RESEARCH ARTICLE

The Rise and Fall of Nokia: An Important Lesson

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Abstract

Nokia's failure to follow the market trend towards the end of the 2000s was the final nail in the coffin for this company. They were unable to maintain their lead until they were left out of the competition in the smartphone industry. This paper examines the contributing factors to Nokia's rise and falls and attempts to assess the internal and external threats that constrained Nokia's progress in the industry using the Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis and Porter's Five Force Model External Analysis from 2005 until 2014. There has already been vast research carried out regarding Nokia, resulting in a voluminous body of literature about this topic. To make this study different from the existing study, an analysis based on the two different models as guidelines, supported by previous literature. In SWOT Analysis, the outcome shows there was a greater preference for Weaknesses and Threats faced by Nokia compared to Strengths and Opportunities. Porter's Five Force Model External Analysis indicates that Nokia faced no issues except for the threat of entry. The rest of the components, namely, the bargaining power of buyers, the threat of substitute products, the bargaining power of suppliers, and industry competitors' rivalry among existing firms, did not show any severe threat to Nokia. Limitations and future research recommendations are also discussed in the paper.

Key Words: *Nokia; Mobile phone industry; SWOT analysis; Porter's models*

1. Introduction

A Finland-based company in the small town of Helsinki, Nokia Corporation, known as Nokia, was one of the prominent companies that carved its name in history. As a success story for their domination in the telecommunications and phone industry before the emergence of the smartphone era. Their story started at Espoo, Uusimaa, a metropolitan town of Helsinki in the year 1865, when their innovation started from the transistor, and slowly with the technological advancement, moved to the satellite [1].

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As time passed, at one point in 2016, Nokia hired 102,687 employees across seven (7) continents and attained a total revenue of around USD 23,560 billion that year [2]. Nokia was further included in the roster of companies on the New York Stock Exchange [3]. It was ranked four hundred sixty-sixth (466th) among the five hundred (500) largest companies worldwide, with a revenue of USD 26,628 billion in network and telecommunications equipment [4].

Nokia had already carved a staggering successive record throughout the history of the smartphone industry. Nokia cemented its reputation as one of the eminent corporations back then, particularly in the early '80s and '90s, when Nokia reached its peak, controlling almost half of the smartphone world market, leaving behind competitors such as Samsung, LG, Blackberry, and Huawei. Nevertheless, this feat did not last long when an upsurge of Apple with the iPhone (the 1st generation released in 2007) suddenly intercepted and claimed the top position over Nokia [5]. Also, Nokia slipped from its peak, signalling its downfall in the smartphone industry.

This paper will try to unveil the conundrum that contributed to the downfall of Nokia (from a global view) by using the SWOT Analysis and Porter's Five Factors External Model Analysis. The breakdown of the paper encompasses the following: literature review, the result of Nokia's downfall based on SWOT Analysis and Porter's External Model Analysis, and the conclusion.

2. Literature Review

There are numerous works of literature about Nokia itself, from many aspects such as its failure in the mobile phone industry, attempts at restoring its reputation as a world-leading company in the mobile phone industry, corporate view, the positive side of the organisation and the challenges that they faced to reclaim their reputation back. The detailed literature is in the next paragraph.

3. Failure

Caused by several factors, for instance, an unsuccessful attempt to implement an open-source strategy within the mobile technology competition, Ciesielska [6] an inappropriate sustainability approach, Bouwman, et al. [7] a failure cases (example of failure company, classified at the same league with LG and Baan), van Rooij [8] made the wrong decision to gamble with Microsoft to launch a Windows Phone, Wingfield, et al. [9]. The arrogance of Nokia's senior management to stick with an outdated operating system was also another cause of their downfall. It caused internal strife among the middle and top management until the company, Vuori, et al. [10]. The internal dispute forced Nokia to perform massive layoffs of the company, raising a question about their sustainability, Ante [11].

4. Restoring Their Reputation

There were some efforts executed by the company to restore its reputation as the world's number one mobile producer like an interactive advertising strategy, Walley [12] the announcement of the plan to maintain Nokia's dominant position by Chris Charr, Nokia Vice-President for Sales, Kang [13] usage of Google Android OS, Kharif, et al. [14] tried to compete with Apples' I-Tunes, Brandle [15] previous CEO attempt to lead Nokia out from misery, Burrows [16].

