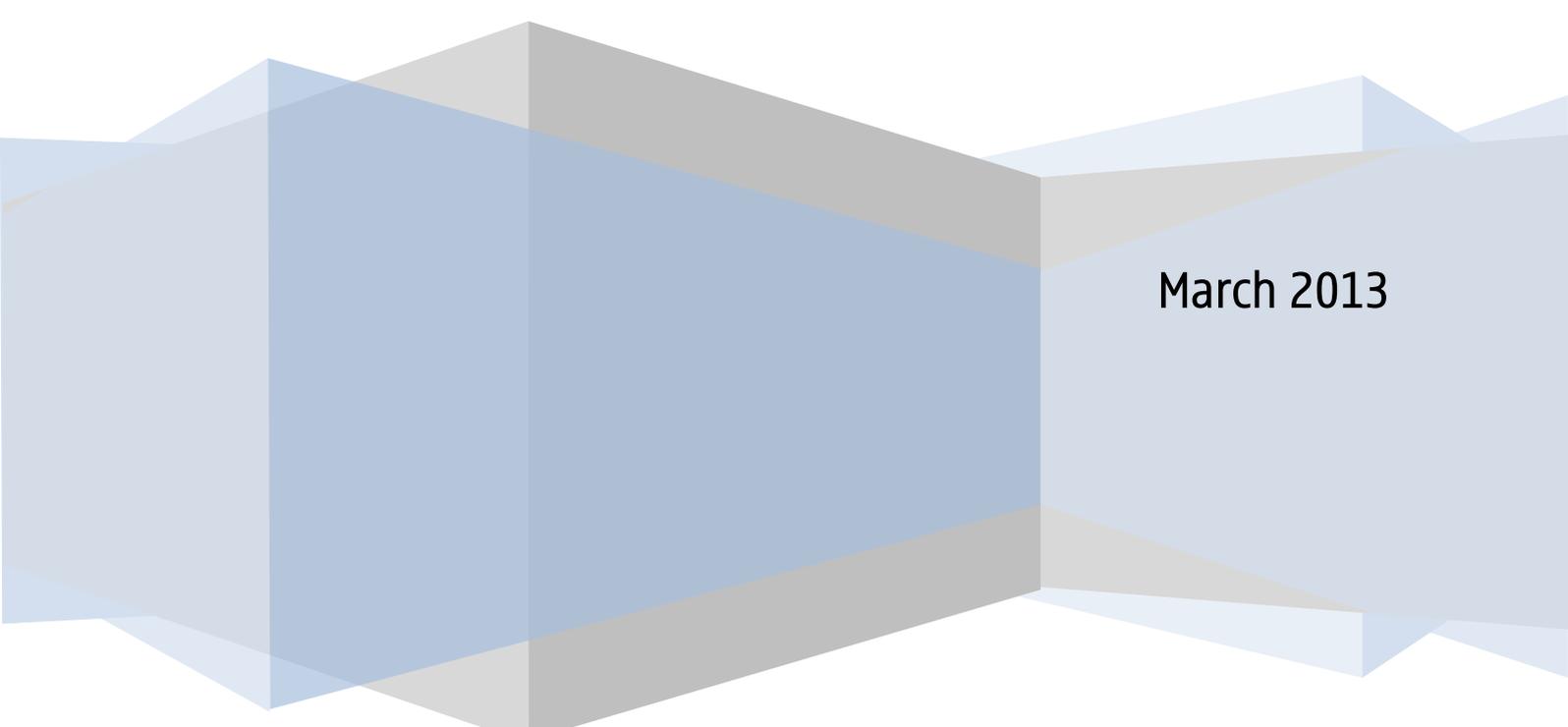


Change management at Nokia

Originally submitted to the University of Warwick, U.K. for the Management of Change module assignment of the MSc Programme and Project Management course

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Table of Contents

1	Background of the change	3
1.1	Crisis of a market leader	3
1.1.1	Rise of touch-based modern smartphones	3
1.1.2	Market disruption brought by the Apple iPhone	4
1.2	Becoming inward looking	5
1.2.1	Bureaucracy	5
1.3	The OSSO team and the MeeGo operating system	6
1.4	New CEO Stephen Elop on board	7
1.4.1	Stephen Elop's background	7
2	Major strategy change	8
2.1	The Burning Platform memo	8
2.2	The February 11 th announcement	8
2.2.1	Partnership with Microsoft and devote to the Windows Phone platform	8
2.2.2	Phasing out Symbian	9
2.2.3	MeeGo for "future disruption"	9
3	Actual implementation of the strategy change	9
3.1	Outsourcing Symbian to Accenture	10
3.2	Selling Qt division to Digia	10
3.3	Selling Vertu to EQT VI	10
3.4	Dissolve of MeeGo team and termination of Meltemi development	11
3.5	Large scale layoffs and sales team restructuring	11
3.6	Launch of first Windows Phone products and last batch of Symbian and MeeGo products	11
3.7	Mass launch of Windows Phone 8 products	12
4	Resistance to change	13
4.1	Employees' resistance	13
4.1.1	Employee protest	13
4.1.2	Employees' disagreement with the CEO	13
4.1.3	Waves of resignations	13
4.1.4	Cultural differences	14
4.2	Market's resistance	16
4.2.1	Customers' resistance	16
4.2.2	Network operators' resistance	16
4.2.3	Intel's response	16
4.2.4	Software developers' resistance	17
4.2.4.1	Philosophical conflicts between F/OSS and proprietary software supporters	17
4.2.4.2	Sceptical view of Stephen Elop being Microsoft's "Trojan horse"	17
4.2.5	Shareholders' resistance	18
4.2.6	Responses from analysts	18
4.3	Comparing Resistance of Change from stakeholders with the Grief model	19
4.3.1	Shock	19
4.3.2	Denial	19
4.3.3	Anger	19
4.3.4	Bargaining	19
4.3.5	Depression	20
4.3.6	Testing	20
4.3.7	Acceptance	20
5	Evaluating Nokia's strategy change with Kolb and Frohman's change model	21
5.1	Scouting	21
5.2	Entry	21
5.3	Diagnosis	23
5.4	Planning	24
5.5	Action	25
5.6	Evaluation	26
5.7	Termination	26
6	Conclusions	27
7	Appendix	28
7.1	About the author	28
8	References	29

