Rise and Fall of Nokia

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group 10

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The Rise of Nokia Corporation

Nokia Corporation is a Finnish multinational telecommunication, information technology, and consumer electronics company with headquarter in Espoo, Finland. Nokia's rise as a global leader in mobile manufacturing was a consequence of various internal and external factors. The internal factors are related to the company itself and to what is under its control while external factors are not related to the company and thus are not directly controllable by the company, but still must be addressed internally.

External circumstances affect management decisions over time which make company responsive to the external environment. This responsiveness is hopefully reflected in several aspects of the company strategy. In the case of Nokia, the strategic and tactical response to the external factors contributed to the rise of the company.

Nokia's technology and innovation management practices as well as strategic approach related to phases of innovation, dominant design, technological systems, and essential patents were central aspects of that success. On the other hand, technological life cycles and competence block were external factors that Nokia successfully tackled. In the next paragraphs we will discuss all of those aspects in detail.

Technological Life Cycles

The technology life cycle shows the journey that a technology takes. From its exciting birth and growth, to its inevitable decline and eventual death. It is an inevitable law, technology do not last forever (Kostas, 2013).

Initially, Nokia's concept phones were early to the market. Nokia launched few models based on GSM technology. Those phones were the first models capable of sending and receiving SMS. This was the first stage of Nokia's technological life cycle. These phones were an enormous success for Nokia, and thus were able to accelerate innovation.

Next iteration of Nokia's cell phones did not depend on external antennas had better features, to name a few, such as alarms, games, larger displays. Models like Nokia 3310 were the beginning of this phase of growth. These phones also were extremely popular and were an instant hit.

N-series models, where the later wave of Nokia's phones family. This generation started to face competition from Apple's iPhone. As a response, Nokia launched several touchscreen models to compete with the iPhone and also focussed on E-series models to compete with Blackberry. These models were part of the maturity phase of their technology (Roy, 2015).

Technological advantages that differentiated Nokia, became adopted by competitors and Nokia started to lose its advantage very quickly. This started the inevitable decline of Nokia and was the final phase in the technological life cycle. Their operating system for touch screen phones, the Symbian OS was not able to compete with the competition (Bhasin, 2019).

Dominant Design

With the development of phones, in the 1980s, Nokia expanded on a global scale into mass production methods of manufacturing (ColdFusion, 2015). At that time, people loved talking, but they were limited by the non-portable devices. The key for Nokia was that they tailored a different mobile market and focused on it. The idea of a mobile telephony at that time was incredible that one can could place a phone call from anytime and to anyone. After making the first mobile phone, Nokia began to define a dominant design in the mobile phone industry.

In 1992, it launched the world's first digital GSM (Global Standard for Mobile communication) device. And the GSM standard is still in use today (Bouwman, 2014). After finding the future is software, Nokia started its new development. The size of the device became smaller and the Nokia 2110 was produced. With this product, came introduction of contact book and SMS (Nokia 2110, 2019). The Nokia 9000 communicator had QWERTY keyboard, text processing function and web browser, which made it very expensive. With the launch of Nokia 6110, the GUI standard was set up in the industry. In the year of 1998, Nokia took over Motorola, becoming number one in the mobile market. They also owned Symbian, popular mobile operating system that, divided into distinctive styles for different platforms. The first consumer-focused type, Nokia 3210, had multicolour covers and premade birthday wishes.

At that time, Nokia led industry standards, operating systems, main functions, GUI interface design and product appearance, based on the concept of innovative wireless phone.

Competence Block

The competence block is the set of elements and aspects that every company needs to enable its success. It is composed of resources that are missing inside the company and that needs to be acquired externally. Because of their nature, these resources are called complementarities and among others, the financial aspect, is one of the most prominent exmple.

The environment where Nokia settled was thriving of complementarities that helped the development of the company. In the 70s and 80s, the Finnish ICT sector was a local technology system preventing international competition and favouring the internal one. The driver of the Finnish innovation market was the strong market demand for innovation. Industries competed using new technologies, creating innovation. The major source of investments came from Banking and telecommunication sectors as Finland was the first user of US telecom technology in Europe. The mobile networks utilized the Nordic NMT standard, and unlike in the USA, routers were used by operators to provide new services to customers (Digital modems, Mikromikko and Netnet).

Continues profits reinvestment in new office spaces and services in conjunction with government ICT investments enabled the rise of Finnish companies like Nokia and other European companies like Ericson and Siemens (Martikainen, Autumn 2019). This development contributed to Nokia

becoming the largest NMT phone supplier in 1985. The following GSM standard however created opportunity for Nokia's industry leading role.