5. Corporate View

From an organizational perspective, Michels [17] argued that Nokia is a company that owns its mission and vision, a Finnish brand built from a strong foundation at the business level. A corporate-level strategic change at the initial stage was highly imperative for a business unit using Nokia as a reference, as posited by Aspara, et al. [18]. It performs mergers and acquisitions as one of its business strategies during the financial downturn. While on the other side [19], and Wang, et al. [20] in the same veins concur that SWOT analysis is imperative for Nokia to move forward as a tool to foresee the outcome and obstacles in the fierce competition of the smartphone industry.

6. Success

Nokia's success included the introduction of wireless technology BBC News [21] based on Linux Software, Kinnander [22], a dynamic business approach that has a substantial nexus with marketing strategy, Carral [23], always keep ahead from their competitors, Das [24] implementation of intensive R&D strategy and commercialisation process, Pontiskoski, et al. [25].

This strategy manifested in the partnership with Microsoft, although they encountered hurdles to penetrate the North American market, Study (2012).

7. Hurdles and Disadvantages Faced

Nokia faces some challenges and threats in reclaiming its reputation. Ante [26] argued that tripartite competition between Apple, Nokia, and Motorola led to the emergence of Apple, to some extent, as the new major competitor. This situation created a highly competitive environment until it crushed and took the pole position in the global market Nokia [27,28]. The situation worsened with a series of events that tarnished Nokia's reputation, which included battery recall, Laurent [29], refusal by Microsoft from the existing partnership at the earlier stage, Dvorak [30]; being accused by Apple of patent violation, Sadighi [31] and hit with declining sales more than two per cent within six months, Carter [32] were clear signs indicating Nokia's downfall from the top position.

8. Research Method

Nokia's downfall will be analysed from different factors and aspects using the SWOT Analysis [33] and Porter's Five Force Model External Analysis [34] as guidelines. From the template (model), every point is explained and supported using real case studies.

9. Results and Discussion

For discussion, the researcher used two different models, namely SWOT Analysis and Porter's Five Force Model External Analysis, to analyse Nokia's performance from various aspects. Private and public companies typically use many avenues and methods in their strategic plans, with SWOT and Porter's Five Forces being among the few examples of it. Both models aim to determine the best method to achieve specific goals and objectives, evaluate potential harm that can hamper the organisation's progress, and prepare a counter-response for any potentially threatening issues [35]. For that purpose, SWOT Analysis (Strengths, Weaknesses, Opportunities, and Threats) comes into the picture. SWOT Analysis is used to gauge positive and negative factors for Strengths and Weaknesses, and internal and external factors for Threats and Opportunities. To make the discussion more straightforward, we provided a SWOT Matrix (Figure 1).

The paper does not rely on a single model. The researcher also used Porter's Five Force Model External Analysis (Figure 2) as a guide for discussion. This model comprises four components: the threat of entry, the bargaining powers of buyers, the threat of substitute products, and the bargaining powers of suppliers. The primary purpose of this model is to examine the competitive environments within the industry, while SWOT Analysis is more towards analysing the internal potential of the organisation [36]. Here we list a summary of the findings based on similarities for both SWOT Analysis and Porter's Five Force Model External Analysis before we dive into the findings for each of the models:

- Have a strong market presence in United States of America and other regions such as Europe and India particularly. Known as one of the popular brands in the market cemented Nokia's reputation as a leader in the smartphone industry. This was also was an advantage for Nokia's itself.
- Open to exploring another market in another country, like China.
- Preferences among the consumers at that time were due to the advanced technology offered