Table of Tables

Table 5-1: A stakeholder analysis example of Nokia's strategy change: Level of influence versus Standpoints (<i>template adopted from (Boddy, Buchanan 1987)</i>)	22
Table 5-2: A stakeholder analysis example of Nokia's strategy change: Likely reactions, strategy and priority (<i>template adopted from (Pearson 2013ab)</i>)	22
Table 5-3: A planning checklist example of Nokia's strategy change (<i>template adopted from (Pearson 2013ab)</i>)	24

Table of Figures

Figure 1-1: Some early Nokia mobile phones in the 1990s (Photo courtesy: Nokia Corporation)	3
Figure 1-2: iPAQ HW6910, a Windows Mobile smartphone from Hewlett-Packard, equips with a touch screen and a QWERTY keyboard (Photo courtesy: Hewlett-Packard Company)	3
Figure 1-3: Apple CEO Steve Jobs holds the first generation iPhone, January 2007 (Photo courtesy: New York Times)	4
Figure 1-4: Nokia 5800 XpressMusic, was one of the first touchscreen smartphones that runs Symbian S60 5th Edition operating system (Photo courtesy: Nokia Corporation)	4
Figure 1-5: The first smartphone that runs Google Android, HTC G1 (Photo courtesy: Fone Arena)	5
Figure 1-6: Nokia N8 (left), a Symbian^3 smartphone that equips with a 12 megapixels camera; Samsung Galaxy S (right), runs Google Android, sets a major milestone to Samsung's smartphone business	5
Figure 1-7: Nokia Maemo / MeeGo Internet Tablets and Smartphones	6
Figure 1-8: CEO of Intel Paul Otellini (left) and CEO of Nokia Olli-Pekka Kallasvuo (right), on the announcement of MeeGo initiatives, February 2010 (Photo Courtesy: Intel Corporation)	7
Figure 2-1: A mobile gaming application named "Elpo" that was available for download on the Nokia Ovi Store, appeared to be making fun of Elop's Burning platform memo (Photo courtesy: MyNokiaBlog.com)	8
Figure 2-2: Stephen Elop, CEO of Nokia (left) and Steve Ballmer, CEO of Microsoft (right) on the February 11, 2011 announcement (Photo courtesy: Nokia Corporation)	9
Figure 2-3: Icon of MeeGo and its mascots called "MeeGons" (Image courtesy: Randy Arnold)	9
Figure 3-1: The Qt logo (Image courtesy: Nokia Corporation)	10
Figure 3-2: Digia's flag (Photo courtesy: Digia Plc)	10
Figure 3-3: VERTU smartphones (Photo courtesy: VERTU Corporate)	11
Figure 3-4: Nokia Lumia 800 and Lumia 710 (Image Courtesy: Nokia Corporation)	12
Figure 3-5: Nokia 808 PureView, the last Symbian phone of Nokia, equips with a record-breaking 41 megapixel camera.	12
Figure 3-6: Nokia Lumia 920, a 4.5 inch Windows Phone 8 smartphone, features wireless charging and a camera with Optical Image Stabiliser. (Image Courtesy: Nokia Corporation)	12
Figure 4-1: Nokia employees walked out from their offices in Finland for a protest after Stephen Elop announced the strategy change (Photo courtesy: Kai Tirkkonen)	13
Figure 4-2: Anssi Vanjoki (left), Executive Vice President and Head of Mobile Solutions (left) and Jorma Ollila, Chairman of Nokia (right) were the senior management team members who eventually resigned from Nokia (Photo courtesy: Nokia Corporation)	14
Figure 4-3: Hofstede cultural dimensions of Canada	15
Figure 4-4: Hofstede cultural dimensions of USA	15
Figure 4-5: Hofstede cultural dimensions of Finland	15
Figure 4-6: Skype runs on an Nokia Lumia Windows Phone (Photo courtesy: Skype Gobaal S.à.r.l)	16
Figure 4-7: Nokia N9, Nokia's only MeeGo smartphone, is based heavily on the Qt application framework. (Photo courtesy: Nokia Corporation)	17
Figure 4-8: Stephen Elop was rumoured to be Microsoft's "Trojan horse" to destroy Nokia for easier acquisition (Photo courtesy: MyNokiaBlog.com)	18
Figure 4-9: Nokia's share price trend (<i>Thomson Reuters March 8, 2013</i>)	18
Figure 4-10: Nokia's strategy change as reflected in the Kübler-Ross grief model	19
Figure 5-1: Kolb & Frohman's Change Model	21
Figure 5-2: Force Field Analysis of Nokia	24