Essential Patents

Innovation was a crucial element of success for Nokia and it needed to preserve this source of profit from copies and spill over effect on the market. A patent is what prevents other people to benefit from somebody else idea without any valuable credit and a patentable invention is the concrete embodiment of an idea which is new, inventive and industrially applicable [slides 5/58]. Nokia held several patents related to GSM protocol that allowed it to gain a predominant role in the market.

In 1988 the European Telecommunications Standards Institute ETSI drew the guidelines of the GSM technology. Since different telecom standards were already established among countries and various companies held them ETSI decided to adopt a basket model to accommodate everyone. The GSM was a merge of different former standards picking up patented firm features from each of them. It was not the optimal, but it was fair and ETSI granted everybody to have an essential patent forcing licensing to all requiring partners. Nokia, AEG and Alcatel adopted a cross-licensing strategy and were free to set their own license fees. This created a patent portfolio license exchange. Moreover, they put a very high price to GSM license, constituting a very high entry barrier for non-European companies that keep them out of the market for almost ten years (Martikainen, Autumn 2019).

Technology and Innovation Management Practices

Market Development

A major reason why Nokia grew against its main competitors Motorola and Ericsson was that it managed to cater to the consumer youth market and fashion-oriented consumers, most significantly with the Nokia 5110 and 3210 handsets which featured a large range of colorful and replaceable back-covers called Xpress-on. One of the earliest fashion phones in 1992, from Swiss watchmaker Swatch, was based on Nokia's 101 handsets. The company would also form the Vertu division, creating luxury mobile handsets.

Product Development

Nokia succeeded to achieve digital potential, which proved to be the most significant part of occupying the most global market in 2003. Nokia would be known as a successful and innovative maker of camera phones, later, it implemented advanced PureView technologies to enhance its "best mobile imaging device" status. Furthermore, Nokia also developed the Music function in

mobile phones, which to some degree Promoted his prosperity, although facing stiff competition against Apple's App Store when it was introduced in 2008.

Mergers and Acquisitions

Nokia had a good M & A strategy making healthy partnerships that lasted long and led to the rise of Nokia as a corporate conglomerate. Nokia expanded, mostly through acquisitions. Some of them include:

Sega.com acquisition: While it failed to the extent that Nokia had expected, the Nokia N-Gage smartphone put Nokia on the map in terms of the gaming landscape in mobile phones back in 2003. This was possible through their acquisition of Sega.com Inc., a subsidiary of SEGA. (Rodgers, 2003)

Nokia Siemens Network: In 2006, the Finnish telecommunications group Nokia and its German rival Siemens merged their telecom equipment and network activities to create the third-biggest supplier worldwide at the time. This was a logical next step that benefited both the companies. (staff, DW, 2006).

NAVTEQ acquisition: In 2008, Nokia approved one of its largest acquisitions to date of NAVTEQ, a leading provider of comprehensive digital map data for automotive navigation systems for $8.1 billion which led to one of the start one of their most important partnerships with Microsoft so that this map and navigation system could be integrated into Bing search. (GIM Staff, 2008)

Venture Capital

Nokia had previously promoted innovation through venture sponsorships dating back to 1998 with Nokia Venture Partners, which was renamed BlueRun Ventures and spun off in 2005. Nokia Growth Partners (NGP) was founded in 2005 as a growth stage venture fund as a continuation of the early successes of Nokia Venture Partners.

Conclusion

The major factors influencing the rise of Nokia as a global leader in the mobile market has been discussed. Nokia was viewed with national pride by Finns, as its mobile phone business made it the largest worldwide company and brand from Finland. At its peak in 2000, during the telecoms bubble, Nokia alone accounted for 4% of the country's GDP, 21% of total exports, and 70% of the Helsinki Stock Exchange market capital.

Time Period as the Worldwide Business Leader

New growth theory mentioned that information and knowledge are vital parts of productivity. This theory is enlightened by observing the ecosystem. Combing new growth theory and internet business ecosystems, this report analyzed the impending crisis of the Symbian operative system, compared with the other foremost competitors.