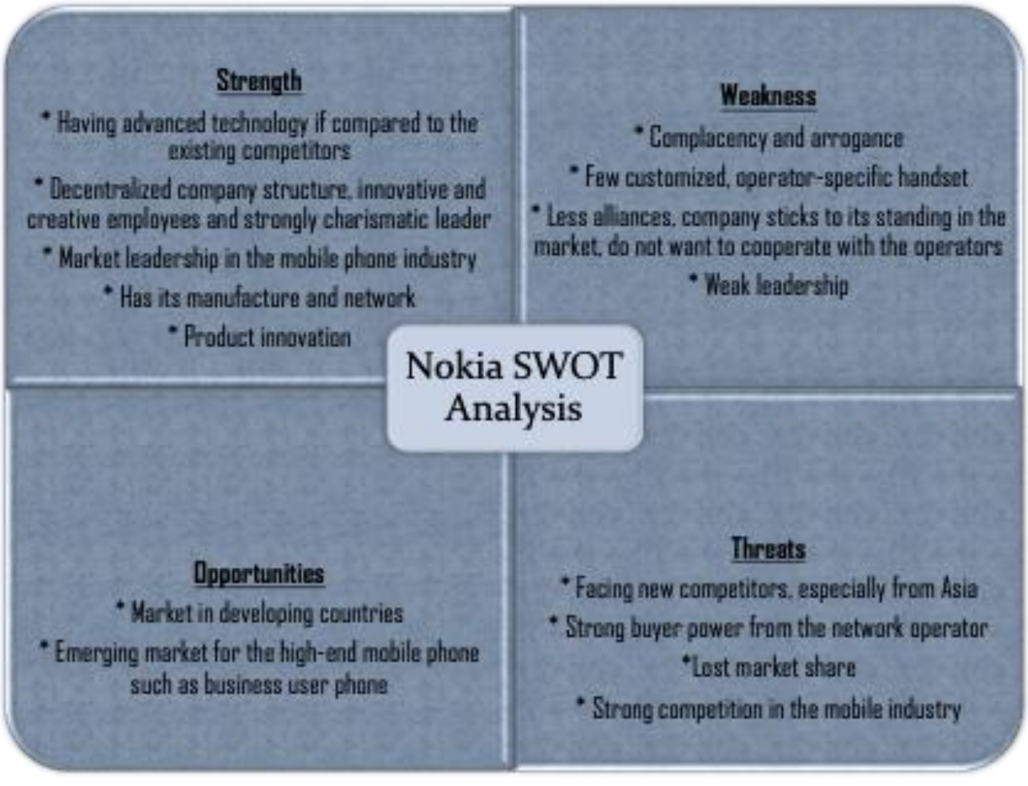

Figure 1: *SWOT analysis for Nokia [33].*

Source: Barney, (1991).

Findings based on the SWOT Analysis

9.1. Strength

Nokia possessed cutting-edge technology compared with its competitors; it was even equipped with the best talents at that time, apart from its research institutions for Research and Development (R&D). This R&D Centre within the company proved that the dearth of human capital is never an obstacle for this organisation [37]. Strategic alliances were formed with well-known institutions such as Aalto University of Science and Technology, Stanford University [38], and Sony Ericsson [39].

- Charismatic leader. Nokia was led by a strong leader, Ollila (from 1992 to 2006). He aspired to create Nokia, a well-known organisation specialising in telecommunications and smartphones. He also intended to gain control of critical patents [18].
- Nokia have an advantage of market dominance in the smartphone industry. During its golden era, Nokia dominated over 70 per cent of the world market in the smartphone industry. Symbian mainly contributed to these feats by introducing a new N95 model that boosted Nokia's market sales from 33 per cent to 36 per cent in 2009.
- There was a clear division structure of the organisation. In 2002, a restructuring process took place that resulted in Nokia being divided into four key divisions, namely, Nokia Mobile Centre, Nokia Research Centre (NRC), Nokia Venture Organization, and Nokia Networks [7].
- Line of electronic products (tangible and non-tangible items). Nokia has various products on its list. Things such as software, network components, digital cameras, and smartphones were mainly among the vital player products of this company, with a total of 6,346 products in 2008 [40].