1 Background of the change

Since its rise in early 1990s, Nokia has long been a mobile market leader for 14 years. With the recent setback, Nokia had unwillingly given its throne to Samsung and Apple, and is still struggling to regain its profit and revive the market leadership again. (Yang, Lee April 27, 2012)

This article focuses on discussing how Nokia managed their major strategy change to adopt the Windows Phone platform. To understand the change itself, some background information will be provided. Stakeholders' resistance to change will be discussed; Nokia's change management will also be evaluated with the Kolb and Frohman's change model.

1.1 Crisis of a market leader

In the late 1980s, Nokia launched its first mobile phones. (Nokia Corporation 2011) Along the 1990s, the Finnish phone manufacturer launched phones with innovative features and different form factors to quickly respond to the market's needs, which led it to become the largest handset manufacturer in the world.



Figure 1-1: Some early Nokia mobile phones in the 1990s (Photo courtesy: Nokia Corporation)

1.1.1 Rise of touch-based modern smartphones

In the mid-2000s, some other manufacturers such as Dopod (later "HTC"), Hewlett-Packard, Sony and Palm had been manufacturing touch-based smartphones that came with the Microsoft Windows Mobile operating system. (Angel March 21, 2011) Even though these devices had resistive touch-screens and a Windows desktop-like user interface that is not optimised for mobile usage, their advanced features were well received by the market and more customers started to get used to touch-only smartphones.



Figure 1-2: iPAQ HW6910, a Windows Mobile smartphone from Hewlett-Packard, equips with a touch screen and a QWERTY keyboard (Photo courtesy: Hewlett-Packard Company)

1.1.2 Market disruption brought by the Apple iPhone

In January 2007, Apple launched the iPhone, a revolutionary smartphone that packs with a large capacitive touch screen that supports multi-touch gestures. (*Apple Inc. January 9, 2007*) iPhone's extremely intuitive user experience, Internet browser and cool-looking form factor had disrupted the entire smartphone market. It had set up a very high bar for the entire mobile industry to follow.



Figure 1-3: Apple CEO Steve Jobs holds the first generation iPhone, January 2007 (Photo courtesy: New York Times)

Around the same time, Nokia was still unaware about the risks. Nokia responded with a touch-based smartphone called "5800 XpressMusic" in October 2008 (*Nokia Corporation October 2, 2008*). It was based on Series 60 5th Edition, which was later criticised by the general public that its user interface was not optimised for touch and was nowhere comparable with the iPhone. There were software quality issues too – customers encountered random reboots and memory shortages all the time. (*Blandford February 23, 2010*) Having said so, Nokia launched dozens of touch-based phones based on the imperfect software platform, and it still manufactured a lot more "button" phones and sold them at lower price ranges.



Figure 1-4: Nokia 5800 XpressMusic, was one of the first touchscreen smartphones that runs Symbian S60 5th Edition operating system (Photo courtesy: Nokia Corporation)

In late 2008, Google started to step in and introduced the Android platform. (*Morrill September 23, 2008*) The open source nature, customisability, feature richness and rich hardware adaptability of the platform, as well as Google's strong backup for its search and application ecosystem, had enabled

Android to gain its market share at exponential rate. By offering similar touch-based experience and functionalities as the iPhone but without the need to develop a whole new system from scratch, a lot of the Nokia's competitors, such as HTC, Motorola and Sony Ericsson, switched from manufacturing Windows Mobile smartphones to Android smartphones instead.



Figure 1-5: The first smartphone that runs Google Android, HTC G1 (Photo courtesy: Fone Arena)

At the same time customers could get in hold of the remarkable Samsung Galaxy S in mid-2010 (*Samsung Electronics Co. October 22, 2010*), Nokia was still launching smartphones that came with low-resolution touch screen and the outdated Symbian platforms, despite one of them had a groundbreaking 12-megapixel camera build-in. (*Nokia Corporation April 27, 2010*) Its market share had since been eroded quickly as many of its loyal customers switched to the iPhone and Android platforms instead.



Figure 1-6: Nokia N8 (left), a Symbian^3 smartphone that equips with a 12 megapixels camera; Samsung Galaxy S (right), runs Google Android, sets a major milestone to Samsung's smartphone business

1.2 Becoming inward looking

Since Nokia took its leadership in the mobile market back in 1990s, it had become a national pride of Finland and in fact was the largest private employer in Finland. (*The Wall Street Journal June 3, 2011*) The long-lasting success of the Symbian platforms had caused Nokia to become inward looking. There were also numerous factors that had discouraged Nokia to bring their great innovations out to the market promptly, and we will discuss them below.

