibility for the project, how to solve it with the company.

R: Intern or Extern?

I: This was internally, New functions were created but also there were functions removed. Such processes we have also done at this building fund. Redefining the project management of the company. Conducting some location management within the sales department. In this organization the biggest change is not per se what we are doing outside, although thinking of sustainability and health, the concept of smart city did transform a lot. Something in which we also had to realize our own products. What we find very important is listening to the customer, the buyers or tenants. We found it very important to completely alter the sales process, digitalizing it. The whole concept of e-business. We created a very functional website, one whereby customers can rate our projects. A feature via which we gain a lot of information about our visitors fast. So fast that we are actually able to do something with these comments in the execution of our plans and projects. Here we really innovated and that means you have to totally adapt your sales department as well. Where we in the prior times had people using traditional ways for sales, making a folder, we now make use of content managers, database managers and sales coordinators. It's a completely different way of setting up your business.

R: What were the indicators for you that such a change was needed. What did the market tell you or what did you noticed that a different approach was needed?

I: Five or six years ago there were signals that it was about to turn around.. the fact that you go to an estate agent... during the beginning of the crisis this turned around.. people searching their information via the internet not via an estate agent.

R: How was this noticed?

I: We saw this in our statistics, for example how does somebody enter our database, what is the first contact. Was this via the website or database. At the end of last decennium the turning point was reached. We received more customers via our website than via estate

agents.

That was the moment we made the conclusions that we had to start doing things differently. The sales process had to be organized via an e-business model. You see a trend and then you catch it. We did this in an excellent way. We have set up a state of the art e-business model. We are therefore able to maximize customer service.

R: To what extent do you think a high tech market faces the pressure to adopt such processes? Faster than something like the construction industry. Or do you think that the trend of digitalization is something which cannot specifically be assigned to high tech markets?

I: Technological advancements can provide many advantages. The information technology.. It was actually the crisis which initiated that estate agents became interested in cost efficiency. It is strange that houses are reinvented every time. The concept of systematic building or platforms building was introduced. We deliver the building, the house, at the construction side, largely prefabricated. Where also systems, such as technical systems for walls and floors, were already integrated. No longer it was needed to build everything on site. This is something that turned out to be a great output caused by the crisis. In complicated projects you see that for logistical issues ICT applications are being used a lot as well. Again to make the management on site more efficient. Here, we are seeing ever-increasing innovations. Something else is 'Bimben'. All data is put into a central data base which is used to simulate the building process in a very detailed and three-dimensional way. A constructor who plans to replace steel collages can immediately see what this means and if this is possible. This is great because these things are very difficult to see on site. Actually a kind of shadow world of the construction process is created.

R: Do you also make use of platforms, the platforms which you can use to tap innovations. Something which you for example see in the gaming industry. There a platform is created and actually everybody can make products, programming new games etc..

I: As a project developer you are very divers. On the one hand you are doing construction work, the contact with the customers, the tenants with our e-business system. We are doing a multiplicity of things at the same time. Talking about innovation then you can split this over the different areas we are in our business engaged with. It is true that in the construction industry as well as the world of real estate many open source kind of things are being used. Our e-business model is not so hard to read for a competitor. They can move themselves through our virtual environment. He can exactly see how we serve our customers, if you are a professional you could even see what is needed to build such a system. Of course one does not know if one would copy the system. For example it's questionable if the investments needed to create such a system are available. In the construction world many things are copied, people look at each other and sort of best practices arise in the market. Talking about sustainability, the smart city concept, there you see institutions, be it the government or private companies that are focused on creating innovations. A light artist that for example searches to work together with an engineer. Cross-over cooperation's is something you see emerging.

R: Could you name a number of factors that in your eyes determine the successfulness of a business transformation, what are the most important factors to you?

I: Yes, there are actually three characteristics for people who work at the top of a company. I will just mention them shortly. There is the entrepreneur, the leader and the manager. Ehm that's ehmm...are three specific qualities.. this of course also applies to organizations. The organizations has to be guided by a certain way of management, fueled by entrepreneurship and led by an actual leader. If you want to successfully transform a business the qualities of entrepreneurship and leadership are most important. Entrepreneurship because the company needs to perfectly feel and understand what the market wants, and what the company needs to do to be successful on that market, to serve the market just on time. It is namely possible to have a good product in the wrong period of time, being too early or too late. That is possible. Then when I take a more internal point of view, than it's of utmost importance that leadership qualities are there to translate, to guide, the transformation process. Some entrepreneurs are stuck because they are not able to make the translation of seeing things and put that into their business, motivating people for this new direction. So what makes a transformation successful... recognizing what is needed to prosper on the new market, what product should I deliver as well as the fact of how do I integrate this into my company, how as a company do I react to fully leverage the demands of the market. This does not exclude that we don't need managers. The profile of the manager is also important because now and then eventually things have to go as planned. Some aspects of the business are like a biscuit factory and some things you want to steer more organically. To really sense what products you are going to produce to fulfil the demand and how do we organize ourselves best.

R: So to transform two main elements?

I: Yes

R: Something else i wanted to talk about is the concept of paradox. Something containing contra dictionary but interrelated elements. How could you manage the tension of seeing a development and innovating for that development but simultaneously stay flexible not putting all you money on one horse, that if you gamble the wrong option.. that instead of plasma TV's the next big technology is actually LCD's?

I: Yes

R: That eventually one innovation will become the dominant design. How could you tackle such a paradox, do you see this as a paradox?

I: Oke, yes look.. we have innovated in our process management. We are just heading towards a direction. There is one direction we are heading for. In the innovations that are emerging from the industry we have a choice which kind of innovations to adopt in our projects. We ourselves face that paradox not directly. We have the challenge to anticipate the demand of our customers. The municipality as public holder and responsible for housing policy and the consumer wanting to buy a house. We have to make sure that we are able to give our best. We do not have to gamble on a certain innovation or product. What still is

possible is that our process approach is somehow not working. We saw this in the city's, we acknowledged that in the big city's we had a low profile. We actually did a lot of projects there, but people did not see this. We did shopping centers, apartments but we lacked the profile which some competitors had. This is partly because of the fact that we did a lot of projects on the country side. What we did is we choose a path of creating a club specialized for city's projects. We called this club BPDl, with its own leader and team of specialized project developers. They had to think about what to realize in the city's. Making use of e-bikes, blurring concepts all that sort of things.

R: Imagine that you are the director of BMW and you notice the trend of autonomous driving, but simultaneously electric driving is coming up and you still have the normal business with petrol cars everybody still drives nowadays. Ehmm.. Would you conduct a similar strategy to set up a separate division which will specialize in autonomous driving? Called for example BMW Autonomous..

I: With the I3 and I8 this has been done. BMW said it is no use to bring this to our current divisions as they will kill this business. The same thing we did with BPDl, the I is from BMW I..

R: Oke, haha

I: So ehmm.. yes we organized this separately to prevent this new project not getting enough attention.

R: So if it develops itself in a positive way you can switch..

I: Yes

R: If it turns out to be a disaster it at least did not threaten your main business

I: Yes

R: Oke thank you, that's it.

I: Oke great.

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End

## Interview IV

Thesis research	Radboud Universiteit Nijmegen
Length of time	41:10 (41 minutes and 10 seconds)
File name	5 may 2017_05_03_11_19_37.mp3
Transcript (Sort)	<i>Literal :</i>  The transcript writer has typed out the text of the recording. Satisfaction has been sought: the sound recording has been repeatedly listened to - as far as possible - also accurately reproducing the hard-to-understand passages. In this transcription, the speaker's choice of words has been fully maintained and the language errors of the speakers are not corrected. The non-relevant text (such as stutter and repetitions) is not always displayed in this transcription.
Interviewer and Transcriber	Remco Klabbers

Interviewer = Remco Klabbers (R)

Interviewee = Interviewee 4 (I)

\*\*\* Start transcript

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R: Hello, thank you that you are making some time to do this interview

I: Yes, I am happy to be of help for you.

R: Oke, shall we just go ahead and get started?

I : Let's go

R: I mailed you about the subject before and will now briefly explain this again.

I: Yes, thank you.

R: The research I'm conducting is about a fast changing environment and businesses that have to cope with that. One of the things I'm interested in is in disruptive innovations and the processes of strategic renewal. It's really about, not just adaptation, but completely renewal of attributes, so the direction the company is going to, but also its main processes. That's basically my main focus. I'm doing this in the smartphone industry. The smartphone transformation is the main focus, the transformation of the industry that really started with the introduction of the iPhone in 2007. I take this as a base, to distract the important lessons for firms to cope with the disruptive change paradox. The tension between entering early in a new direction of technology, or waiting out, because you don't know if the new direction is



going to be successful and develop a new technology yourself, and when do you have to switch. When do you become too late to switch, like Blackberry and Nokia for example.

I: Oke thank you for formulating this clearly, so fire your questions.

R: I have some basic questions and then we can really deep-dive into specific interesting directions. The first questions is about your career path, and highlight a little bit the most important aspects.

Profile Interviewee 4 (Over 20 years of experience as Manager and Entrepreneur):

- Studied Political Sciences
- Sales man telephone exchanges, on commission base
- Sales management, Manager for the Luxembourg Market
- Manger at different operator's including British Telecom and Bellacom.
- Head of BtoB, board of directors of Bellacom.
- Entrepreneur, Bikeshop and Consultancy

R: That's a long career, doing a lot of interesting things, having many experiences. I basically asked you this question to look back. We went through your background as an entrepreneur and manager. To what extent did you experience that the company you were working for experienced a pressure to change because of a changing environment.

I: There are a few dimensions to this topic. The company is just a shelf of the people that work in it. The company is the brand and the product and services, but it's created by man. So there are management teams and staff. These people define strategy and change. In many of these existing companies, what I've noticed, it's often difficult for them to change. They often blame the people beneath, the staff, because they are often interlinked with the company agenda. Ego stands in the way of change. That's the first thing. It's not always the case, but i saw that happening a few times. The second dimension is, for new companies, it sometimes not fair. But when a new company comes into the market, they have their problems. They need to have market share and have to create a brand. They can be disrupting. They don't have the burden a big company, that is existing already, has. They are charged with processes which is complicated. If we look at the new companies like Google. They start out of the blue. Existing companies have a business and have to change that. I found that, that's apparently more difficult. It's not an excuse, the starting companies have their problems as well. many linked with growth. The problems linked with existing companies to transform are more like human behavior and putting them in the right direction. It's way more about leadership. The speed of transformation is quicker than before but I'm not sure. I've been transforming companies 30 years ago. Nowadays it's more visible. We're in a global economy now. I also see it as an opportunity. Nothing prevents big companies from using new technologies. However, most of the companies are listed, they have this quarterly result thing. It's totally different for new companies, where you can make no revenues, but can stil get a lot of cash because a lot of people believe in you and the shares one time will go up. A company that is already existing needs to produce every quarter of its results and it has expectation. You have the board which has to fulfill expectations so it's again people that make it hard to change.

R: Yes this is something you saw with Shell. They wanted to change into more sustainable energy, but they had shareholders pressure and didn't went into that direction.

I: Yes, i give an example when i was at Bellacom. One of the disputes i had with my boss. He sad you need to come up with something new. I said oke, I want to start with something new, this was cloud services. it was not very hot topic at that time, generating little revenues. I was not the only one however in my team who said: " we need to invest into that direction". He however disagreed, he did not disagree with the cloud services. But we did 1.5 billion and cloud services was 5 million, and he said whooo big deal. He wanted something more, with 100 million of business and with high margins. I said give me one new technology that somebody already uses in another country and we just steel that idea. He of course couldn't come up with such a technology. The only thing that was starting at that point was cloud. Internet of things was not yet at the horizon. So we started, but today, 7 years later my successor has an 80 million business in cloud services. You see, we were both right, he wanted something but it was not there. We started with something that was too small in that time to really attract his attention. That's something you see often. Companies see that there existing business is under jeopardy, we need to transform our existing business to become lean and mean. At the same time we have to invest in something new. But if you want to transform your existing business this costs a lot of money. When you are in a certain business you create what i call processes, machinery and a lot of people. It's a kind of self-fulfilling prophesy, something keeps itself alive. To reduce that, to be more lean and competitive with the new companies that doesn't have machinery and processes etc. it's complicated. It requires money. Boards an often not supportive. They need patience, to invest. And on top of this, if a company diversifies. It better should diversify in an area which is the right one. The choice is not easy. If you say we need to invest in IOT, all hands on deck we go into the direction of IoT. Today IoT for sure it will happen, but the revenues of IoT are today for sure not the ones that some people expected. For virtual reality it's the same. To make money out of it, to have consumers investing in it. It's quite a challenging environment but i also see it as an opportunity.

R : If you see this as an opportunity, how would you address this paradox, this tension. On the one hand you want to be early in this new direction. For example cloud service or virtual reality. But on the other hand you also want to be flexible. If you think it takes too long, for example the hydrogen cars. What should you do to address both?