9.2. Weakness

- Nokia exhibited stubbornness and arrogance as the management persisted in using an outdated Symbian OS (Operating System) system. At the same time, other key players in the smartphone industry have shifted their OS based on current trends. However, Nokia engineers discovered a massive flaw in Symbian [41] due to its incompatibility with running on Saipan 7 (supporting touch screen applications). However, the top management was reluctant to perform any drastic changes. They even allocated more of the budget to upgrade Symbian capacity rather than shift to the new OS, which could have saved Nokia for the future. [42]. At that time, Nokia developed a software called MeeGo. However, the software was not ready, and the management took the risk of waiting for MeeGo to be completed rather than switching to another platform [43].
- Not updated with current market trends. Nokia was just focusing on technological aspects, which were to enhance the life span of the batteries to make the phone durable rather than to increase the number of applications that could be used on a smartphone [44]. Failure to catch up and anticipate the needs and wants of the customers at that time contributed to Nokia's downfall [45]. They even let slip the advantage that they had in the smartphone industry, albeit they were the ones who started the touchscreen smartphone games [42].
- An absence of strategic alliances or collaborative partnerships for mutual support, in terms of resource sharing, and joint efforts toward common goals among existing companies. Having held a top position in the smartphone industry for quite a long tenure and not receiving any challenges from competitors put Nokia in its comfort zone. They even refused to ally with anyone to retain their market monopoly. Nokia

also tried to form a partnership, and this alliance manifested with Microsoft. Nevertheless, that was a futile attempt at that time [46].

- Insufficient key figures who have strong characteristics, decisive, and visionary leadership are necessary to guide, inspire, and effectively manage a team or organization. The management provided no effective strategic response after the release of the iPhone in 2007 [47]. It also shows the incompetence of Nokia in competing with more advanced technology like other competitors, such as Samsung, that introduced (OS) open-source operating system, Pai [48].

9.3. Opportunities

- A strong and established presence in developing country markets, characterized by a significant share of consumer engagement, brand recognition, and consistent sales performance across key regions. Nokia recorded total sales of 41,121 million euros in net sales [49], a milestone for Nokia to reach that number. Besides, Nokia conquered almost half of the smartphone market around the globe with 65.6 per cent of the market share [50].
- A growing group of smartphone users, especially professionals and business owners, who use mobile devices to do some stuff, such as manage work tasks, stay connected, and improve productivity. Based on a report published by CCID Consulting, a market survey company based in China, Nokia led the smartphone competition in China, particularly in 2008, with 37.4 per cent. The top two competitors behind Nokia were Samsung and Motorola, with 14.1 and 8.5 per cent respectively [51].

9.4. Threats

- Market penetration for Nokia's products is used and recognized in different markets in different countries. Nokia faced this problem when it decided to try for the US market. Although Nokia can penetrate the market in Europe, India, and China, the same script has not been repeated in the US. The heart of the problem was that the main powers to advertise smartphones lay in the hands of network operators, such as Cingular and Verizon. Nokia depended heavily on these network operators for permission to commercialize the product. Nevertheless, these network operators felt that Nokia did not satisfy their requirements on technology aspects until Nokia brands were unsubscribed, unprompted, and left unsold [40].
- The inferiority or lack of competitive advantage of Nokia against Apple and Samsung. A breakthrough in Apple and Samsung's new smartphone models in 2007, the iPhone and S-Series, respectively, put Nokia in a problematic situation, eventually making Nokia fall behind these two newcomers in the smartphone industry. Apple set a new standard for the smartphone with an elegant, sleek design and even brought the smartphone industry to a new height by incorporating numerous applications into a phone [50]. At the same time, Samsung continued to upgrade the model from time to time.
- Fierce competition among the top three phone producers in the same. The intense competition to regain and claim the top position in the smartphone industry is not new. Smartphone producers compete among themselves to ensure the crown belongs to them. This was evident when Samsung kept upgrading its models with new features. For Apple, more concentration was given to the quality of the product making with the introduction of the iPhone, iPad, and iMac lines. Getting caught between the two superpowers of a smartphone, making Nokia unable to catch up with the pace of these two newcomers, resulted in a market loss from 40 per cent to 10 per

cent [52]. Even though there were some actions executed to restore the position before, with the introduction of the Nokia 5800 Express Music in 2008 [53], it was futile due to the slow response for Nokia to release this model earlier [54]. When this model was released, they already lagged one and a half years behind Apple and Samsung, which had already surpassed Nokia [55] (Figure 2).