The Rise of Other Operating Systems

From the mid to late 2000s the Symbian operative system (OS) had a big success and was largely adopted by the smartphone (Ganapati, 2010). Despite having more than 41% of the market share, Symbian started to lose appeal when other younger mobile OSs appeared on the market. Its market supremacy was mined by problematic aspects like an old-fashioned UI, a confusing development environment and difficulties in application development (Ganapati, 2010). Nokia unsuccessfully tried to directly drive the development of Symbian to invert the trend. Nevertheless, Nokia was a pioneer in the mobile OS and ecosystem making Symbian an open-source OS (OSOS) capable to run on different hardware devices and encouraging third party app development with its proprietary store relaying on the **network externality** (Best, 2013). As the focal platform, Nokia got the advantage of customer favourable and expectation. While new OS like Android exploited these concepts by rapidly swallowing the whole Symbian market share. This is a clear example of **creative destruction** (Schumpeter) where new firms take the market leadership after a technological hand-over. Precisely Nokia allowed itself to fall from the industry leader into later danger because ignoring Schumpeter's theory at this stage. In contrast, Apple puts innovation as the top priority. Since launching the first mobile phone business in 2007, it has been developing new products every year to iterate, preventing itself from being replaced by other companies through creative destruction.

Pay the price for ignoring app stores

Symbian OS was one of the many cases where Nokia was struggling to cope up with its competition. Android and iOS were becoming more and more popular and one of the main elements that powered this growth was their App Store which was a centralized platform for all the applications. To cope up with this, Nokia launched its own service in 2009 called the “Ovi” which was the brand for Nokia’s internet services. Right from the launch of its various products under Ovi which included the Ovi Store, Ovi Suite, Ovi Calendar, Ovi Maps, etc, there were a lot of issues (Eden, 2009) (TechCrunch, 2009) (Miller, 2009). This platform never took off and all the 12 services under the Ovi brand were either shut down or ported to a different product within the next three years (Wikipedia, 2019). Google’s and Apple’s respective app stores proved to be the **dominant design** in this space and the market rejected Nokia’s product. This further confirmed the fears that Nokia at its heart was a hardware company rather than a software company. It is obvious that Nokia profoundly underestimated the importance of the apps that

run on smartphones and other software (Surowiecki, 2019). They also ignore the importance of the experience of using a phone.

Cooperation with Microsoft

All this continuous failure with Symbian led Nokia to ditch Symbian (Symbian was still the industry leader at that time, with a market share of 36.6 percent) completely and pursue a partnership with Microsoft and put Windows Phone 7 on their smartphones in late 2011 (SORRE, 2011). This meant that Android and iOS would eventually overtake Nokia to become the largest smartphone platform. The once-mighty Symbian is mentioned only once in the press release – in a footnote – and references *"our ability to continue to innovate and maintain the vibrancy of our Symbian-based smart-phones during the negotiation of the Microsoft partnership and thereafter"* (Nokia, 2011). While this was a good partnership at the time for both the companies trying to somehow punch a hole in the smartphone industry.

Windows Phone did not actually take-off in any sense. Since there were not many users, there were not many developers that wanted to develop applications for the platform and thus having a very bad platform economy. This led to a vicious cycle of not many users equalling not many apps until its eventual demise in late 2018. At its best, this smartphone operating system occupied less than 7 percent of the market share (Statecounter, 2019). While Nokia had best tried and made Symbian so that it had all ingredients of Digital Transformation, there is nothing that can be done againts the laws of platform economy. Nokia failed at studying the market and market structures. Nokia, unfortunately, focused on the wrong thing, and, therefore ended up on the wrong side of history.

In 2014 Nokia division of mobile phones was sold for just 7 billion USD to Microsoft (fraction of what it was once worth – 150 billion USD). The company value followed its market share that has fallen from 40% to just 15% and this accounted mainly for cheaper phones. The situation when one technology becomes obsolete and is replaced has been referred to as Creative Destruction (Yueh, 2014). Another process that is related to the smartphone market that underwent rapid and accelerating disruption was the Network Effect. This exponential growth of the new mobile platforms and ecosystems of services and products, such as IOS and Android was driven by increased numbers of users. As more and more users purchased iPhones and signed up for Apple exclusive services such as iTunes, iMessage, Facetime or mobile apps, the more value there was for existing users as they could now communicate and share experience within Apple user-community using Apple ecosystem of services and use a growing number of apps.