I : One of the things could be, that in these larger companies, they should be in a little bit more of an entrepreneurial state of mind. I am explaining myself, i only started as an entrepreneur, this was oke, but i was not successful. Oke we tend to say i was not successful because i didn't became millionaire. In the States for example the entrepreneurial thought is more promoted. It's in the DNA of people. The Dutch are very good sales people for example. But in America they except failure better. The problem we have in large companies is linked with evaluations and linked with positions, we are not very good in trying to do a lot of things. I saw a lot of companies that tried two directions. And it did not work out, or it did work out but not quick enough and not as successful as forecasted according the plan. They stopped with it. They give up and they see it as a failure. Entrepreneurs i met some, and i work with some. Very successful. They say 10 times you shoot on a rabbit and two times you hit it. You spend your money and you lose your money, c'est la vie. We don't have this

culture in companies. I think what you should do, certainly as young people, is first start your own company. Learn the value of cash. Because in the large companies we talk a lot about cash flow but we don't have a clue about what it is because it's not your money. We are very serious about it but we don't know what it is. In my own bike shop i had this problem. We don't have enough money to pay the two guys that work here. But we sold very well this month my partner thought. But it's a cash problem. If we sell a bike in the shop and not order it we have cash i told my partner. But she said if i have the bike in the shop it's maybe not the one the customers wants. We had this discussion. In companies you say we have this outstanding, it's not good. But we don't know what we are talking about because in the end, somewhere, someone pays the bill. I think an entrepreneurial spirit would be more.. It's a contradictory, if you are to entrepreneurial in a company, if i would have been more entrepreneurial i would have been fired. They don't allow you to make three mistakes. It changes now a bit. They go to silicon valley and they see it's not about trying, it's about trying 1,2,3 and the third time it works. This attitude is changing. Why? Because so many traditional companies were losing, they think what are we doing wrong? In some boards they say we need to try and try. But it's still not easy to change because there's a running business that is paying everything. At the end of the day it's not like i've been working 8 hours and i will now work 1 hour on the new business. It's a cultural thing, it's about leadership.

R: Would you then also suggest a separate unit that solely focusses on the new direction?

I : Yes, I've seen all the examples. Trying it internally, externally. It's about finding a balance. It's an easy answer, but I really believe it. The two opposites are simple. Are you do it really internally and then it's not going to work because you do not find the energy, the focus, the time to do it. You don't find the profile. You cannot say to a guy: "He you have been doing this for 20 years and now become here and become the team leader of artificial intelligence". Than if you take the other opposites of fully external. You take a couple of guys and say please play and do something. Don't sit on these chairs, don't sit on these banks and have hearings. That won't work either. I always say you need an arm's length. You need guidance you need leadership to help these guys, to say. Play hard, work hard. You need to do this, where are the results? It's a good combination of the two that works. I've seen successful companies and young companies with young people and older aged people going well. The worlds work together. The more creative right brain part, for innovativeness. And at the same time can we have a dashboard leader, where are we? You can for example not say as a startup company in multiple country's that we use different accountant systems. The freedom is not unlimited. Your sales thing, the tweaking of the product, that's fine. But in the end we need to count the beans the same way in every country.

R: Oke, so one last question. Can you name your three main factors that combine these two tensions. So to be flexible but also go into the preferred direction?

I: The first thing a company needs to do is to be open minded. So not to be prejudged. If you have an open mind. I mean have your ears and eyes open. Read the papers. Try to understand what's going on. What can these technology's mean to you. If you see a company being very successful because they are built around data. Maybe it would be wise to do something with data. Of course now everybody understands. But this is something

staff won't do it's the leaders that need to think like this. What is useful for us, how can we use this. For example should we do something with artificial intelligence. But the other people say: "But we are a hotel company, we shouldn't do it". Ah oke you have to understand who your customers are. If the costumer comes into your bedroom that the music he likes is playing. Aha they say. I tell them: "Yes in some hotels, that are modern, this is happening." What is the costumer going to pay for this they then ask. I say nothing, if you don't do this, the costumer is not going to visit your hotel.

The second thing you need to do is, action. It's about action. It's not going to silicon valley and say these companies are great. No translate your thoughts into actions. I don't believe in the big transformation process. It's a number of small steps. I can something be contra dictionary because if you look at Microsoft or IBM they are certainly not the company's they were five years ago. There, there was a CEO that said we need to go into another direction and it worked. Sometimes when there is enough time and the boards supports him. Than oke, good it happens. They are however also examples where it's a big failure. In most companies you don't get the time. So you need to fool your board a bit. You need to do it in incremental steps. Slowly going into a certain direction. It than goes off by its own. I believe more in that, than getting a consultant and make big plans, slideshows from here to there. We go to the unions and explain this but they don't understand shit, they say well oke. Than they start and then two years later people don't feel linked with the plan. So open mind, action and the third..

The third thing is about leadership. It's about management pushing the change, living the change. It's a symbolic thing. The boss needs to live the example. And I'm not going to it, I hate electric cars, I'm a patrol head, I like it and I'm proud of it. As long as it's allowed I like to do this. But it's important to make sure that everybody understands the model and everybody sticks to it. And find the good balance between traditional people that started their career in the 90ties or 2000ands and the new ones. They both have their values and their positive things and you need to let them work together. Most companies we are working for today already existed. It's not all start-ups. A lot of start-ups go bust, it a kind of idyllic world, the stars of today are DJ's, cooks and CEO's of startups. You know if you want to have a lot of girlfriends you need to be or a DJ, or a cook or a CEO startup and then you get laid a lot. Haha

R: Haha

I: But life is not that idyllic he.. a lot of cooks go bankrupted , a lot of DJ's die young because they take a lot of drugs and a lot of CEO's in smaller companies have really problems in getting their business running. It's about balance. I hope that was oke for you as response.

R: Yes perfectly fine, I think we addressed a couple of points that I didn't discuss during previous interviews. So that definety adds to my ideas.

I: Oke thank you.

R: Thank you

\*\*\*End

## APPENDIX II CATEGORIES AND CODES

Below are presented the 2<sup>nd</sup> order codes, the axial codes which form the categories. They connect the 2<sup>nd</sup> order codes in an overarching theme (Boeije, 2014). The main categories are a result of the selective coding process in which axial codes are compared to recognize certain patterns and relations (Boeije, 2014), these are represented in figure 2 (main text). The 2<sup>nd</sup> order codes are a more abstract, theoretical, translation of the 1<sup>st</sup>, close to the original data, codes. This can be found in Appendix III. Overall five main categories have been identified, made out of eleven axial codes and 50 2<sup>nd</sup> order codes.

### Categories and Codes

Main Categories	Axial Codes (Sub-Categories)	2 <sup>nd</sup> Order Codes
Higher-Order Capabilities	Leadership Fit	<ul style="list-style-type: none"><li>• Autocratic Leadership</li><li>• Charismatic Leadership</li><li>• Transformational Leadership</li><li>• Entrepreneurial Leadership</li><li>• Strategic Leadership</li></ul>
	Open Culture	<ul style="list-style-type: none"><li>• Top Heavy Culture</li></ul>

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		<ul style="list-style-type: none"> <li>• Culture of Change</li> </ul>
		<ul style="list-style-type: none"> <li>• Internal Discord</li> </ul>
		<ul style="list-style-type: none"> <li>• Diversified Culture</li> </ul>
		<ul style="list-style-type: none"> <li>• Forgiving Culture</li> </ul>
		<ul style="list-style-type: none"> <li>• Culture of Openness</li> </ul>
Lower-Order Capabilities	Continuous Sensing	<ul style="list-style-type: none"> <li>• Market Trend Sensing</li> </ul>
		<ul style="list-style-type: none"> <li>• Market Expanding Sensing</li> </ul>
		<ul style="list-style-type: none"> <li>• Missing Market Developments</li> </ul>
		<ul style="list-style-type: none"> <li>• Market Developments Sensing</li> </ul>
		<ul style="list-style-type: none"> <li>• Missing Market Trend</li> </ul>
	Opportunity Seizing	<ul style="list-style-type: none"> <li>• Market Diversification</li> </ul>
		<ul style="list-style-type: none"> <li>• Product Diversification</li> </ul>

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Operations Management  
Capabilities

Marketing

- Marketing
- Branding
- Marketing Budget
- Brand Damage

Distribution and Sales

- Carrier Attention
- Sales Relations
- Distribution Channels
- Distribution Capabilities
- Sales Support
- Carrier Support
- Carrier Attraction

Product Development

- Product Delay
- Importance of Fast Production Release

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		<ul style="list-style-type: none"> <li>• Fast Product Development</li> </ul>
		<ul style="list-style-type: none"> <li>• Production Process Streamlining</li> </ul>
	Supply Chain Management	<ul style="list-style-type: none"> <li>• Fast Product Delivery</li> </ul>
		<ul style="list-style-type: none"> <li>• Vertically Integration</li> </ul>
		<ul style="list-style-type: none"> <li>• Execution Power</li> </ul>
Paradox Solvers	Innovation	<ul style="list-style-type: none"> <li>• Pressure to Innovate</li> </ul>
		<ul style="list-style-type: none"> <li>• Produce Disruptor</li> </ul>
		<ul style="list-style-type: none"> <li>• Produce new Technology</li> </ul>
		<ul style="list-style-type: none"> <li>• Build Attractive Models</li> </ul>
		<ul style="list-style-type: none"> <li>• Innovative Competence</li> </ul>
		<ul style="list-style-type: none"> <li>• Lack of Innovation</li> </ul>
		<ul style="list-style-type: none"> <li>• Incremental Innovation</li> </ul>
	Dedicated Strategizing	<ul style="list-style-type: none"> <li>• Focused Strategy</li> </ul>

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		<ul style="list-style-type: none"> <li>• Lack of Aggressive Strategy</li> <li>• Non Focused Strategy</li> <li>• Shifting Strategy</li> <li>• Negative Consequences Switching Strategy</li> <li>• Aggressive and Focused Strategy</li> <li>• Positive Consequences Focused Strategy</li> </ul>
Market Maturing	Market maturing	<ul style="list-style-type: none"> <li>• Commoditization</li> <li>• Market Peak</li> <li>• Competitor Lock</li> <li>• Dominant Design Emerges</li> <li>• Market Settlement</li> </ul>

## APPENDIX III CODING TABLES

Below are the coding tables containing the original quote's, 1<sup>st</sup> and 2<sup>nd</sup> order codes. These are sorted per Axial Code. These Coding tables form the relation from the original data to the categorisation and coding done in appendix II. All data sources have been coded simultaneously to identify the recurring themes.. Per smartphone OEM for each axial code the 2<sup>nd</sup>-, 1<sup>st</sup> order codes and quotes have been sorted.

### Leadership Fit (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Charismatic Leadership</b>	(Apple, 2000) CEO Steve Jobs crucial steps in turning Apple into big success	'The most famous case of a tech-titan turnaround remains the revival of Apple. It began with the return of co-founder Steve Jobs to the position of CEO in 2000. One of his first steps was to call a truce with Microsoft and win a commitment that the world's largest software maker would continue to write a version of Office software for Apple's Mac computer. He also orchestrated a much-needed injection of capital, in the form of a \$150-million (U.S.) investment from Microsoft, shortly before launching his offensive into the nascent digital music industry.'
<b>Transactional Leadership</b>	(Apple, 2013) CEO continuous dedicating high end strategy	Apple Chief Executive Tim Cook has repeatedly declined to comment on Apple's plans for a cheaper device. But he and other executives have been fighting to protect Apple's premium image. At an investor conference in February, he said Apple "wouldn't do anything that we consider not a great product."

<b>Transactional Leadership</b>	(Apple, 2013) CEO stresses improving supply constraints	Apple earlier this month announced record iPhone orders of more than 10 million units in the first weekend of sales. CEO Tim Cook said that number could have been higher had the company not faced supply constraints.
<b>Transactional Leadership</b>	(Apple, 2013) Improving distribution channels in China	Apple Chief Executive Tim Cook told analysts Tuesday that the company would double the 11 Apple stores in Greater China within the next two years.
<b>Entrepreneurial Leadership</b>	(Apple, 2013) New CEO continuous stressing a vision of innovativeness	Tim Cook "has assembled a solid leadership team and has kept Steve Jobs's vision intact - a vision that has allowed Apple to deliver on its promise of innovation time and time again."
<b>Transactional Leadership</b>	(Apple, 2013) New CEO greater supply chain balance	But under current Chief Executive Tim Cook, Apple is dividing its weight more equally with a relatively unknown supplier, giving the technology giant a greater supply-chain balance.
<b>HTC</b>		
<b>Autocratic Leadership</b>	(HTC, 2013) Autocratic leader	‘Several of those poached executives, brought onboard to help increase shipments and work on acquisitions have walked away, and there is a growing chorus for the ouster of the embattled chief executive, Peter Chou, as reports filter out of Taipei about an autocratic leader who is out of touch with the industry.’