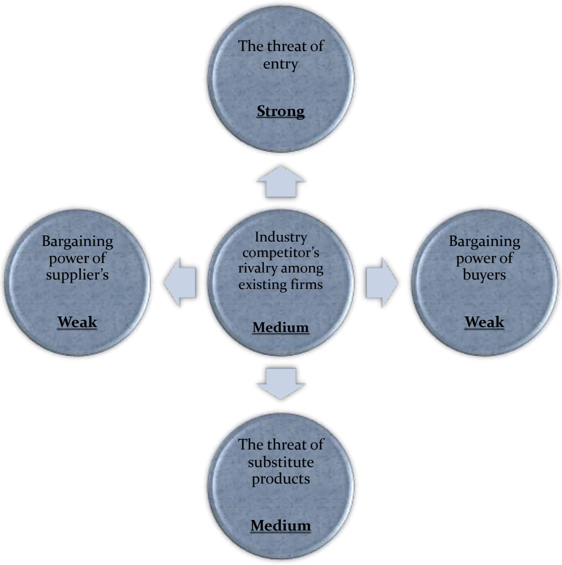

Figure 2: *Nokia–external analysis [34].*

Source: *Porter [34].*

9.5. Findings based on the Porter's Analysis Model

The threat of entry. (Strong) In the United States, consumers purchase phones not directly from Nokia but through mobile operators because they can get a cheaper price than the original price. This affected Nokia's market share and smartphone sales, particularly in the US. Nokia performed remarkably well in other parts of the world, such as China, Europe, and India [56]. Still, in the US, Nokia's progress was stopped by the presence of operators as intermediaries between Nokia and the consumers.

Bargaining power of buyers. (Weak) Microsoft's announcement to enter the smartphone market will cause some trouble for Nokia, due to the increased competition among the industry players. Even with a few smartphone manufacturers emerging from Asia, such as Huawei, Xiaomi, LG, and others, Nokia could still maintain their market in China as their crucial revenue source [49,57]. Nonetheless, this situation cannot occur frequently and only happens during a specific timeline. The threat of substitute products. (Medium) Nokia remained a market leader in the smartphone industry from the late 1990s until the early 2000s. A feat that only a few mobile phone providers can achieve, such as Motorola and Samsung. Nevertheless, consumer preferences were still for Nokia [58] until Apple initiated the smartphone battle in 2007. Bargaining power of suppliers. (Weak) In 2007, Nokia's net sales grew by 51,058 million euros [38]. It could be considered Nokia's 'best time,' which contributed to the number of suppliers it had at that time [59]. However, the following year, the net sales decreased by one (1) percent gradually [60,61] until Microsoft acquired it in September 2013. Industry Competitors' Rivalry among existing firms. (Medium) Other phone manufacturers tried to break Nokia's domination as a global brand [62]. The disparity between Nokia and other competitors within the mobile phone industry in terms of sales was huge with the assistance of inter-organisational recognition and corporate business model transformation that Nokia used then [18].

10. Conclusion

Nokia's story is the best example to show that even the top companies in history can crumble if they fail to address customer needs driven by current trends. Failing to respond to the present market requirements will result in the company being excluded from the competitive landscape. From a different point of view, there are many mistakes committed by the top management in terms of decision-making that caused Nokia to pay a high price [55].

Firstly, a decision to ally with Microsoft indicated that Nokia could not survive in this industry (already on the verge of collapse after so many issues). This accelerated Microsoft's acquisition of Nokia [63,64]. The second factor that could be considered a significant downfall included the stand taken by Nokia's top management to stick with Symbian OS instead of changing to the new operating system. This stand resulted in many negative rather than positive outcomes.

The smartphone game started by Nokia backfired against them towards the end, speeding up their elimination as a smartphone industry giant. Nokia has executed some positive endeavours since the 1930s to address customer needs. Today, we can see Nokia's continued existence in the smartphone industry.

Indeed, Nokia is not the world's most dominant company in the smartphone industry anymore, as the crown was already slip from Apple a long time ago. Nonetheless, Nokia still attempts to be relevant to the industry, embracing the changes by getting involved in quantum computing, creating the first network in the Moon, AirScale Massive MIMO radio portfolio, and others. What happened to Nokia is a lesson to be learned not only in an institutional setting, but also for individual setting, because the failure to keep up with the technologies (in the era of Artificial Intelligence) nowadays will leave those who not willing to improve themselves be obsolete and repeat the same mistake that Nokia's have done in the past.

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