Internal Management

In addition to the above factors related to technology and the market, the decisions of entrepreneurs and other stakeholders are also important factors influencing the development of enterprises. During the year 2003, the devices for games became popular and Nokia made the N-Gage. The failure of that device made Nokia be blamed by many investors, especially when

Motorola made a great success with Razr. Nokia followed up with launching 3110 classic and then became the No.1. The phone market was too attractive than its innovative smart device. Jorma Ollia's leadership style had a high admiration both inside and outside. But according to Risto Siilasmaa, Jarma, who was then chairman of the board, tied his identity to the company too strongly so that discussion about new alternatives or new problems looming in the future became impossible at that time (Sajari, 2018). The situation did not get better after Olli-Pekka Kallasvuo took over Jorma Ollila position. The cost-focused conservatism in the launch and the fear of innovation marked their falling (Lamberg, 2019). Nokia went back to the old strategy, focusing on the traditional and affordable phone market. Unfortunately, Nokia did not catch the train of thought on the "evolution of mobile phones" this time and its leaders thought that doing it the old way would result in fruitful sustainable results, which we all know did not. Nokia got left out because they did not follow the rules on evolution of an organization.

Conclusion

In conclusion, due to the failure of developing the Symbian operative system, Nokia's competitive position became weak. Although it had created mobile OS and applied the ecosystem to benefit from network externality, Apple's iPhone and Google's Android become more competitive through the innovative ecosystems and by providing many exclusive services. As a result of that, customers became tightly connected to those services in such a way that it was difficult for them to switch to other mobile ecosystems from a competitor. The costing switch was too high.

Crisis and Collapse Of Nokia's Business

The Crisis of Nokia’s Dominant Design

The giant of telecommunication Nokia has failed its transition from simple mobile phones to smartphones and lost its market position in a short time period. In 1998 Nokia was the undisputable market leader thanks to its dominant design, holding this position until the iPhone introduction in late 2007. At that time half of all smartphones sold in the world were Nokia’s products. Meanwhile, Nokia was settling in its complacency, Apple iPhone brought a new dominant design into the market and Nokia's solid groundings started to tremble. In the following six years Nokia struggled to race along with the new competitors and its decline was marked by a market value contraction of 90%. Finally, Nokia's demise was signed by Microsoft acquisition in 2013 (Minds, 2018).

The Reasons Behind the Fall, a New Market Paradigm

The reason for the crisis and decline of Nokia should not be described as a single factor. The problems coming from inside management aggravate the situation caused by the outside market. All the inside problems can be described as two parts, a series of too fast and too slow transformation. The first point is that Nokia had an excessively fast growth in the beginning. The easy success made the young team did not get enough time to keep up with their company’s speedy development. It also made the company used to chase short-term growth and income. Another ‘too fast’ is that Nokia did not prepare enough to transfer itself from the mechanistic organizational structure into the matrix structure (Ahmer, 2019). This sudden change leads to the departure of some vital executive team (Doz, 2017).

For the ‘too slow’ part, Nokia spent too much time to improve the business model, its products and business strategies based on reality. Nokia's dominant design was centered on hardware quality, materials, and radio components. Emblem of this was its E7 device featuring an impressive hardware specification that would have been adopted only after a while by competitors. But the competitors dictated a new dominant design, the software quality was now the leading key of the market. The software determines how the user interacts with the device and Symbian was only a UX refresh over the old classical phone menu (Pierattini, 14). Moreover, Google with its Android operative system shattered the market with a horizontal approach foreseeing an extensive use of Android also in other mobile devices envisioning the digitalization transformation that leads to the spreading of the domestic IoT. Google was selling an already made mobile OS to vendors instead of being a manufacturer. Conversely, also Nokia followed this vision developing, in partnership with Intel, Meego OS the Symbian successor. Meego could have run over different hardware devices spanning from smartphones and tablets to desktops. But that was only a desperate tentative came too late respect Android and therefore did not make the difference. Since Nokia refused to adopt the Google OS, in order to mitigate the painful

situation, it signed a partnership with Microsoft. Nonetheless, also Microsoft Mobile OS proved to be a failure (Blandford, 2011).

Nokia's ecosystem failed to contrast competitions especially coming from the US market where its presence was scarce since the beginning. Apple and Google landed on the market with proprietary platforms that generate their fortunes exploiting the positive network externality effect. The same effect that years before prior to the digitization, Nokia marketing and brand had on consumers. The spreading of US platforms was powered by low-cost Chinese manufacturing. Apple iPhones and Android powered phones were cheaply assembled in China. The advent of open digital platforms with a user-centric dogma and the settling of new ecosystem dynamics were a turning point in the phone markets that marked the beginning of Nokia fall.