<b>Entrepreneurial Leadership</b>	(HTC, 2014) CEO Peter Chou too much focused on product development	‘Accordingly, the Board of Directors agreed on a strategic change at the top, with Cher Wang assuming the role of CEO in March 2015. Peter Chou has been increasingly focused on product development, a role in which he has demonstrated world-class design and cutting-edge technology expertise. This announcement formalized that progression and lays the foundation for the next stage of HTC's development.’
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## Nokia

<b>Transactional Leadership</b>	(Nokia 2009) CEO Perception, not lost the ability to innovate, or understand the market	‘Much more feisty than Mr. Kallasvuo, he is unwilling to admit Nokia has lost any of its competitive edge. <i>"We have not lost our ability to innovate; we have not lost our ability to truly understand the consumer and make intuitive solutions for them,"</i> Mr. Vanjoki says.’
<b>Transactional Leadership</b>	(Nokia, 2009) not seeing the true cause of drop in sales	‘Nokia blamed a shortage of components for its poor third quarter performance compared with the wider market. Olli-Pekka Kallasvuo, its chief executive, said <i>"We would have sold more devices and smartphones in the third quarter without the capacity constraints. The constraints did in fact hit the smartphone part of the business more than the rest of the devices."</i>
<b>Transformational Leadership</b>	(Nokia, 2010) New CEO, expert in software and change management	‘During the summer 2010, the Board searched for and identified a new CEO with a strong background in software and a proven record in change management, who replaced the previous CEO in September 2010.’
<b>Transformational Leadership</b>	(Nokia, 2011) Crucial decisions CEO Elop, facing fast market-share losses and negative brand equity	In February, CEO Stephen Elop announced that the platform would be phased out and Nokia would rely on Microsoft's

		<p>Windows mobile system. Investors and analysts, however, are skeptical about the plan.</p> <p><i>"The business is becoming unglued,"</i> says Stephen Patel, an analyst with Gleacher &amp; Co. He rates Nokia's shares "neutral" and lowered his price target to \$6.50 (U.S.). <i>"Symbian smart phone sales are falling off faster than expected and we are skeptical that the new Windows phone models will be able to replace lost profits,"</i> he wrote in a report this week.</p> <p>Pierre Ferragu, of Sanford C. Bernstein &amp; Co., says the launch of Windows-based phones will be challenging for Nokia as <i>"precipitous market-share losses will take Nokia's brand visibility to all-time low levels and potentially create negative brand equity amongst consumers."</i></p>
<b>Transformational Leadership</b>	(Nokia, 2011) New CEO Stephen Elop	<p>'Symbian smartphones collapsed in the first full quarter that followed new CEO Stephen Elop's February announcement of the platform's planned retirement and replacement with Microsoft Windows Phone 7.'</p>
<b>Transformational Leadership</b>	(Nokia, 2011) Nokia a burning platform, choosing for unproven Microsoft software, potentially facing big loss in market share	<p>Mr. Elop had compared Nokia to a burning platform in a widely leaked memo when he unveiled a shift in strategy in smartphones by choosing Microsoft's unproven software over its own.</p> <p>Mr. Elop said he had greater confidence in shipping the first Windows-based Nokia phones in the fourth quarter. Analysts, however, are worried the company could lose so much market share in the meantime that a comeback could be difficult.</p>
<b>Transformational Leadership</b>	(Nokia, 2012) No powerful leadership yet to turn around company	<p>The biggest turnaround stories in the tech sector have involved activist shareholders and strong leadership. However, neither of those conditions have clearly materialized yet at RIM, or for that matter at Nokia Corp</p>

<b>Transformational Leadership</b>	(Nokia, 2012) CEO Stephen Elop reviews options including significant structural actions	Nokia CEO Stephen Elop said he's reviewing options including asset sales and vowed to take <i>"significant structural actions if and when necessary."</i>
<b>RIM (Blackberry)</b>		
<b>Transactional Leadership</b>	(RIM, 2011) Board not wanting a radical change in strategy or replacements of top management	'Some investors say they are reaching out to RIM's board of directors in a bid to make changes, but are getting nowhere. They said they doubt the company's board has the stomach for a radical change in strategy and are unlikely to listen to calls to shuffle top management, including the company's co-CEOs, Mike Lazaridis and Jim Balsillie, who also serve as co-chairmen of the board.'
-	(RIM, 2011) Change of CEO	'The change of the CEO recently shows that RIM is serious about a turnaround.'
<b>Transactional Leadership</b>	(RIM, 2012) CEO, A drastic change is not needed	'RIM has replaced its founders and co-chief executives with former chief operating officer Thorsten Heins. But anyone expecting a radical strategic rethink will be disappointed. On his first day in the job, Mr Heins said he didn't think drastic change was needed.'
<b>Transactional Leadership</b>	(RIM, 2012) No powerful leadership yet to turn around company	The biggest turnaround stories in the tech sector have involved activist shareholders and strong leadership. However, neither of those conditions have clearly materialized yet at RIM, or for that matter at Nokia Corp
<b>Transactional Leadership/Entrepreneurial Leadership</b>	(RIM, 2013) Dysfunctional CEO structure, two 'different' companies	And even though the whole company was ostensibly united behind the effort to push out BlackBerry 10, there were divisions. In particular, QNX, which has continued to operate under its independent branding despite being part of RIM, was viewed antagonistically by some within RIM - especially as layoffs hit those whose livelihoods were linked to RIM's older Java software, which was essentially

		<p>being phased out.</p> <p>QNX, headquartered in Ottawa, at times seems like a totally different company, focused more on outfitting Bentleys and other high-end cars with computer screens - a bet on the machine-to-machine technology of the future, rather than the smartphone wars of RIM's present.</p> <p>RIM, because of a co-CEO structure divided between technical genius Mr. Lazardis and Mr. Balsillie, who oversaw sales and marketing, essentially functioned as two separate companies in the early days of BlackBerry 10. Numerous interviews with former employees and third-party developers who dealt with RIM described a dysfunctional structure that Mr. Heins, taking the reins in January, 2012, did his best to get under control.</p>
<b>Transactional Leadership</b>	(RIM, 2013) New CEO, focusing efforts, one vision	<p><i>"The minute the management structure settled and the minute they eliminated any debate about who was on first, they could just lock and commit," the former senior RIM executive said. "So although there was a lot of work going on on BlackBerry 10 prior to Thorsten taking the lead, from January, 2012, right through to present times, it moved from being priority No. 1 to being the only thing anyone did."</i></p>
-	(RIM, 2014) New CEO John Chen	<p>Though BlackBerry's (BBRY) F3Q report was even worse than what Wall Street anticipated in December, a relief rally (and/or short-covering) was stoked by the release and comments from new CEO John Chen.</p>
<b>Transformational Leadership</b>	(RIM, 2014) CEO John Chen turning blackberry into enterprise software and services	<p>Soon after taking the helm at BlackBerry Ltd. in November, John Chen said he would be happy if the company simply broke even on its phones as it shifted its sales toward software and services.</p>

<b>Transformational Leadership</b>	(RIM, 2014) CEO John Chen turning blackberry into enterprise software company	After flaming out in the phone market, BlackBerry (BBRY) has been transformed into an enterprise-software company by CEO John Chen, a turnaround expert.
<b>Samsung</b>		
<b>Strategic Leadership</b>	(Samsung, 2011) CEO explains, exploiting hardware, improving software strategy	Having achieved unmatched global competitiveness in hardware, we have been focusing on enhancing our software capabilities in user interface, user experience, design and brand awareness.'
<b>Confirmed during Expert Interviews</b>		
	(I 4) Management living the change	It's about management pushing the change, living the change. It's a symbolic thing.



Open Culture  
(Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
-		
<b>HTC</b>		
<b>Internal Discord</b>	(HTC, 2013) Agonizing times, executive accused of stealing company secrets	There were also the arrest last week of five departing executives accused of stealing company secrets and padding expense accounts. HTC had filed a complaint against the executives, who included the vice president of product design, Thomas Chien, and the research and development director Wu Chien-hung.
<b>Internal Discord</b>	(HTC, 2013) Internal discord, series of executives have quit the company	HTC has also suffered from internal discord, and a series of executives have quit the company in recent months. One of the company's top design executives, Thomas Chien, was arrested in August in connection with a police investigation of theft of trade secrets from HTC.
<b>Top Heavy Culture</b>	(HTC, 2013) Top heavy Taiwanese culture therefore also hard to replace CEO	Mr. Chou, who joined HTC in 1997 and has led the company for a decade, is viewed as a workaholic design guru who worships at the temple of innovation and quality. His critics say he is aloof and autocratic and does not realize that a great product will not fix sales, marketing and distribution problems.  "The company is in trouble and Peter has to own that," said Wong Teck Zhung, an analyst with the market research firm IDC. "The clock is ticking. If he

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can't turn around the bottom line and morale this year, I would expect some change at the top."

Mr. Chou declined interview requests.

But Mr. Wong and others also caution that the company has no clear internal successor. Because of HTC's top-heavy Taiwanese corporate culture, it would be extremely difficult to replace him with somebody from the outside.

## Nokia

### Internal Discord

(Nokia, 2011) Chief technology officer leaves because of disagreement over strategy, abandoning plans to introduce devices on MeeGo

The Finnish cellphone maker Nokia said on Thursday that its chief technology officer had taken a leave of absence and would be temporarily replaced by the head of the company's research center.

News of the departure of Richard L. Green, an American who joined Nokia last year from Sun Microsystems, came as Standard & Poor's cut Nokia's long-term credit rating for the second time this year.

Nokia said Mr. Green had taken a leave "to attend to a personal matter." Paivyt Tallqvist, head of media relations at the company, based in Espoo, Finland, said there was "no specific timeline" for his return.

In his absence, Mr. Green will be replaced by Henry Tirri, head of the Nokia Research Center, Ms. Tallqvist said, adding that the change would have "no impact on our product strategy or our product launches."

Earlier, however, a Finnish newspaper reported that Mr. Green was unlikely to return because of disagreements over strategy.

Without citing its sources, the Helsingin Sanomat newspaper

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		reported that Mr. Green was unhappy with management decisions, including abandoning plans to introduce devices based on the MeeGo smartphone operating system that had been under development with the chip maker Intel.
<b>RIM (Blackberry)</b>		
<b>Internal Discord</b>	(RIM, 2013) Dysfunctional management structure complicates the release of a necessary new operating system	<p>Canada's signature technology company was trying to build an entirely new mobile operating system from scratch, a complex task that meant RIM would be breaking from its long history of simply adding frills, functionality and new features to the same old software. Like an overloaded mule, the software running on BlackBerrys was gradually asked to do more and more until it became unstable.</p> <p>Straying beyond basic messaging functions, to apps or games, could stall the device, and users were frequently forced to stare in frustration at the "loading" symbol, reboot or take out the battery.</p> <p>The process was made more complex by several other factors, including RIM's increasingly dysfunctional management structure</p>
<b>Samsung</b>		
-		
<b>Culture of Change</b>	(I 1) Culture of change is necessary	It needs to be deeply embed in the culture to say give space for a new business. Only than a company can change itself for the new market.

<b>Culture for Change</b>	(I 1) Culture of staying open, open to learn new things	At Apple this was called, fit and stand out. Fit is adapting to your environment, survival of the fittest. Stand out means you are the best in that. That is actually the cultural side that must be there. One of staying open, keep looking for new things. Strategic renewal is today we're busy doing this we do not know what we are doing tomorrow but we are always open to learn new things.
<b>Diversified Culture</b>	(I 1) Diversity for Innovativeness	Yes, to put it this way, innovation should of course be high and innovation only occurs if you have very heterogeneous teams, no monoculture, so diversity is important.
<b>Culture of Openness</b>	(I 2) Culture of openness to change	The third one, is not easy also, is building a culture ehmm. Ehmm.. In your corporation a culture of openness to change..... It's really building a culture, be open, positively open to change.
<b>Forgiving Culture</b>	(I 4) A culture of failure allowance, give it a chance	The problem we have in large companies is linked with evaluations and linked with positions, we are not very good in trying to do a lot of things. I saw a lot of companies that tried two directions. And it did not work out, or it did work out but not quick enough and not as successful as forecasted according the plan. They stopped with it. They give up and they see it as a failure. Entrepreneurs i met some, and i work with some. Very successful. They say 10 times you shoot on a rabbit and two times you hit it. You spend your money and you lose your money, c'est la vie. We don't have this culture in companies.