1.2.1 Bureaucracy

Some people might think Nokia failed due to lack of innovation. In fact, Nokia had a great portfolio of innovations and patents on hand. They had a prototype of a smartphone with a large touch screen back in 2004, three years before the Apple iPhone was launched. 3D user interface was also prototyped

back in 2002, 7 years before the competitors brought it to the market. However, all these innovative ideas were rejected in Nokia eventually. *(O'Brien September 26, 2010)*

An ex-manager in Nokia estimated that Nokia used to have over 300 Vice Presidents and Senior Vice Presidents around the globe. The over-bloating management layers and over-complicated organisation structure had caused significant delays in decision making processes. A single product decision could take months if not years to be made, hence significantly affected its responsiveness to the rapid-changing mobile market. *(Sharma October 7, 2010)*

1.3 The OSSO team and the MeeGo operating system

In 2005, a team called "Open Source Software Operations" (OSSO) was set up. The team was renamed to the "Maemo team" in 2007, and it managed to launch a few "Internet Tablet" products with large touch screens and a Linux-based operating system called "Maemo" from 2007 to 2009. *(Kurri October 11, 2012)*



Figure 1-7: Nokia Maemo / MeeGo Internet Tablets and Smartphones

Nokia did not include phone capabilities in the early "Internet Tablet" products because the Symbian team directors worried these products could be competing with the Symbian-based Communicator series, as the latter also came with similar features such as large touch screen and full QWERTY keyboard, despite the fact that the Internet Tablet products did offer better hardware (such as a higher resolution touch screen), software advances and flexibilities than the Symbian Communicators. *(Kurri October 11, 2012)*

This was usual in Nokia. Since Symbian phones had strong sales backup, teams responsible in Symbian often got more bargaining power and control of resources inside the company than the other teams. It was therefore particularly difficult for other teams to strive for resources and stewardship to develop and launch innovative and ground-breaking products, as these products were seen as sales threats by the Symbian teams and other major stakeholders of the company.

Things started to change as Symbian sales started to fall as a result of severe competition from iPhone and Android. At the Mobile World Congress held in Barcelona in February 2010, Nokia and Intel announced that they were forming as strategic partners and would merge Nokia's Maemo project with Intel's Moblin project, attempted to create a combined product called "MeeGo". Both companies were ambitious about the move as they wanted MeeGo to run not only on smartphones, but also on tablets, Netbook computers, smart televisions and even the vehicle entertainment systems, and they wanted more companies in the industry to join the camp. *(Intel Corporation February 15, 2010)*



Figure 1-8: CEO of Intel Paul Otellini (left) and CEO of Nokia Olli-Pekka Kallasvuo (right), on the announcement of MeeGo initiatives, February 2010 (Photo Courtesy: Intel Corporation)

Both the media and consumers were excited about the MeeGo initiatives, as they thought Nokia had been lagging behind in the market and it was time for them to strike back. At that time, MeeGo was perceived by the public and also by Nokia employees as the “saviour” of Nokia. Expectations of Nokia’s MeeGo phone from the media and the consumers were so high, to a level that they expected to see the end products straightaway.

The strategic partners, however, did not go too well together. This was due to the fact that both companies were did not agree on the processor architecture and roadmap of their products. (*Kurri October 11, 2012, Kamran February 10, 2013*) There were also limited collaborative efforts to standardise the user experience design and application stores of the diversified MeeGo products (*The Linux Foundation April 8, 2011*), causing market confusion and weakening consumers’ desires to purchase the products.

1.4 New CEO Stephen Elop on board

MeeGo was still a year or two away to launch, while Nokia’s share price and profit had dropped significantly over the years. The board of directors hence made a bold and yet controversial decision – to replace Olli-Pekka Kallasvuo with a new CEO. The market was surprised when the final choice was announced – for the first time of Nokia’s 145-year history, a non-Finnish CEO was chosen. The winner was a Canadian, and his name is Stephen Elop. (*Nokia Corporation September 10, 2010*)

1.4.1 Stephen Elop’s background

Prior to joining Nokia, Stephen Elop was the Head of Business Division at Microsoft, taking care of the Microsoft Office line of products. He had also worked in Juniper Networks as COO and the CEO of Macromedia, the latter was acquired by Adobe during his terms. Before joining Macromedia, Elop was the CIO of Boston Chicken and a director of consulting for Lotus Software. (*Lai January 11, 2008, Nokia Corporation September 10, 2010*)

2 Major strategy change

2.1 The Burning Platform memo

Early February 2011, an internal memo written by Stephen Elop to all employees was leaked to the media. In the memo, Elop said Nokia was on a "burning platform" that had "*multiple points of scorching heat that are fuelling a blazing fire around us*". He referred the "fires" as the iPhone and Android at the high-end market, and cheap MediaTek-supplied reference design at the low-end market. He blamed the attitude of Nokia employees for the downturn and described their behaviour as pouring gasoline on the burning platform. Elop reckoned Nokia must decide how they are going to change their behaviour. (*The Wall Street Journal Feb 9, 2011*)

In the memo, Elop said Symbian had proven to be non-competitive in leading markets and was considered as major roadblocks to develop good products quickly and offer advantages over other competing platforms. Regarding MeeGo, the company's once collective-hope, Elop said, "*We thought MeeGo would be a platform for winning high-end smartphones. However, at this rate, by the end of 2011, we might have only one MeeGo product in the market.*" (*The Wall Street Journal Feb 9, 2011*)