An old faulty strategy

All these strategy changes address a lack of clear vision on the decision-making side highlighting a deficiency of temperamental leaders grounded in an organisational fear. Top managers were afraid of external pressures and factors, while the executives did not want to publicly acknowledge the inferiority of Symbian (Minds, 2018). Managers were still immersed in their success at the golden time. They always tried to hide problems although problems were already severe enough. Their attitude of transformation changed from hesitation into rejection. The long-term standstill and conservative management strategy made employees lose their passion and direction. They started indulging in outdated technology. Both the executive team and employees overestimated the brand power of Nokia and customer loyalty. Nokia did not prepare and participate enough in the digital transformation of the whole market.

The human factor

A study (Vuori, 2016) illustrated the significant importance of shared emotions among employees and their powerful impact on the company’s competitiveness. Shared emotions could provide a complementary mechanism for understanding how organizational groups interact, coordinate, and act during the innovation process, leading their outcomes. Because innovators are always serving to create new things that lead to uncertain market potential, future-oriented emotions such as hope and fear, as a consequent, fear, which is regarded as a future-oriented negative basic emotion, could play a critical role in the innovation process (Baumeister et al., 2001).

The human factor added to economic and structural factors and together they have generated a state of “temporal myopia” that prevented Nokia’s ability from innovation. Moreover, employees declared that top managers and directors were no longer abiding by Nokia’s core values of Respect, Challenge, Achievement, and Renewal. The devastating landslide of organization management and company culture leads to the vital collision of Nokia.

Lack of vision

In conclusion, a series of factors contributed to the collapse of Nokia business. Implementation of some of the internal transformation processes were either too slow or too fast. Strategy did not succeed in identifying and implementing long-term growth factors, instead, the company continued to focus on developing old technology – Symbian OS and prioritising short-term growth. The new emerged paradigm was centred on the user experience but Nokia still relied too much on the quality of hardware and specifications instead of improving software quality thus not understanding the market change.

Organisational structure transformation was pushed rapidly which resulted in the departure of some key executives. Nokia put too much time and effort into reengineering the business model instead of addressing real challenges. The lack of clear vision and leadership resulted in the erosion of corporate culture and raising of uncertainty among employees. This has further prevented long-term thinking and focus on short-term goals. The human factor was a major force driving this development and made the company increasingly vulnerable to competitive forces. When fear permeated all organisational levels, the operational managers turned inward to protect resources, their own careers and their units, giving little away. Top managers were unable to motivate middle managers with their authority-based approaches and lacking technical competence were either unaware of core technological threats or afraid to acknowledge the inferiority of Symbian, thus preventing adequate strategy change.

How Nokia's Business Could Have Been Saved

One of the most common argument is that Nokia chose wrongly when they partnered with Microsoft to bring out their phones. Looking back from where we stand today, what was Nokia's choice? Symbian wasn't good enough, MeeGo was too far from the market. (Savitz, 2011) Android was a platform already crowded with other players, with little chance to differentiate in the high-end market where iPhone played. So, even though Palm and Blackberry were already having their own problems trying to be the "third platform", Nokia chose the path they hoped would best differentiate themselves and give them a chance at the premium market: Windows Phone. And it didn't hurt that Elop was a former Microsoft exec and maybe had all the close ties to Microsoft (Gaynor, 2016). Despite Nokia's very good hardware, Windows Phone as a platform never really caught. But as an OEM, the issues of Windows Phone as a platform were outside Nokia's control. Nokia made great phones, but it wasn't enough against the entire smartphone ecosystem. Nokia may have been able to survive as an Android OEM — they were working on an Android phone before the Microsoft acquisition — but they would've been one player among many, not the industry leader they'd once been. To draw parallels to the reality of Nokia being acquired by Microsoft, Google bought Motorola in mid-2011 which eventually led to the fall of Motorola as a major mobile OEM, and there were fears among OEMs that Google would freeze out other Android players. Hence the argument that Nokia could have chosen Android may not be accurate. Sure, an argument can be made that Nokia had the hardware capabilities to make quality Android phone but they would be in the same boat as Samsung, Motorola, Huawei, LG competing for each small percentage of the smartphone market.

Elements of better management of emotional processes might have included top managers sharing honestly their fear of losing against the new competitors to a limited set of key middle managers, and engaging these middle managers to work with top managers to counter the rising threats might have created healthy external fear and reduced maladaptive internal fears, which made telling unpleasant things to one's superior difficult. We would argue that adopting a culture where "telling bad news is a good thing" would have overcome the collective fear that so seriously affected Nokia's perception of their ability to develop new, leading products fast. Managing a large business can be humbling because increasing complexity crowds out simplicity in action; to keep things from deteriorating, one needs to maintain a culture of honesty, humility, and cooperation inside the organisation. (Huy, 2014)

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