## Continuous Sensing (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Market Expanding Sensing</b>	(Apple, 2012) Apple spots China as a market with enormous potential	‘While demand for Apple gadgets was high across the globe, Mr Cook described Chinese demand as “ <i>mind-boggling</i> ”, with revenue from the East Asian giant reaching a record \$US7.9 billion. “ <i>China has an enormous number of people moving into higher income groups, middle-class if you will, and this is creating a demand for goods,</i> ” Mr Cook said.’
<b>HTC</b>		
<b>Market Trend Sensing</b>	(HTC, 2011) great recognition of market trend	‘HTC had been quadrupling its volume in the last 2 years taking advantage of the exploding Android market’
<b>Market Trend Sensing</b>	(HTC, 2011) HTC Huge Success, Bet on Android	‘Global market share improved to just north of 9% as HTC has continued to gain huge traction on its bet on Android.’
<b>Market Expanding Sensing</b>	(HTC, 2012) HTC Stabilizing, launch of ONE family and shift from North America to Asia	‘HTC stabilized after two weak previous quarters, thanks to the launch of its ONE family of smartphones, but its global market share of 6% was still significantly down on 11% a year ago. HTC is increasingly shifting its focus from North America to Asia Pacific.’
<b>Market Expanding Sensing</b>	(HTC, 2012) Moving to Asia and Europe, not North America	‘Speaking to shareholders in April, Chou conceded that it might be difficult to return to the market share it once held in North America, which accounts for the bulk of its sales. He also unveiled a strategy that includes cultivating business in Asia and Europe.’

<b>Missing Market Developments</b>	(HTC, 2013) Focused on premium models, missing the 'big' lower end of the market	‘HTC has focused on premium models, however, despite the demand in the lower end of the market, where Lenovo, ZTE and Huawei, all Chinese companies, are growing rapidly.’
<b>Market Developments Sensing</b>	(HTC, 2013) HTC launches more affordable devices, reaction to cheaper Chinese Android devices	‘Demand for expensive phones is waning as cheaper Android devices from China and emerging markets flood the market. As a result, Samsung, Nokia Corp. and HTC Corp. are launching more affordable devices to diversify their product lineups, but the move could hit their profit margins in the longer term, analysts say.’
<b>Nokia</b>		
<b>Market Trend Sensing</b>	(Nokia, 2008) reacting on iPhone with a major touch screen effort	‘Nokia Corp., for instance, has promised a renewed presence at U.S. carriers, even while its share continued to flag in first quarter -- and it has said a major touchscreen effort would hit the market in the fourth quarter.’
<b>Missing Market Trend</b>	(Nokia, 2009) Misinterpreting the market, has to react fast	<i>‘We didn't execute; we were aiming at too geeky a community,’</i> he says. <i>“Apple is made for the common man. It's more for Joe Six-Pack than techno-geeks. But we understand Joe Six-Pack too.”</i> The coming 12 months will show whether Mr. Vanjoki's confidence is warranted, and he better be right as far as shareholders are concerned, since smartphones are where the growth is.’
<b>Missing Market Trend</b>	(Nokia, 2009) Not seeing the true cause of drop in sales	‘Nokia blamed a shortage of components for its poor third quarter performance compared with the wider market. Olli-Pekka Kallasvuo, its chief executive, said <i>“We would have sold more devices and smartphones in the third quarter without the capacity constraints. The constraints did in fact hit the smartphone part of the business more than the rest of the devices.”</i>

<b>Missing Market Trend</b>	(Nokia, 2011) Nokia slow in understanding the trend, Samsung did understand	‘Nokia is one of the most recognized and appreciated brands in Europe, but Samsung was the one understanding the trends first and moving faster.’
<b>Missing Market Trend</b>	(Nokia, 2011) Nokia drops while Apple is rising and Samsung as well thanks to the popularity of its Android Smartphone	<p>‘U.S. IT giant Apple is set to become the world's largest smartphone manufacturer by volume, overtaking Nokia, a report showed on Tuesday.</p> <p>According to DigiTimes, a Taipei-based daily, Apple is expected to take 19 percent of the global smartphone market with shipments of 86.4 million units this year. The number of shipped handsets has surged 82 percent from 47.5 million units in 2010.</p> <p>Nokia, another IT giant based in Finland, however, will see significant drop in smartphone shipments with only 75 million handsets shipped this year, a 25 percent decline from over 100 million units shipped in the previous year, the report added. Not only Apple, but Samsung is also growing strong thanks to the popularity of its Android smartphone.’</p>
<b>Market Trend Sensing</b>	(Nokia, 2011) Shift to Windows Phone as new strategy to compete on the high-end smartphone's	‘During the quarter, Nokia unveiled a completely revamped smartphone strategy, with plans to shift the majority of its future volumes to Microsoft's Windows Phone. While the strategy opens long-term opportunities for Nokia in North America and strengthens the high end of the vendor's multi-screen portfolio, it also holds the risk of slowing the midterm growth opportunity in low-end smartphones, where Nokia has long been a leader.’
<b>Missing Market Trend</b>	(Nokia, 2012) Nokia, drop further missing out on touchscreen	Nokia (8%) and RIM (7%) slipped further in the quarter, as Symbian and Blackberry platforms fell out of favor among touchscreen users.

RIM (Blackberry)		
Missing Market Trend	(RIM, 2008) reacting with 3 or 4 devices to parry Apple's movement, believing in their own strengths	'Research In Motion Ltd., now No. 6 in the world, according to IDC, is expected to deliver three or four devices to cement its position and parry Apple's move into the enterprise space.'
Missing Market Trend	(RIM, 2011) Blackberry needs to stay open reviewing Android or Microsoft Windows Phone	'If RIM continues to struggle in the high-growth touchphone market during 2011, then the company may have to review its decision to use only proprietary platforms like Blackberry OS or QNX and perhaps take a closer look at licensing additional third-parties such as Android or Microsoft Windows Phone.'
Missing Market Trend	(RIM, 2012) RIM, drop further missing out on touchscreen users	"Nokia (8%) and RIM (7%) slipped further in the quarter, as Symbian and Blackberry platforms fell out of favor among touchscreen users."
Market Trend Sensing	(RIM, 2013) Sensing only when the previous platform was antique	<i>"The last thing they could do is build on the previous BlackBerry, because they were making a complete break," says a former senior RIM executive. "And the reason they were making a complete break was to address all of the concerns expressed by everybody, which was the antiquity of the previous platform."</i>
Market Trend Sensing	(Blackberry, 2015) Focusing on software for connected car solutions and enterprise security	'In April, BlackBerry bolstered its enterprise security portfolio with the purchase of WatchDox, which makes security software for client files. In September 2014, it bought Movirtu, which makes privacy software that enables the same device to be used for business and personal matters, and in July it bought Secusemart, which provides voice and data encryption and anti-eavesdropping solutions to government organizations and enterprise clients.
		Other fast growing businesses within BlackBerry are QNX, the



		software that powers its connected car solution, as well as its communication tool BBM, though both are only expected to make around \$100 million each this fiscal year, according to RBC.'
<b>Samsung</b>		
<b>Market Trend Sensing</b>	(Samsung, 2010) Galaxy S smartphone boosts Samsung's smartphone shipments	'Smartphone sales grew 89.5% in the third quarter with SamsungElectronicsCo. showing the biggest growth of the top five vendors, researchers IDC said in a report. Samsung smartphone shipments grew more than fivefold, boosted by its new Galaxy S smartphone line, right, IDC said.'
<b>Market Trend Sensing</b>	(Samsung, 2011) growing extremely fast, Android is the key	'Samsung is growing almost 4 times faster than Apple, and if current trends continue then Samsung will overtake Apple in volume terms by the end of the year. Android was the key to Samsung's growth, as it sold 3 in 10 of all Android phones globally and widened the gap over the chasing pack of HTC, Motorola and others.'
<b>Market Trend Sensing</b>	(Samsung, 2011) recognized needs and delivered, high quality performance smartphones	'Samsung well understood that the name of the game this year was high quality performance and the Galaxy S2 beat the ruling champion, iPhone 4 in all aspects of hardware allowing it to receive rich operator subsidies and promotions around the world.'
<b>Market Developments Sensing</b>	(Samsung, 2012) Evolving trends, incremental innovations	'As digital devices evolve, the way of mobile communications is rapidly shifting from simple voice calls and text messaging to image-based interactions. Ushering in a new era of image communications and a new category in the digital camera market, Samsung Electronics pioneered the world's first SMART camera.'

<b>Market Trend Sensing</b>	(Samsung, 2012) Fast imitating, and better innovating	<i>"On display, you can argue Samsung has taken the lead. Maybe you can slam Samsung for being an imitator, but when they imitate, they do it right."</i>
<b>Market Developments Sensing</b>	(Samsung, 2012) Opportunity at the low end of the market	‘However, Mr Patton, who worked formerly at Sony Electronics in Europe, said that Samsung could dethrone its Californian rival if it could fill the void left by struggling Nokia and BlackBerry at the low end and business segment of the market.’
<b>Market Trend Sensing</b>	(Samsung, 2012) Recognizing trends, fast follower	<i>"Look what has happened to companies like Nokia, Motorola and BlackBerry, which didn't do as Samsung did," Mr. Song added, referring to competitors whose failures to adapt quickly to the smartphone boom driven by iPhones have drastically reduced their market shares. "Samsung may lack in innovation, but right now, no one can beat Samsung in playing catch-up."</i>
	(Samsung, 2012) Studying markets to sell well	‘Samsung says studying the market helps it build confidence for the wireless carriers that its mobile devices will sell well. That, in turn, persuades the carriers to aggressively sell Samsung phones and tablets. <i>"That's kind of the secret sauce,"</i> said Kevin Packer, chief product officer of Samsung. (Samsung also spends heavily on advertising globally. It outspends Apple and Microsoft.)’
<b>Market Developments Sensing</b>	(Samsung ,2013) Samsung launches more affordable devices, reaction to cheaper Chinese Android devices	‘Demand for expensive phones is waning as cheaper Android devices from China and emerging markets flood the market. As a result, Samsung, Nokia Corp. and HTC Corp. are launching more affordable devices to diversify their product lineups, but the move could hit their profit margins in the longer term, analysts say.’

## Opportunity Seizing (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Portfolio Diversification</b>	(Apple, 2011) Huge Success due to Portfolio Expansion	‘Specifically, the addition of a long-awaited CDMA flavor of the iPhone to the portfolio of mega-carrier Verizon Wireless skyrocketed North American shipments to an all-time-high 6.7 million units, pushing Apple into third place in our rankings.’
<b>Need for Portfolio Diversification</b>	(Apple, 2012) One launch is not enough, Apple	‘Apple experienced a rare annual fall in global market share to 17% as anticipation of the introduction of the next iPhone commenced in earnest earlier than last year. This is the direct consequence of only having one  product launch per year, and Apple is apparently evolving towards an annual cycle of having two strong quarters immediately after a launch, followed by two quieter ones in the lead-up to the next launch.’
<b>HTC</b>		
<b>Market Diversification</b>	(HTC, 2011) Faces IPR attacks and Slow expansion in Asia, might Slow down in 2012	However, HTC does have at least three major threats to deal with through 2012. First, HTC is coming under multiple IPR attacks from competitors like Apple. Second, HTC has been slow to expand across high-growth Asia.
<b>Portfolio Expansion</b>	(HTC, 2011) HTC's lead in Android delivers number 1 spot over Apple and Samsung	‘From the HTC Sensation to the Wildfire, HTC has the broadest product portfolio among Android vendors. This has helped HTC to achieve the number one spot in the US smartphone market this quarter. It has surpassed Samsung and Apple for the first time.’

<b>Market Diversification</b>	(HTC, 2011) ships 50% of its smartphones to US, need to diversify to rest of the world	‘HTC will have to spread out its sales to all parts of the world as now it ships almost 50% of its smartphones to the US.’
<b>Nokia</b>		
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<b>RIM (Blackberry)</b>		
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<b>Samsung</b>		
<b>Portfolio Diversification</b>	(Samsung, 2011) Android fierce competition for Apple, more choice, screen size and 4G	‘But the competition from Android is fierce and some iPhone users, although relatively a small portion, actually churned to Android rather than wait. New smartphone users are also flocking to Android for a variety of reasons including more choice, screen size and 4G technology. Apple will rebound tremendously but it won’t be enough to catch up with Samsung. But the new iPhone 4S is a world phone with both GSM and CDMA capability when activated.’
<b>Portfolio Diversification</b>	(Samsung, 2011) Diversified Portfolio	‘Samsung has a good mix in the smartphone market ranging from \$120 to \$600.’
<b>Portfolio Diversification</b>	(Samsung, 2011) Multi-tier smartphone portfolio and massive marketing Samsung strategy	‘Samsung combines a comprehensive multi-tier smartphone portfolio with an extensive distribution network and massive marketing spend to keep its products on the shelves and brand in the spotlight.’
<b>Market Diversification</b>	(Samsung, 2012) Established carriers and diverse markets to grow organically	<i>"The halcyon days of rapid growth in the smartphone market have been good to Samsung,"</i> said Kevin Restivo, senior research analyst with IDC's Worldwide Mobile Phone Tracker program.