Elop also said "*the battle of devices has now become a war of ecosystems, where ecosystems include not only the hardware and software of the device, but developers, applications, ecommerce, advertising, search, social applications, location-based services, unified communications and many other things.*" (*The Wall Street Journal Feb 9, 2011*)

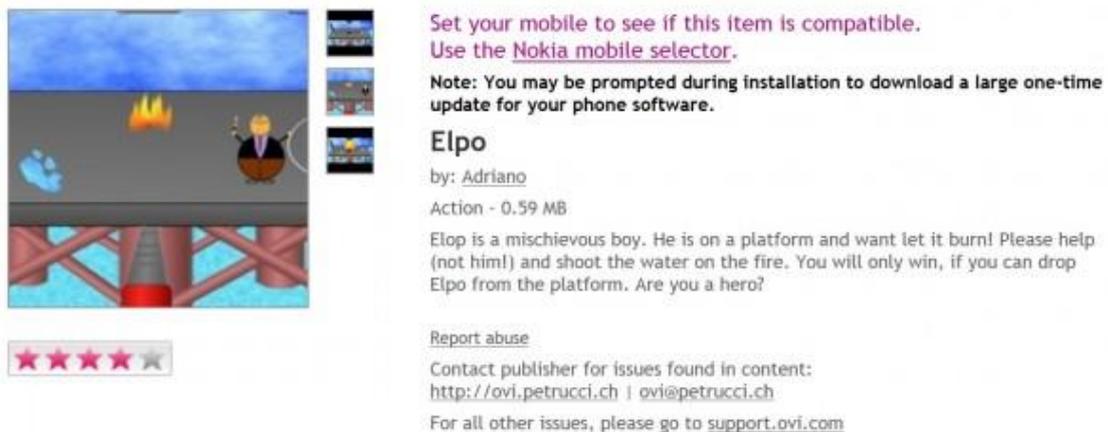


Figure 2-1: A mobile gaming application named "Elpo" that was available for download on the Nokia Ovi Store, appeared to be making fun of Elop's Burning platform memo (Photo courtesy: MyNokiaBlog.com)

While the internal memo did not mention the strategy change itself in details, rumours suggesting Microsoft and Nokia had close talks together were spread across the Internet. Many Nokia employees and supporters reacted adversely (*Ziegler February 8, 2011*), and the negative impact was further amplified once the strategy change was announced.

2.2 The February 11th announcement

On February 11th 2011, Stephen Elop, CEO of Nokia and Steve Ballmer, CEO of Microsoft, appeared on stage together to announce a major facelift change of Nokia's strategy. (*Nokia Corporation February 11, 2011a*)

2.2.1 Partnership with Microsoft and devote to the Windows Phone platform

Stephen Elop announced that Nokia would be fully devoted to the Microsoft Windows Phone ecosystem at the high-end market, while Symbian will be gradually faded out. Elop admitted Android was considered internally but soon they found that the Android market was already crowded and saturated, making them difficult to differentiate from others. Elop believed that the Windows Phone platform offers unique competitive advantage by having fluid user experience, a maturing ecosystem

and strong business capabilities. (*Nokia Corporation February 11, 2011aa, Nokia Corporation February 11, 2011bb*)



Figure 2-2: Stephen Elop, CEO of Nokia (left) and Steve Ballmer, CEO of Microsoft (right) on the February 11, 2011 announcement (Photo courtesy: Nokia Corporation)

2.2.2 Phasing out Symbian

Elop did not mention the exact plans of how and when Symbian should be faded out on the February 11th announcement. (*Nokia Corporation February 11, 2011aa, Nokia Corporation February 11, 2011bb*) Three months later, he further clarified in an interview that the support of Symbian will be ended in 2016 and Nokia was still planning to launch multiple Symbian products at select markets. The fade-out arrangements would also heavily depend on the customer reactions in different markets. (*Shipley May 26, 2011*)

2.2.3 MeeGo for “future disruption”

Elop reprioritised MeeGo for “future disruption” (*Nokia Corporation 2012*), indicating that MeeGo's focus had been shifted from high-end mainstream market to niche market. He also mentioned that Nokia would release one MeeGo device in 2011 (*Nokia Corporation February 11, 2011ab*), which had later been unveiled as the N9 in June 2011. (*Nokia Corporation June 21, 2011*)



Figure 2-3: Icon of MeeGo and its mascots called “MeeGons” (Image courtesy: Randy Arnold)

Despite the announcement confirmed the previous rumours, many Nokia employees and supporters were shocked and could not believe that Nokia was really giving up all the investments that they had done in Symbian and MeeGo.

3 Actual implementation of the strategy change

Nokia had performed numerous strategic actions to implement the changes as blueprinted in the February 11th announcement. They were part of the major strategy change and had long term implications to Nokia's business model, employees and future innovations.