		<i>"Samsung has used its established relationships with carriers in a mix of economically diverse markets to gain share organically and at the expense of former high fliers such as Nokia."</i>
<b>Portfolio Diversification</b>	(Samsung, 2012) Multi-tier portfolio, branding, distribution key elements for success of Samsung	Samsung overtook Apple to become once again the world's number one smartphone vendor, capturing a record 30% share in Q1 2012. An extensive multi-tier portfolio with crisp sub-branding and a huge distribution network have been the main keys to its runaway success among carriers, retailers and consumers.
<b>Portfolio Diversification</b>	(Samsung, 2013) Scale in all tiers of smartphones grows profits	"Samsung's diversity of profit streams plus strength and scale in all tiers of smartphones helps them to continue to grow profits,"

## Marketing (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Marketing</b>	(Apple, 2008) marketing monster	At the high end, the market is still reacting to, or performing parallel development on, Apple's embrace of a user interface that is at once fun, simple and intuitive. That basic achievement, which rides atop the monster marketing machine that is Steve Apple Jobs, produced first the term-of-envy ``iPhone killer."
<b>Branding</b>	(Apple, 2012) Brand power	‘Apple can rely on the power of its brand despite the iPhone being comparatively expensive.’
<b>HTC</b>		
<b>Branding</b>	(HTC, 2011) HTC increased Brand Awareness	HTC has benefitted in recent quarters from increased brand awareness worldwide, a larger product portfolio integrating the popular Android platform.
<b>Branding</b>	(HTC, 2011) missed opportunities, no branding, not improving distribution capabilities	HTC has not been able to grow its brand and distribution capabilities since now. It's not too late but one must do one's homework at some point. HTC's bet on the US LTE market did not pay off in Q4 so sales slumped. The Chinese market, where demand has started to explode is strangely a nascent market to HTC and HTC was completely left out from the party in Q4. One can view all of these as growing pains, which is true, but many manufacturers have failed to cross these thresholds before. Market diversification will have to be executed fast

<b>Marketing</b>	(HTC, 2012) HTC one, missing attention because of Galaxy SIII	According to Graeme Oxby, head of mobile at Virgin Media, HTC's slide in popularity may be "difficult to come back from". Its attempt at a comeback this spring with one of the world's most powerful phones in terms of computing speed, the HTC One X, was drowned out by the buzz around Samsung's latest Galaxy model, the SIII.
<b>Marketing</b>	(HTC, 2013) Failed Marketing campaign, needs to increase substantially	HTC Chief Executive Peter Chou said in an interview with The Wall Street Journal in June that the company is focusing its product portfolio and is ramping up branding efforts after its marketing campaigns faltered last year. The company's new Chief Marketing Officer Benjamin Ho has said the company will more than double its marketing spending this year as it looks to strengthen its image.
<b>Marketing</b>	(HTC, 2013) Marketing and distribution problems	Former employees say that marketing, sales and distribution problems, along with spiraling inventory costs, have killed momentum and are dragging HTC into unprofitability.
<b>Marketing</b>	(HTC, 2014) Difficulties in marketing	"We see HTC improving its marketing to promote the phones; but a selfie-centric smartphone is not a game changer," says Morgan Stanley, which keeps its underweight rating on HTC.
<b>Marketing Budget</b>	(HTC, 2014) HTC lack in marketing, now faces shrinking budgets	<p>"When HTC was doing well, it was because it had an early alternative to the iPhones, not because it had a strong global brand," said Willy Shih, a Harvard Business School professor who studies Asian technology companies.</p> <p>HTC's fortunes changed when Samsung began to tap its massive marketing purse with the launch of its Galaxy smartphones and as an influx of low-cost Chinese competitors such as Xiaomi Inc. flooded the market. While HTC has sought to shore up its marketing to counter Samsung, it faces the reality of a shrinking</p>

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budget.

## Nokia

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## RIM (Blackberry)

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### Brand Damage

(RIM, 2014) Very damaged brand

The firm says it will be hard for the company to substantially improve margins since it has been selling existing handsets around breakeven and still has a "very damaged brand."

## Samsung

### Marketing

(Samsung, 2010) Aggressive marketing, premium products deliver best sales and margins

We accomplished the best sales and profit margin in the industry, owing to aggressive marketing of our premium products and to our differentiated technologies. The Mobile Communications Business sold 280 million phones in 2010, up 23% over 2009, and achieved a double-digit operating profit margin, supported by strong smartphone sales.

### Marketing

(Samsung, 2011) Multi-tier smartphone portfolio and massive marketing Samsung strategy

Samsung combines a comprehensive multi-tier smartphone portfolio with an extensive distribution network and massive marketing spend to keep its products on the shelves and brand in the spotlight.

### Marketing Budget

(Samsung, 2012) Marketing budget

Neil Mawston, executive director at Strategy Analytics' global wireless practice, said Samsung, which uses Google Inc.'s free Android software on its smartphones, has based its success on three pillars: It offers



		compelling smartphone models at all price points; has an enormous marketing budget, and has increased global distribution.
<b>Branding</b>	(Samsung, 2012) Multi-tier portfolio, branding, distribution key elements for success of Samsung	Samsung overtook Apple to become once again the world's number one smartphone vendor, capturing a record 30% share in Q1 2012. An extensive multi-tier portfolio with crisp <b>sub-branding</b> and a huge distribution network have been the main keys to its runaway success among carriers, retailers and consumers.
<b>Marketing Budget</b>	(Samsung, 2013) Massive marketing spend	And even that is free. Buoyed by colossal advertising and marketing spend which dwarfs even the likes of Coca-Cola, and with worldwide distribution, it is determined to control the mobile phone market.

## Distribution and Sales (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Carrier Attention</b>	(Apple, 2008) Apple set a lot of reactions in motion from carriers	<i>“The release of [Apple Inc.'s] iPhone last year and the imminent release of an update set a lot of reactions in motion from carriers and their handset vendor partners,” said Ross Rubin, analyst at NPD Group.’</i>
<b>Carrier Attraction</b>	(Apple, 2011) Carrier orders and new carrier orders create unbelievable number of shipments	‘APPLE shipped an overwhelming 37 million units taking 24% market share and the crown again. Orders spilt over from Q3 were combined with the orders from new carrier partners in Q4 to create an unbelievable number.’
<b>Carrier Attraction</b>	(Apple, 2011) Having more carriers sell its phones, more to come Chinese carriers join	<p>‘In the quarter, new carriers like Sprint of the US and KDDI of Japan had to fill the channels and both successfully launched the new iPhone as postpaid subscribers increased. The new carriers sparked another iPhone war in each respective market as all existing carriers also countered the iPhone 4S from the new carriers with their iPhone 4S creating surge in iPhone orders. There is more to come this year as China</p> <p>Telecom gets their hands on the 4S in February and China Mobile hopes to get it during the second half of the year.’</p>
<b>Carrier Attraction</b>	(Apple, 2013) Apple has great power to compel wireless carriers to make commitments	‘Meanwhile, for all its market-share gains, Samsung doesn't appear to have gained Apple's power to compel wireless carriers to make commitments to buy a certain number of handsets. However, Samsung may have

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reduced Apple's negotiating leverage.'

**Carrier Attraction**

(Apple, 2013) Multibillion-dollar commitment by carrier Verizon Wireless

'Like some rivals, Verizon Wireless appears to have made a multiyear, multibillion-dollar commitment to buy iPhones in order to get Apple's smartphone onto its network. Now, the No. 1 U.S. carrier by subscribers doesn't appear to be selling as many of the devices as it thought it could. That's judging from Verizon Wireless's ballooning purchase commitments as reported by one of its corporate parents, Vodafone Group.'

**HTC**

**Carrier Attention**

(HTC, 2008) G1 won't fall flat, taking advantage of T-Mobile's 3G coverage

*'My take is that the G1 won't fall flat, especially in the U.S. at T-Mobile, because it is the only touchscreen-oriented device at that carrier that can take advantage of T-Mobile's expanding 3G coverage,'* Greengart said. *'This device can go head-to-head with other major devices launching this fall, including those from RIM and Apple.'*

**Carrier Attention**

(HTC, 2010) Carriers advertising for Android, generous with subsidies

"There's been such huge emphasis on Android, with all the vendors backing the platform and the carriers advertising and being a little more generous with subsidies, especially in the US market," Carolina Milanesi, a research vice president at Gartner's Egham, England unit, said in an interview.

**Sales Relations**

(HTC, 2011) HTC Deeper Presence at Multiple Operators and Retailers

'HTC has benefitted in recent quarters from increased brand awareness worldwide, a larger product portfolio integrating the popular Android platform, and a deeper presence at multiple operators and retailers.'

<b>Distribution Capabilities</b>	(HTC, 2011) missed opportunities, no branding, not improving distribution capabilities	‘HTC has not been able to grow its brand and distribution capabilities since now. It’s not too late but one must do one’s homework at some point. HTC’s bet on the US LTE market did not pay off in Q4 so sales slumped. The Chinese market, where demand has started to explode is strangely a nascent market to HTC and HTC was completely left out from the party in Q4. One can view all of these as growing pains, which is true, but many manufacturers have failed to cross these thresholds before. Market diversification will have to be executed fast.’
<b>Carrier Support</b>	(HTC, 2012) Can't sell, To much reliance on operator subsidies	<i>"HTC has always made great products," said a recently departed executive, who spoke on condition of anonymity because of the sensitivity of the situation. "There are no problems on the hardware side of the ball. It just can't sell to save itself. It's relied too heavily on operator subsidies, and those are drying up for the premium phone market HTC likes to play in."</i>
<b>Sales Support</b>	(HTC, 2012) Lack in sales supporting	‘He put Samsung's success down to greater marketing muscle and a bigger global sales force. Analyst Pierre Ferragu at broker Sanford Bernstein estimates that Samsung spends about six times more than HTC supporting its sales, while Apple spends nearly four times as much.’
<b>Distribution Channels</b>	(HTC, 2012) Losing important distribution channels in US	‘The problem stems from the US, where the largest mobile networks have withdrawn subsidies from HTC in order to pump them into the two most popular brands, Apple and Samsung.’
<b>Sales Relations</b>	(HTC, 2012) Losing important relationships with carriers, sales network	However, an emerging company could not hope for its own sales network on a par with the likes of Apple or Finland's Nokia Corp. HTC instead worked with the sales might of telecommunications companies. In the U.S. in 2008, it released the world's first Android-powered

		<p>smartphone through T-Mobile USA Inc. Even after this coup, it moved quickly to modify the external designs of its handsets and tweak its smartphone software in response to the needs of telecom carriers.</p> <p>At the time, Apple was selling its iPhone in the U.S. only through AT&amp;T Inc. Rival telecom firms wanted a device that could compete against the iPhone, and HTC fit the bill. All four major U.S. telecom firms were interested in selling the HTC brand. In 2011, sales reached 465.8 billion New Taiwan dollars (U.S.\$15.5 billion), 3.1 times 2008's sales.</p> <p>But the situation changed dramatically in 2011, when Apple partnered with two additional telecom companies in the U.S. to expand iPhone sales. Moreover, latecomer Samsung launched an intense offensive to support its thin, lightweight Galaxy S. Suddenly, HTC was no longer the only choice for major carriers.</p>
<b>Distribution Capabilities</b>	(HTC, 2013) Lack of sales execution and channel management	<p>‘In a Goldman Sachs research note in August, which downgraded HTC's stock from neutral to sell, the investment bank warned that it did not expect the company to return to profitability until the second quarter of 2014 at the earliest.</p> <p>The report pointed to <i>"limited clarity on strategies" and HTC's recurring inventory problems and said that "sales execution and channel management remain below industry standards."</i></p>
<b>Distribution Capabilities</b>	(HTC, 2013) Marketing and distribution problems	<p>‘Former employees say that marketing, sales and distribution problems, along with spiraling inventory costs, have killed momentum and are dragging HTC into unprofitability.’</p>

<b>Carrier Attention</b>	(HTC, 2013) Relying on wireless carriers	‘Other electronics makers like HTC, Motorola and BlackBerry do not have as strong a retail presence, and they mostly rely on wireless carriers selling their phones.’
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## Nokia

<b>Distribution Channels</b>	(Nokia, 2011) Symbian Lost Distributor Attention in Asia because of Android	‘Symbian has now lost the trust of distributors in Asia Pacific as the consumers focus on Android.’
<b>Carrier Attention</b>	(Nokia, 2012) Nokia volumes drop, Chinese carriers promoting makers of low-end phones	‘Moody's noted in a report that Nokia's cellphone volumes dropped 16 per cent in the first quarter due to increasing competition from makers of low-end phones or new phone promotions by Chinese carriers.’
<b>Carrier Attention</b>	(Nokia, 2012) Windows phone in 2010, lack of support from major carriers	However, devices with Windows phone software have gained little traction, largely because of a lack of support and marketing from major carriers.

## RIM (Blackberry)

<b>Carrier Support</b>	(RIM, 2013) Hard to sustain with limited carrier support	<i>"Further, given BlackBerry's small smartphone market share and declining subscriber base, we struggle to envision how BlackBerry can sustain a completely different mobile ecosystem with limited carrier support, developer interest, or application base."</i>
<b>Carrier Attention</b>	(RIM, 2013) Relying on wireless carriers	Other electronics makers like HTC, Motorola and BlackBerry do not have as strong a retail presence, and they mostly rely on wireless carriers selling their phones.

## Samsung

<b>Carrier Support</b>	(Samsung, 2010) Carriers advertising for Android, generous with subsidies	<i>"There's been such huge emphasis on Android, with all the vendors backing the platform and the carriers advertising and being a little more generous with subsidies, especially in the US market,"</i> Carolina Milanesi, a research vice president at Gartner's Egham, England unit, said in an interview.'
<b>Carrier Support</b>	(Samsung, 2011) Powerful in distributing its products	'Samsung took a huge 23% share of the market displaying its formidable power in the distribution of the products.'
<b>Distribution Capabilities</b>	(Samsung, 2012) Distribution power	'Samsung and Apple are both expected to be able to maintain their sales in that country. The Korean company has powerful distribution.'
<b>Sales Relations</b>	(Samsung, 2012) Established carriers and diverse markets to grow organically	<i>"The halcyon days of rapid growth in the smartphone market have been good to Samsung,"</i> said Kevin Restivo, senior research analyst with IDC's Worldwide Mobile Phone Tracker program. <i>"Samsung has used its established relationships with carriers in a mix of economically diverse markets to gain share organically and at the expense of former high fliers such as Nokia."</i>
<b>Distribution Capabilities</b>	(Samsung, 2012) Global distribution	'Neil Mawston, executive director at Strategy Analytics' global wireless practice, said Samsung, which uses Google Inc.'s free Android software on its smartphones, has based its success on three pillars: It offers compelling smartphone models at all price points; has an enormous marketing budget, and has increased global distribution.'
<b>Distribution Capabilities</b>	(Samsung, 2012) Multi-tier portfolio, branding, distribution key elements for success of Samsung	Samsung overtook Apple to become once again the world's number one smartphone vendor, capturing a record 30% share in Q1 2012. An extensive multi-tier portfolio with crisp sub-branding and a huge distribution network

		have been the main keys to its runaway success among carriers, retailers and consumers. A
<b>Distribution Channels</b>	(Samsung, 2013) Improving its distribution channels	‘Samsung has had a partnership with Best Buy for a long time. The main difference now is that instead of having its products scattered throughout Best Buy stores, they will all be in one place. In the mini-stores, Best Buy employees will be trained to educate shoppers on Samsung devices and walk them through purchase and activation.’



## Product Development (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Product Delay</b>	(Apple, 2011) Delay in Release is a crucial stumble, disappointing sales	‘APPLE shipped a slightly disappointing 17.1 million units in Q3 2011. The delay of the new iPhone 4S was the main culprit as it was planned to start production in August and ship within September.’
<b>Product Delay</b>	(Apple, 2012) Slow Apple with delayed introduction gives Samsung a Leap	<p>‘And the top competitors in the smartphone race, South Korea's Samsung Group and Cupertino, Calif.-based Apple Inc., have also sacrificed sales and angered consumers when product delivery has lagged expectations.</p> <p>Some analysts have said that the unveiling of the iPhone 4S last fall rather than in the summer as per the typical refresh allowed Samsung to leap to the top in global smartphone shipments.’</p>
<b>HTC</b>		
<b>Importance of Fast Product Release</b>	(HTC, 2011) HTC has opportunity because delay of iPhone and Android phones	‘HTC is now just behind once dominant Nokia in smartphone market share. HTC has been blessed in Q3 as the new iPhone 4S was delayed and several competitors such as LG and Motorola failed to bring Android smartphones with superior hardware comparable to the Galaxy S2.’
<b>Nokia</b>		
<b>Product Delay</b>	(Nokia, 2010) Nokia delays it model to compete with Apple's iPhone, it needs to be top notch	<i>"We will not ship the product before the quality is something that will meet the end-user needs and demands," said chief executive Olli-Pekka Kallasvuo</i>

		<p>on a conference call.</p> <p>Nokia still lacks a top-range model to challenge Apple's iPhone three years after its launch. Its last high-end hit phone was the N95, which was unveiled in 2006.</p> <p>The launch of Symbian 3 phones was pushed back yesterday from the second quarter to the third.</p> <p><i>"This is pretty significant as Nokia and Symbian have lost a lot of market share in the last few years,"</i></p>
<b>Product Delay</b>	(Nokia, 2010) Nokia not answering for 3 years, being slow to renew its offering	<p>Nokia lacks a top-range model to challenge Apple's iPhone three years after its launch. Its last high-end hit phone was the N95, which was unveiled in 2006.</p> <p>"We will not ship the product before the quality is something that will meet the end-user needs and demands," said chief executive Olli-Pekka Kallasvuo on a conference call.</p> <p>The launch of Symbian 3 phones was pushed back on Thursday from the second quarter to the third.</p> <p>Nokia said operating profit margin at its key phone unit would drop in the second quarter from the first, and cut its 2010 margin view to 11-13 per cent due to the delayed software revamp.</p> <p>The average forecast of 33 analysts in a Reuters poll was 13.7 per cent.</p> <p>Nokia has been criticized for being too slow to renew its offering.</p>
<b>Importance of Fast Product Release</b>	(Nokia, 2012) Nokia and Blackberry are punished because of slow response	<p>'The enthusiastic response to Microsoft Corp.'s announcement in Toronto this week that its next generation operating system will launch on schedule points out the growing importance of timing in the world of mobile technology.</p> <p>Audience members at the company's partner's conference cheered when corporate vice-</p>

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		<p>president Tami Reller announced that Windows 8 will be available to consumers in late October.</p> <p>Reller added that business users will have access to aspects of the software, overhauled to support a new line of mobile handsets along with PCs, as early as the beginning of August.</p> <p>"There was definitely a sense of relief," said one blogger on a link to the four-day event's website.</p> <p>The reaction contrasts with the pummelling investors have given Waterloo's Research In Motion Ltd. after it announced in late June that its new mobile platform will be delayed again, this time until the first quarter of 2013.</p> <p>Nokia Corp. has also "suffered from their slow response," said Wayne Lam, senior wireless analyst at IHS. He said it continues to pay for twice delaying the sale of its flagship smartphone in 2010 due to a software upgrade taking longer than expected.'</p>
<b>Importance of Fast Product Release</b>	(Nokia, 2013) Nokia's Windows Phone too late to the race	<p>'Analysts, some of whom had said Nokia needs to hit 10 million Lumia sales within the next few quarters to convince them it could survive in smartphones, said they were worried Nokia's Windows Phone models had come too late to the race.'</p>

## RIM (Blackberry)

<b>Importance of Fast Product Release</b>	(RIM, 2011) RIM plans to launch new OS, but has to move fast	<p>'Thus the new BBX platform sheds some light for RIM as it is the hybrid platform of QNX and Blackberry OS. The approach is now similar to Apple iOS but the implementation must be fast. Hopefully the first products will come out in mid-2012 but RIM should do its best to keep its loyal followers happy</p>
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		and avoid the route Nokia went.'
<b>Production Process Streamlining</b>	(RIM, 2011) Shorter product cycles, streamlining of production process will be vital	'Understanding the product cycle has shortened to 6 ~ 9 months is important and streamlining the development, production process will be vital for the new CEO.'
<b>Importance of Fast Product Release</b>	(RIM, 2012) Five years since 2007 and RIM has still no credible answer to first iPhone	'Five years on and RIM still has no credible response to the first iPhone launched in 2007.'
<b>Importance of Fast Product Release</b>	(RIM, 2012) RIM relies on older product portfolio desperately in need for the new BB10 models to succeed	<i>'RIM relied on its older product portfolio and models to achieve its status as a top five smartphone seller,'</i> IDC said in its report, released Thursday. <i>"Still, without a new flagship model in time for the holiday season and BB10 models not expected until the first quarter of 2013, RIM's position as a top five smartphone vendor will be under tremendous pressure from other companies."</i>

## Samsung

<b>Fast Product Development</b>	(Samsung, 2011) New Lumia is coming, late, Samsung and HTC started to move fast to ambush launch	'The new Lumia Windows Phone line up looks attractive but Samsung and HTC have already started to move fast to ambush the long prepared launch. Nokia will have to move fast and swiftly in the coming quarters as the smartphone market is hyper competitive so one misstep can result to millions of units lost to competitors.'
<b>Fast Product Development</b>	(Samsung, 2011) strategy, being cheap and fast	'Samsung's strength has been in being fast and cheap to the market with everything from TVs to chips and phones. That has created tension with Apple, which has complained Samsung's Galaxy range copies its iPads and iPhones.'
<b>Production Process Streamlining</b>	(Samsung, 2011) Samsung shortening life cycles of its flagship products, allowing to launch new models before rivals	'Samsung has shortened the life cycle of its flagship products to 9 months and this enables Samsung to launch flagship models ahead of rival, Apple with slightly superior hardware specifications. This strategy will continue in 2012 and will be

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effective as well.'

<b>Fast Product Development</b>	(Samsung, 2012) Surviving patent battles because of speed	'But those products had already lived through their life cycles in Samsung's fast-paced marketing plan, analysts and Samsung officials said. With characteristic speed, Samsung had already retooled its latest Galaxy S III smartphones to stay ahead of the patent battle.'
<b>Fast Product Development</b>	(Samsung, 2012) Incredible speed chasing down a market	<i>'But "what differentiates Samsung from almost all other Android players, and most other rivals in other areas, is speed and urgency. When Samsung really chases down a market, it chases harder than almost any other company that I know of," Mr. Mawston said.'</i>
<b>Fast Product Development</b>	(Samsung, 2012) Korean's are very fast, fast from design to production	<i>"Koreans do things quicker than almost anyone," said Anthony Michell, author of "Samsung Electronics and the Struggle for Leadership of the Electronics Industry." "This allows them to change models, go from design to production faster than anyone at the present time.'</i>

#### Confirmed during Expert Interviews

(I 2) Being more agile	What you can do as a company to be better prepared to change...(-).... The second action that you can.. Ehm.. Create is being more agile. More agile means building agility in your organization. So being able to react fast and that's something also you can build.
(I 4) Action is important	'The second thing you need to do is, action. It's about action. It's not going to silicon valley and say these companies are great. No translate your thoughts into actions.'

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## Supply Chain Management (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Fast Product Delivery</b>	(Apple, 2011) New CEO expert in supply chain management, fast delivery, no delay	'The new CEO is certainly an expert in supply chain management as the new orders seem to have been handled with great agility and no delay.'
<b>HTC</b>		
<b>Fast Product Delivery</b>	(HTC, 2011) HTC Builds attractive and on time models, great success	We believe HTC has developed a reliable reputation for building attractive models that are delivered on-time and on-quality, gaining it strong favor at operators.
<b>Fast Product Delivery</b>	(HTC, 2013) Shortage of the Phone's camera components causes delay	'HTC's global smartphone market share fell to 4.6% in 2012 from 8.8% in 2011, according to market-research firm IDC. It planned to introduce the new HTC One smartphone at the beginning of March, but shortage of the phone's camera components delayed its release in initial markets to the end of March and its U.S. release to April 19.'
<b>Nokia</b>		
-		
<b>RIM (Blackberry)</b>		
-		
<b>Samsung</b>		
<b>Execution Power</b>	(Samsung, 2011) High Execution Power Samsung	'SAMSUNG smartphone shipments jumped 375% YoY for the vendor's highest-ever 12.6

		million units worldwide in Q1 2011, showing the execution power of Samsung when they are determined to move fast.'
<b>Vertically Integration</b>	(Samsung, 2013) Completely vertically integrated, except Android OS	'Samsung, meanwhile, is completely vertically integrated, owning the factories that make everything from the memory chips to the screens, and writing its own apps and code to go on the only element of its smartphones that it doesn't make - Google's Android operating system.'

## Innovation (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Produce Disruptor</b>	(Apple, 2007) Apple disrupted the entire global mobile industry	‘The finger-driven touchscreen, Web-based ecosystem for high-ARPU consumers that Apple championed in the United States has revolutionized and disrupted the entire global mobile industry in just four short years.’
<b>Produce Disruptor</b>	(Apple, 2007) Apple produces game-changing iPhone	‘Apple Inc.'s game-changing iPhone, launched in June, 2007, intensified competition for both RIM and Nokia. But it's the free Android operating system and the commoditization of hardware that are making it so hard for both companies to maintain margins.’
<b>Produce Disruptor</b>	(Apple, 2008) Apple disrupts with user interface that is at once fun	‘At the high end, the market is still reacting to, or performing parallel development on, Apple's embrace of a user interface that is at once fun, simple and intuitive. That basic achievement, which rides atop the monster marketing machine that is Steve Apple Jobs, produced first the term-of-envy “iPhone killer.”
<b>Produce New Technology</b>	(Apple, 2008) Importance of touchscreens and high-end feature phones	‘Where Nokia Corp. and Motorola Inc. once dominated the landscape, Samsung Electronics Co. Ltd. and LG Electronics Co. have surged with a multiplicity of high-end feature phones. First to market with spacious touchscreens after Apple Inc.'s iPhone bombshell, Samsung and LG appear to have stolen a march in the first half of the year.’