3.1 Outsourcing Symbian to Accenture

As Nokia is no longer focusing on the dated Symbian platforms, Elop decided to outsource the Symbian software development and support devices to Accenture. This was considered a cost saving measure too, as 2800 Nokia employees from various offices all over the world were transferred to Accenture. *(Nokia Corporation June 22, 2011)*

Some of those employees did not stay long in Accenture however – as at least one tenth of them were laid off by Accenture in mid-2012. *(Thomson Reuters May 9, 2012)*

3.2 Selling Qt division to Digia

Nokia acquired a cross-platform application development framework called “Qt” from Trolltech in 2008 when Symbian was still the company’s main focus. *(Nokia Corporation June 17, 2008)* Qt supports multiple desktop and mobile operating systems; it allows application developers to create one set of code fairly easily and be able to run it on multiple platforms with minimal modifications.



Figure 3-1: The Qt logo (Image courtesy: Nokia Corporation)

At the time that MeeGo was considered as the “saviour” of Nokia, Nokia did spend a lot of efforts in bringing Qt support on MeeGo and hoped that it would bridge up the application development platforms across Symbian and MeeGo. Nokia had also standardised the application distribution channels across the two platforms with the Ovi Store (later renamed as “Nokia Store”), where end users can login with their Nokia account from Nokia devices of whichever platforms and download applications from there.

After the February 11th announcement, Nokia shifted its focus to Microsoft’s Windows Phone platform and that requires a totally different application development framework called “.NET”. In terms of framework structure, development tools, programming language, and application distribution channels, the .NET framework is 100% incompatible with the Qt framework. Nokia would no longer have its own application store for the Windows Phone platform; instead, they would publish applications to the Windows Phone Marketplace administrated by Microsoft, just like any other individual application developers do.

In August 2012, Digia, a Finnish enterprise solutions company, announced that they would acquire the Qt technologies from Nokia, where 125 Nokia employees would be transferred to Digia. *(Digia Plc August 9, 2012)* Theoretically Nokia needed to pay Digia license fees to continue to use the Qt technologies on its Symbian smartphones; however, Nokia had stopped manufacturing Symbian smartphones since then and focus on the Windows Phone and Series 40 platforms.



Figure 3-2: Digia's flag (Photo courtesy: Digia Plc)

3.3 Selling Vertu to EQT VI

Vertu used to be a luxury mobile phone brand owned by Nokia. Vertu phones could be sold several times pricier than other Nokia phones, while they usually have moderate technical specifications. What made them luxury are in fact their fashion-like hardware design and the materials being used, such as gold and diamond.



Figure 3-3: VERTU smartphones (Photo courtesy: VERTU Corporate)

Although the Vertu brand is highly profitable with double digit sales growth, Nokia decided to sell it off to a private equity group named “EQT VI” to stay focused on the devices targeted at mass markets. *(Nokia Corporation June 14, 2012)*

3.4 Dissolve of MeeGo team and termination of Meltemi development

Although Elop claimed that MeeGo would be considered as a platform for “future disruption”, the brutal reality was that loss-making Nokia had to fully devote to Microsoft’s Windows Phone platform and did not have many resources allocated to the MeeGo development. The MeeGo team members had to find their own ways to survive inside the company. While some of the members were transferred to the Windows Phone application development teams, many others did not feel comfortable in adopting Microsoft’s technologies and decided to do something else.

Confirmed by various trustable sources, there was an internal project called “Meltemi”, which was said to be a lightweight version of MeeGo targeting at bringing a much better experience than Series 40 to the lower-end smart feature phones. Like MeeGo, Meltemi was said to be a Linux-based mobile operating system that supports the Qt application framework, and that requires the skills and expertise of the original MeeGo team. Even the project was not officially acknowledged by Nokia, when asked about Meltemi, Elop said that Nokia was terminating numerous development projects, hinted that Meltemi was one of them. *(Fried June 14, 2012)*

3.5 Large scale layoffs and sales team restructuring

In the recent years, Nokia had transformed itself from a highly profitable company to a company that recorded huge losses in consecutive quarters. In addition to the shifting from Symbian to Windows Phone, Nokia had also gone through major restructuring and multiple waves of large scale layoffs in order to simplify the organisation structure and getting rid of the long-suffering bureaucracy issues.

Layoffs were mainly contributed by the closing down of production lines in Finland, R&D units in Germany and Canada, sales offices in China. *(TechEye Network April 13, 2011, BBC News June 14, 2012, Mozur July 13, 2012)*

3.6 Launch of first Windows Phone products and last batch of Symbian and MeeGo products

After all the management shuffles and large scale layoffs, Nokia managed to launch its first Windows Phone products, the Lumia 800 and Lumia 710, in late 2011, around six months after the February 11th announcement. At the positive side, the overall product development lifecycle and Go-To-Market time had been speeded up significantly; the company is more focused and the Lumia brand is starting to gain traction and is even more popular than the Windows Phone brand. *(Wilhelm July 4, 2012)*



Figure 3-4: Nokia Lumia 800 and Lumia 710 (Image Courtesy: Nokia Corporation)

On the other hand, Nokia also launched the last batch of its Symbian and MeeGo products, including N9, the only MeeGo smartphone, in June 2011; and the 808 PureView, an unbelievable Symbian phone that equips with a 41 megapixel Carl-Zeiss camera, in February 2012.



Figure 3-5: Nokia 808 PureView, the last Symbian phone of Nokia, equips with a record-breaking 41 megapixel camera.