## HTC

### Build Attractive Models

(HTC, 2011) HTC Beating Samsung in US smartphone market, having a strong range of 4G Android products

Samsung Electronics Co. took second place in the U.S. smartphone market during the third quarter, trailing behind Taiwan-based HTC Corp., a market research firm said Wednesday.

Even though Samsung became the leading smartphone maker worldwide, it lagged behind HTC in the world's biggest smartphone market in the July-September period, market researcher Canalys said in a report.

HTC shipped 5.7 million smartphones to the United States in the latest quarter, claiming nearly a quarter of the market, compared with Samsung's 4.9 million units, the Palo Alto, California-based researcher said. "(HTC) now has a strong range of 4G Android products, with devices ranged by each of the major carriers," Canalys vice president Chris Jones said in a news release.

### Build Attractive Models

(HTC, 2011) HTC Builds attractive and on time models, great success

'We believe HTC has developed a reliable reputation for building attractive models that are delivered on-time and on-quality, gaining it strong favor at operators.'

### Innovative Competence

(HTC, 2011) Reputation for innovative flair

'The resignation of Apple Inc. CEO Steve Jobs opens the door for rivals Samsung Electronics and HTC to battle for smartphone supremacy in salesrooms and courtrooms globally. Taiwanese group HTC, led by another well-known industry figure, Peter Chou, is seen by many as the most direct competitor to Apple. It has seen sales surge in the last few quarters and has a reputation for innovative flair.'

<b>Innovative Competence</b>	(HTC, 2011) Very innovative	Taiwanese group HTC - is seen by many as the only phone maker able to innovate like Apple and has quickly risen to become the fifth-largest smartphone vendor globally - could benefit the most in this arena from any erosion of Apple's dominance.
<b>Lack of Innovation</b>	(HTC, 2012) Lack of innovation hurts HTC	While a dramatic change, HTC's setback is probably related to the company's lack of interesting innovation in the last year, said Will Stofega, an analyst at the International Data Corporation.  <i>"It's almost like a fashion market," he said. "They've had some great devices, but they didn't have that little sparkle or pizzazz."</i>
<b>Build Attractive Models</b>	(HTC, 2013) One best 2013 smartphone of the year because of great design and excellent user interface	<p>‘HTC One has been named Best Smartphone of the Year - beating competition from the iPhone 5S and Galaxy S3.</p> <p>The judges revealed the winner of the coveted accolade presented at the 19th Global Mobile Awards at the Mobile World Congress 2014 in Barcelona.</p> <p>The other nominees in the category were the iPhone 5S, the LG G2, Lumia 1020 and the Samsung Galaxy Note 3.</p> <p>HTC One, based in Taiwan, won because it remained "one of the most advanced smartphones throughout 2013", the judges said.</p> <p>They added: <i>"Its great design and excellent user interface continue to provide a differentiated user experience, standing out from the competition."</i></p>

## Nokia

<b>Produce New Technology</b>	(Nokia, 2008) Music feature to counteract touchscreen competition on Nokia's first touchscreen device	Comes With Music to the rescue Based on how Nokia introduced its first touchscreen phone -- by putting almost as much emphasis on Comes With Music as the phone itself -- the company appears to be placing its hopes on
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		<p>the unlimited music program as a way to counteract touchscreen competition in general and Apple's iTunes service specifically.</p> <p>“Delivering on Nokia's vision to provide the best total music experience possible, the Nokia 5800 XpressMusic will be among the first devices to support Comes With Music, Nokia's groundbreaking service which offers one year of unlimited access to the entire Nokia Music Store catalogue,” Nokia said.</p>
<b>Produce New Technology</b>	(Nokia, 2008) reacting on iPhone with a major touch screen effort	Nokia Corp., for instance, has promised a renewed presence at U.S. carriers, even while its share continued to flag in first quarter -- and it has said a major touchscreen effort would hit the market in the fourth quarter.
<b>Lack of Innovation</b>	(Nokia, 2008) Touchscreen Nokia answer on Apple's iPhone less advanced	‘However, according to the Wall Street Journal, Nokia's touchscreen supports only one touch point at a time, unlike Apple's iPhone that allows users to zoom in and out with two fingers.’
<b>Innovative Competence</b>	(Nokia, 2012) Showing innovating competence	‘Comparing RIM and Nokia, the latter managed to introduce an entirely new operating system on handsets which are the design envy of pretty much everyone who'll admit to it within less than a year of announcing a radical shift. That's not trivial; even if the Lumia range is essentially a repurposed version of the N series Symbian phones, it still involves low-level code, coordination, and lots of design effort.’
<b>RIM (Blackberry)</b>		
<b>Pressure to Innovate</b>	(RIM, 2011) needs software improvement for the long term and hardware for the short term	‘The improvement on the software is required for long term but a hardware refresh is needed for the short term survival.’
<b>Lack of Innovation</b>	(RIM, 2011) RIM's BB7 OS upgraded Touchphone models a welcome step, but far from	‘RIM's recently launched BB7 portfolio of upgraded touchphone models is a welcome step forward

	enough	for the company, but it is not yet the great leap forward that is needed to compete fully with Apple, Samsung and others in 3G or 4G markets.'
<b>Lack of Innovation</b>	(RIM, 2011) RIM innovating not on par.	RIM's Blackberry OS has been updated constantly over the last 2 years but it hasn't been considered on par with Android due to the lack of touchscreen features, slick UI and browser.
<b>Lack of Innovation</b>	(RIM, 2012) Five years since 2007 and RIM has still no credible answer to first iPhone	'Five years on and RIM still has no credible response to the first iPhone launched in 2007.'
<b>Lack of Innovation</b>	(RIM, 2012) Lack of creating a new platform	RIM's new QNX operating system has barely gained traction and its QNX-based PlayBook tablet device flopped. Its core BlackBerry system, which has over 75m users, is losing market share as corporations switch to web-based email, and a massive service outage last autumn didn't help either.
<b>Lack of Innovation</b>	(RIM, 2012) Unable to innovate	'By contrast, RIM has never managed to produce a device ahead of time, and has seen little uplift from the introduction of BB7. And the introduction of BBX, the next version of the software, was expected by now but has been put back to some later date (though still this year).'

## Samsung

<b>Build Attractive Models</b>	(Samsung, 2010) Aggressive marketing, premium products deliver best sales and margins	'We accomplished the best sales and profit margin in the industry, owing to aggressive marketing of our premium products and to our differentiated technologies. The Mobile Communications Business sold 280 million phones in 2010, up 23% over 2009, and achieved a double-digit operating profit margin, supported by strong smartphone sales.'
<b>Build Attractive Models</b>	(Samsung, 2011) recognized needs and delivered, high quality performance smartphones	'Samsung well understood that the name of the game this year was high quality performance and the Galaxy S2 beat the ruling champion.'

<b>Incremental Innovation</b>	(Samsung, 2012) Evolving trends, incremental innovations	As digital devices evolve, the way of mobile communications is rapidly shifting from simple voice calls and text messaging to image-based interactions. Ushering in a new era of image communications and a new category in the digital camera market, Samsung Electronics pioneered the world's first SMART camera.
<b>Innovative Competence</b>	(Samsung, 2012) Fast imitating, and better innovating	"On display, you can argue Samsung has taken the lead. Maybe you can slam Samsung for being an imitator, but when they imitate, they do it right."
<b>Incremental Innovation</b>	(Samsung, 2012) Fast incremental product improvements	Samsung's strategy was to build something similar to another company's product but to make it better, faster and at lower cost. When it pounced, it flooded the market with a wide range of models that were constantly updated with incremental improvements at a speed its rivals found hard to match -- a strategy best illustrated by its smartphone business. <i>down a market, it chases harder than almost any other company that I know of,"</i> Mr. Mawston said.'
<b>Innovative Competence</b>	(Samsung, 2012) Innovating in new existing markets	Samsung invests heavily in studying existing markets and innovating inside them.

## Dedicated Strategizing (Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
<b>Focused Strategy</b>	(Apple, 2011) Focusing on one premium product and market, Huge Success	<p>‘Apple is now the world's no.1 smartphone vendor</p> <p>by revenue, by profit and by volume, an achievement that has taken just 4 years since launch. Apple's growth was strong across Asia, particularly</p> <p>China where its sales are surging among wealthy urban consumers in major cities like Shanghai. Apple is showing that, with the right product, it is possible to sell expensive premium-tier 3G models in decent volumes across developing markets.’</p>
<b>Lack of Aggressive Strategy</b>	(Apple, 2012) Lack of aggressiveness in emerging markets	‘What's fascinating about Apple is its refusal to get aggressive in emerging markets.’
<b>Focused Strategy</b>	(Apple, 2013) Should continue high end leadership	‘We believe Apple is leaving money on the table by not participating in larger touch-screen form factors. But more importantly, we believe Apple needs to reclaim high-end leadership, as that is what its brand is about.’
<b>HTC</b>		
<b>Non Focused Strategy</b>	(HTC, 2012) To diversified, focusing on Android, Microsoft and Facebook phones	<p>"They were too diversified," said Jason Chien, a former mobile phone analyst with Topology Research Institute in Taipei.</p> <p>"Their portfolio was a mess and they wanted to make Android, Microsoft and Facebook phones.</p>

They should have concentrated on Android, instead of wasting their money on Windows and Facebook."

## Nokia

<b>Focused Strategy</b>	(Nokia, 2010) Nokia merging platforms with Intel creating MeeGo platform	'In the first quarter, Nokia and Intel merged their Maemo and Moblin software platforms to form a single Linux-based and fully open source platform, MeeGo, for a wide range of computing devices, including pocketable mobile computers, netbooks, tablets, mediaphones, connected TVs and in-vehicle infotainment systems.'
<b>Shifting Strategy</b>	(Nokia, 2010) Possibly losing viability and return on investment switching to Windows Phone	'We may not be able to maintain the viability of our current Symbian smartphone platform during the transition to Windows Phone as our primary smartphone platform or we may not realize a return on our investment in MeeGo and next generation devices, platforms and user experiences.'
<b>Negative Consequences Shifting Strategy</b>	(Nokia, 2011) Chief technology officer leaves because of disagreement over strategy, abandoning plans to introduce devices on MeeGo	<p>'The Finnish cellphone maker Nokia said on Thursday that its <b>chief technology officer</b> had taken a leave of absence and would be temporarily replaced by the head of the company's research center.</p> <p>News of the departure of Richard L. Green, an American who joined Nokia last year from Sun Microsystems, came as Standard &amp; Poor's cut Nokia's long-term credit rating for the second time this year.</p> <p>Nokia said Mr. Green had taken a leave "to attend to a personal matter." Paivyt Tallqvist, head of media relations at the company, based in Espoo, Finland, said there was "no specific timeline" for his return.</p> <p>In his absence, Mr. Green will be replaced by Henry Tirri, head of the Nokia Research Center, Ms.</p>

		<p>Tallqvist said, adding that the change would have <i>"no impact on our product strategy or our product launches."</i></p> <p>Earlier, however, a Finnish newspaper reported that Mr. Green was unlikely to return because of disagreements over strategy.</p> <p><b>Without citing its sources, the Helsingin Sanomat newspaper reported that Mr. Green was unhappy with management decisions, including abandoning plans to introduce devices based on the MeeGo smartphone operating system that had been under development with the chip maker Intel.</b></p>
<p><b>Shifting Strategy</b></p>	<p>(Nokia, 2011) Nokia focusing on MeeGo platform for next-generation devices</p>	<p>‘In June 2011, Nokia launched the Nokia N9, the outcome of efforts in Nokia’s MeeGo program. The Nokia N9 is a pure touch smartphone which introduces an innovative new design where the home key – typically located at the bottom of the device – is replaced by a simple gesture: a swipe. Under Nokia’s new strategy for smartphones, MeeGo will place increased emphasis on longer-term market exploration of next-generation devices, platforms and user experiences.’</p>
<p><b>Shifting Strategy</b></p>	<p>(Nokia, 2011) Nokia major shift in smartphone strategy</p>	<p>‘Nokia unveiled a completely revamped smartphone strategy, with plans to shift the majority of its future volumes to Microsoft’s Windows Phone. While the strategy opens long-term opportunities for Nokia in North America and strengthens the high end of the vendor’s multi-screen portfolio, it also holds the risk of slowing the midterm growth opportunity in low-end smartphones, where Nokia has long been a leader. Nokia’s first Windows Phone handset is due around Q4 2011, and we expect it to be a bellwether for Nokia’s long-term Windows Phone</p>



		prospects. Meanwhile, emphasis on the emerging MeeGo platform has been reduced significantly, though at least one smartphone based on the platform could well arrive in the second half of this year'
<b>Negative Consequences Shifting Strategy</b>	(Nokia, 2012) Losing 44% market share in Asia Pacific due to Symbian and MeeGo missteps	ASIA PACIFIC: Smartphone shipments grew at a healthy 68% rate in Asia Pacific in Q2 2012. While Samsung and Apple continue to experience strong year-on-year unit growth, the region's shipments are increasingly accounted for by Chinese vendors servicing their domestic market. Huawei and ZTE continue to experience triple-figure percentage annual growth in this region, while Lenovo demands to be listed in its own right with a 5% share of the Asia Pacific market derived entirely from sales within China. A similar pattern is emerging in South Korea, where Samsung, LG and Pantech dominate the smartphone market. Nokia has experienced its most damaging decline in this region, with its market share falling from 20% a year ago, and 52% two years ago, to just 6% in Q2 2012, due to Symbian and MeeGo missteps
<b>Negative Consequences Shifting Strategy</b>	(Nokia, 2012) Inability to switch from Symbian to MeeGo has cost it dear	Nokia's market share of 4% was a big tumble from 14% in the year-ago quarter, with the most severe declines happening in Asia Pacific and Africa Middle East. Nokia is now just the 9th-largest global smartphone player, a position that would have been almost unthinkable five years ago. Nokia's inability to switch from Symbian to MeeGo a few years back has cost it dear.
<b>Negative Consequences Shifting Strategy</b>	(Nokia, 2013) Nokia losing almost 5 billion euro, shifting, multiple platforms	Nokia has lost almost E5 billion since adopting Windows for its smartphones at the expense of its Symbian and MeeGo systems but the fourth-quarter rise in smartphone sales helped return the business to profit. Nokia said

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that it expects that its devices unit will make a profit margin of up to 2 per cent, compared with the loss it had suggested could be the outcome.