3.7 Mass launch of Windows Phone 8 products

Nokia has recently extended the Lumia series with a full range of Windows Phone 8 products, all the way from low-end to premium-end. The top model Lumia 920 became one of the best-selling models in many countries, and Nokia started to become profitable again in Q4 2012. (*Nokia Corporation January 10, 2013*)



Figure 3-6: Nokia Lumia 920, a 4.5 inch Windows Phone 8 smartphone, features wireless charging and a camera with Optical Image Stabiliser. (Image Courtesy: Nokia Corporation)

4 Resistance to change

4.1 Employees' resistance

4.1.1 Employee protest

Immediately after Elop's February 11th announcement, around a thousand Nokia employees walked out from the Nokia's offices in Finland to participate in a protest. They were shocked about the announcement and worried about losing jobs. Many of them were confused about the situations, and would like to hear more information from the company about the impact to their job roles. (*HELSINGIN SANOMAT INTERNATIONAL EDITION February 11, 2011*)



Figure 4-1: Nokia employees walked out from their offices in Finland for a protest after Stephen Elop announced the strategy change (Photo courtesy: Kai Tirkkonen)

4.1.2 Employees' disagreement with the CEO

When asked about the decision of discarding MeeGo as a mainstream platform, Stephen Elop pointed out Nokia could not manage to manufacture enough MeeGo devices in the forthcoming years. Felipe Contreras, a software engineer at Nokia, published a blog article arguing that there should not be technical constraints to manufacture even up to 10 devices with the same hardware architecture as the Nokia N9. He also pointed out that Windows Phone was even less flexible to adapt different hardware architectures than MeeGo, and he accused of Elop not answering his questions directly. (*Contreras June 21, 2011*)

4.1.3 Waves of resignations

Various notable leadership team members decided to, or were invited to, leave the company. They included the Chairman of Nokia Jorma Ollila, Chief Technology Officer Rich Green, Executive Vice President and Head of Mobile Solutions Anssi Vanjoki, Executive Vice President and Chief Development Officer Mary T. McDowell, Head of MeeGo Devices Ari Jaaksi, Lead Program Manager of Imaging Experience Damian Dinning, and numerous regional general managers. (*Nokia Corporation September 13, 2010, Andrews September 20, 2010, Constantinescu October 5, 2010, TechEye Network April 13, 2011, Brian June 9, 2011, Nokia Corporation September 22, 2011, BBC News June 14, 2012*)



Figure 4-2: Anssi Vanjoki (left), Executive Vice President and Head of Mobile Solutions (left) and Jorma Ollila, Chairman of Nokia (right) were the senior management team members who eventually resigned from Nokia (Photo courtesy: Nokia Corporation)

4.1.4 Cultural differences

When Elop and his leadership team handled the massive layoffs in Finland, the effects of cultural differences between Scandinavian and North American cultures, especially Finnish's feminine and strong uncertainty avoidance attributes were underestimated.

Stephen Elop is a Canadian and is the first non-Finnish CEO of Nokia in its 148 years of history (*The Wall Street Journal June 3, 2011*), while Nokia was still the largest private company in Finland back in 2010. As of today, half of Nokia's leadership team are Finnish. (*Nokia Corporation 2013*)

According to Hofstede's cultural dimensions (*Hofstede 2012*), Finland is a "feminine" country with high uncertainty avoidance. This means that Finnish people prefer cooperation, caring for the weak and enjoy quality life, while at the same time they do not feel comfortable about uncertainties and would try to do whatever they can to avoid them. The fact that a thousand of Finnish Nokia employees walked out from the office in response to Elop's announcement is a good example of their strong uncertainty avoidance.

Canada, the country where Elop came from, is a relatively masculine country with strong individualism and lower uncertainty avoidance than Finland. This means Canadian expect everyone takes cares of themselves, being more assertive and always strive for better achievements and material rewards. USA, where four of the leadership were graduated in, also shares similar cultural dimension attributes as Canada.

When Elop and his leadership team handled the massive layoffs in Finland, it seems that they were not aware of the cultural differences between Scandinavian and North American cultures, especially Finnish's feminine and strong uncertainty avoidance attributes.