## RIM (Blackberry)

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## Samsung

### Focused Strategy

(Samsung, 2010) Choosing android instead of windows mobile

‘The president said Samsung will roll out handsets based on its own mobile platform, "Bada" (ocean in Korean), in March. It will boost the portion of phones using its operating system (OS) and Google Inc.'s Android OS rather than Microsoft's Windows Mobile.’

### Aggressive and Focused Strategy

(Samsung, 2010) Aggressive strategy, going into Android

*"It is clear that there will be a significant change in our strategy this year,"* Shin said, adding Samsung will beef up both hardware and software offerings such as content, applications and services.

The company plans to launch its first Android-powered smartphone in the domestic market in late February or early March, Shin said.

The Android smart phone has already been available in overseas markets since July last year. Android is a mobile operating system which offers a number of enhanced services to users.

Major phone makers are unexpectedly busy strengthening their smartphone businesses inspired by rapid consumer appetite toward the high-end devices. Smartphones are acting like PCs. Users could easily

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		download mobile content from application stores and experience Web-surfing. <i>"Samsung's confirmation for an aggressive strategy means the segment will become ultra-competitive this year,"</i>
<b>Aggressive and Focused Strategy</b>	(Samsung, 2010) Boosting Galaxy S to challenge HTC in android market	'Samsung is aggressively boosting its Android-based smartphone Galaxy S in a bid to challenge HTC as the flag bearer for the Android camp.'
<b>Aggressive and Focused Strategy</b>	(Samsung, 2011) Samsung about to aggressively improve its software gap	'Samsung may also move more aggressively in closing the gap in software, one of its weakest links. Samsung chairman Lee Kun-hee recently asked the firm's top managers to come up with various measures including M&A to raise its software prowess, according to South Korean media. of hardware allowing it to receive rich operator subsidies and promotions around the world.'
<b>Aggressive and Focused Strategy</b>	(Samsung, 2012) Aggressive strategy, throwing as much devices as it could, not affordable for smaller HTC	'Samsung waited until 2010 to make an aggressive play with Android, when it released its Galaxy S smartphone, which sold 10 million units in 10 months. Samsung rolled out more products under the Galaxy portfolio, including the Galaxy S II phone and the Galaxy Tab tablet. It threw as much as it could against the wall until some things stuck. And if some products were flops, Samsung could afford losses, given its size. For HTC, a smaller manufacturer, failures would be less forgiving.'
<b>Positive Consequences Focused Strategy</b>	(Samsung, 2012) Success goes hand in hand with Adoption of Google's Android OS	Though IDC did not give mobile OS share figures, almost all of Samsung's shipments are believed to have been using Google's Android OS.
<b>Positive Consequences Focused Strategy</b>	(Samsung, 2012) targeted approach, taking share of HTC on android market	'Samsung effectively used a targeted approach in the US market as it minimized loss of market share from the new iPhone 4S by taking share from HTC aggressively.'

Market Maturing  
(Axial Code)

2 <sup>nd</sup> Order Codes	1 <sup>st</sup> Order Codes	Quote's
<b>Apple</b>		
-		
<b>HTC</b>		
<b>Commoditization</b>	(HTC, 2013) Commoditization and low-margin expect to hurt HTC	"Over the past two months, we have seen an accelerating trend for smartphone commoditisation and low-margin requirements by competitors that we believe will structurally hurt HTC," Jeng noted. "We still like HTC's brand value and strong attempt to innovate but think its valuation may retreat to a trough level in the product commoditisation process."
<b>Market Peak</b>	(HTC, 2013) High end markets peaks, HTC one does less for HTC	<p>"A lot of portfolio managers are looking at smartphone exposure negatively this year, because they feel that penetration on the high-end, in developed markets, is close to peak," said Arete Research Partner Brett Simpson.</p> <p>Taiwanese smartphone maker HTC, which unveiled its high-end One smartphone this spring, said on Friday that its unaudited second-quarter net profit fell 83% to 1.25 billion New Taiwan dollars (US\$41.8 million) from NT\$7.40 billion a year earlier as its sales declined and it spent more on marketing. Revenue dropped 22% to NT\$70.7 billion from NT\$91.04 billion. HTC's shares have slid nearly 30% in the past month as reports of slowing sales in June from May tempered initial optimism over its premium, metal-shelled HTC One.</p>

<b>Competitors Lock</b>	(HTC, 2013) Scale problem because competitors lock them out	‘A decade ago, Apple cornered the markets in small hard drives and then solid-state storage to build its iPod, and then iPod nano, and dominate the music player market. Now it uses its growing cash pile to hire factories and production well ahead of time - locking rivals out. <i>"HTC has a real scale problem,"</i> says Evans, the Enders analyst. <i>"It's a problem that Nokia is starting to face as well. It's a problem of the reach and power that Apple and Samsung can bring to the market."</i>
<b>Competitors Lock</b>	(HTC, 2014) Lacking scale, strong engineering, not a real viable option left	"Over long term, HTC may be able to position itself as a niche, high-end player," Mr. Pu said, citing the company's strong engineering but lack of scale. But Mr. Pu and other analysts note that succeeding as a profitable niche player in the cutthroat smartphone market will be no easy feat. "Actually no one has this kind of position right now."
<b>Competitors Lock</b>	(HTC, 2015) Aiming for high end market, walking away from low-end market with strong Chinese rivals	The Taiwanese company is not likely to win a price war against its Chinese rivals, so it is aiming at the upper end of the spectrum.
<b>Market Settlement</b>	(HTC, 2015) Innovating, but too late	<p>The new model is not making a mainstream argument, so it could end up in the same boat, or worse, depending on other phones that could be announced in Barcelona and beyond. For a company struggling to sell more phones, that would be a tough outcome.</p> <p>The new HTC One looks to be just as cool, different and lovable as its predecessors, but HTC needs more than a cult hit right now. It needs a blockbuster.</p>

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## Nokia

<b>Market Settlement</b>	(Nokia, 2011) Multi-Platform Strategy is Needed, seems to be too late as users are beginning to show resistance	A multi-platform approach is necessary to sustain the whole body for now. The Lumia smartphones are quite a handsome family and the operators seem to love it. But Android or iPhone users are already showing resistance to churn in developed markets. The Windows Phone experience is different and it seems to be a good and bad thing at the same time. A significant advantage will be needed to steal the mind share of Samsung's Android user base or Apple's iOS.
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## RIM (Blackberry)

<b>Market Settlement</b>	(RIM, 2011) RIM is missing the boat, coming to late with an OS offering touchscreen features and slick UI and Browser	RIM's Blackberry OS has been updated constantly over the last 2 years but it hasn't been considered on par with Android due to the lack of touchscreen features, slick UI and browser. The new devices such as Bold 9900, which have the new Blackberry 7 OS seem to have reached that criteria but it came too late to save the quarter. The lack of applications is now the only real problem but it one that is very hard to overcome
<b>Dominant Design Emerges</b>	(Blackberry, 2012) needs to convince developers to work and innovate with BB10	<i>"However, RIM's biggest challenge is still to expand the developer base around its ecosystem and convince developers to work and innovate with BlackBerry 10."</i>
<b>Market Settlement</b>	(RIM, 2013) Customers have made up their minds, too late	"It's an ultra competitive market and most consumers have made up their minds on BlackBerry, so we believe RIM really needs to wow the audience," wrote Mark Sue of RBC Capital Markets in a note to clients on Monday.
<b>Market Peak</b>	(Blackberry, 2013) Market slowdown pressures Blackberry to be lighting fast to launch new attractive model	Mawston said the slowdown is not going to help the recovery at BlackBerry, which holds its annual meeting Tuesday at its

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		headquarters in Waterloo, just days after posting earnings that missed forecasts in all major categories and sent its shares 28 per cent lower. "BlackBerry must move like lightning to launch more attractive new smartphone or tablet models in the next 12 months if it wants to avoid job cuts, a takeover or closure," he said.
<b>Samsung</b>		
<b>Market Settlement</b>	(Samsung, 2012) Samsung and Apple high end, Huawei and ZTE low end Leaving HTC, MMI and Sony squeezed	For the fourth quarter, ZTE and Huawei were the fastest-growing vendors after Apple: "[They] expanded their market reach and kept on improving the user experience of their Android devices," said Roberta Cozza, smartphone analyst at Gartner. HTC, MMI, LG and Sony Ericsson are being squeezed between Samsung at the high end and ZTE and Huawei at the low end, said Cozza.
<b>Market Peak</b>	(Samsung, 2013) Smartphone market matures, decrease in sales	As the smartphone market matures and grows larger, it's natural that annual sales growth should slow.

### General Market Developments

<b>Dominant Design Emerges</b>	(2011) iOS and Android top OS attracting most interest, Blackberry's smartphone platform and Microsoft's Windows Phone 7 following at large distance but surpassing Nokia Oyj's Symbian	Mobile software developers remain fixated on Apple Inc. and on Google Inc.'s Android as the prime targets of their toil, but Microsoft Corp. and Research In Motion Ltd. are making inroads as tablet offerings multiply.  The iPhone, which boasts more than 300,000 third-party applications, or apps, retains the attention of 92% of developers, according to a survey released Tuesday by research firm IDC and app platform Appcelerator Inc.  The survey of more than 2,200 developers found many expect to produce more apps for more
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	<p>platforms with more complexity. "Cloud connectivity, location and social will define the experiences of most applications this year and going forward," said Scott Schwarzhoff of Appcelerator.</p> <p>"Respondents said, 'Last year I was kicking the tires, this year I really am ramping up my efforts,' " he said.</p> <p>Developer intent is a useful indicator of broader interest in a platform, as consumers are drawn to devices that can perform such specific tasks as checking news or stock prices, tracking how far you've run or finding nearby restaurants.</p> <p>Apple's iPad tablet and Android phones, which are made by a number of handset makers that include HTC Corp., Samsung Group Ltd. and Motorola Mobility Holdings Inc., tied for the next biggest share of developer attention, with 87% saying they are very interested in each platform.</p> <p>Android tablets such as Samsung's Galaxy Tab and Motorola's Xoom, which flooded an electronics trade show this month, round out the top tier with interest from 74% of developers, up from 62% in September. RIM's BlackBerry smartphone platform and Microsoft's Windows Phone 7, which launched in October, grew cache in a second tier well below Apple and Android but drawing away from Nokia Oyj's Symbian and its planned MeeGo offering, which lagged at less than 20% interest.</p>
<p><b>Market Peak</b></p>	<p>(2012) Less shipment growth, little room for windows phone</p> <p>Analysts think 2012 will see less rapid smartphone shipment growth - which also implies problems for Microsoft and Nokia in trying to establish Windows Phone as a "third ecosystem" in the market, with Android and Apple's iOS consuming around 75% of the market, and Symbian</p>



		and RIM the rest. That has so far left little room for Windows Phone except, so far, in replacement of some Symbian sales in Europe.
	(2012) Resource scarcity becomes a problem for many smartphone vendors except Samsung and Apple	"Profits appear to be shrinking everywhere (except Samsung) and the rising tide of smartphones no longer appears to be lifting all boats... outside of Samsung, it's getting increasingly hard to understand where the rest of the competitors will get the research and development dollars to compete longer-term, given their shrinking profitability.
<b>Market Peak</b>	(2013) High end slows down, changes in cheaper models	High smartphone penetration rates in developed markets such as North America and Western Europe are leading to slower growth for high-end models, analysts say. Though premium models are most profitable for mobile-phone makers in general, they may have to look to cheaper models for growth, targeting emerging markets where growth potentials remain high, they said.
<b>Market Peak</b>	(2013) High end smartphone market slows down	"The whole high-end smartphone industry is slowing, which is not just an HTC problem," said Barclays analyst Dale Gai. "It's a saturated market."