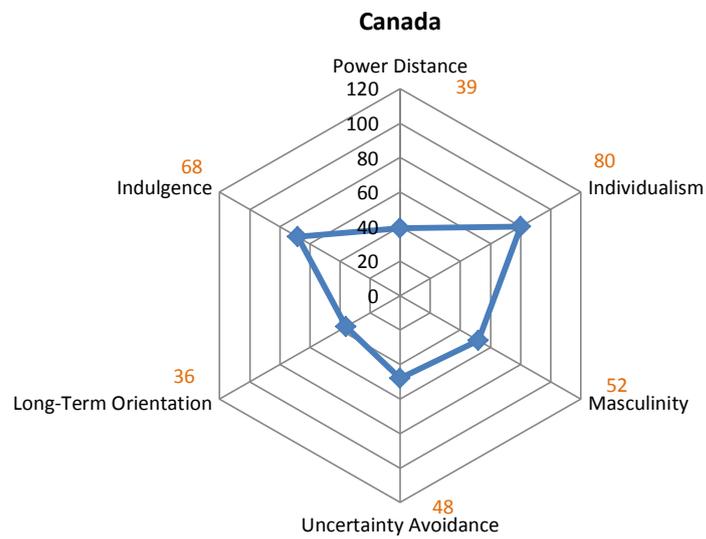


Figure 4-3: Hofstede cultural dimensions of Canada

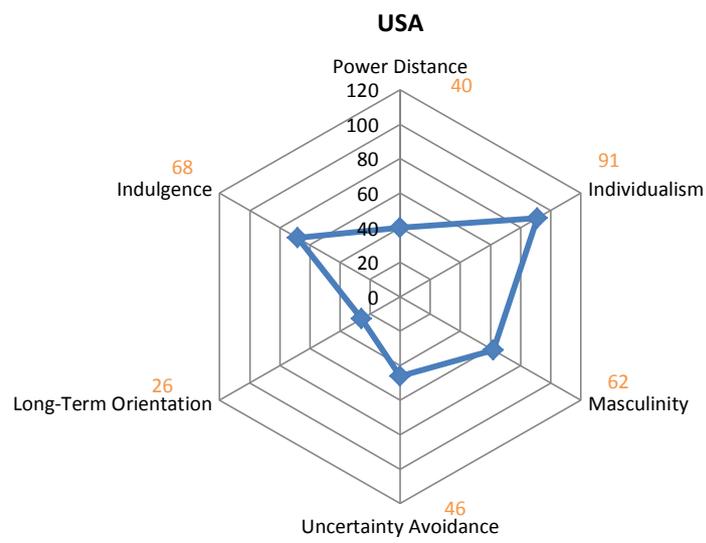


Figure 4-4: Hofstede cultural dimensions of USA

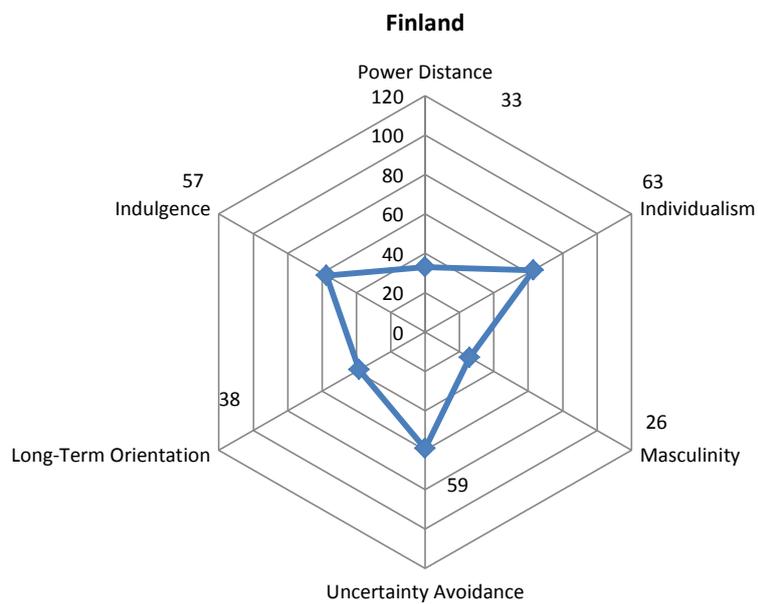


Figure 4-5: Hofstede cultural dimensions of Finland

4.2 Market's resistance

4.2.1 Customers' resistance

Nokia supporters and existing Symbian users were shocked and angry about the announcement. This was because Nokia had its own platforms for long, users and supporters were eager to see Nokia's newest platform innovation. The sudden abandonment of Symbian and MeeGo in favour of an outsider's platform also made them angry because many of them disliked Microsoft and its offerings.

Besides saying Nokia and Microsoft will achieve a much better future, Nokia did not do much to alleviate the immediate resistance of the customers. *(Nokia Corporation February 11, 2011ba)*

4.2.2 Network operators' resistance

According to Elop, network operators were hesitant about Windows Phone's ecosystem because of Skype, a well-known voice conversation application that can make use of Internet connection to perform international calls, which was acquired by Microsoft in 2011. *(Skype Global S.à.r.l. May 10, 2011)*

The operators worried that Windows Phone users would heavily rely on Skype to make international calls over the 3G networks, putting their international calling businesses at risk. In response, Microsoft and Nokia said they are flexible on whether or not the operators to include Skype as a default application in the Windows Phone devices they sell. *(Yarow May 4, 2012)*



Figure 4-6: Skype runs on an Nokia Lumia Windows Phone (Photo courtesy: Skype GobaI S.à.r.l)

4.2.3 Intel's response

Intel, the strategic partner of Nokia on the MeeGo project back in 2010, was disappointed about the announcement. *(Rawal February 11, 2011)* Paul Otellini, Intel's CEO, said Nokia made a wrong decision on choosing Microsoft as a strategic partner. He even said, "I would probably have gone to Android if I were him." *(Thomson Reuters February 17, 2011)*

A few months later, Otellini admitted "Nokia was the wrong partner to have picked" and blamed Nokia for dropping plans to release a MeeGo smartphone based on Intel's chips. As a reminder of fact, Nokia N9, the only MeeGo smartphone by far, is equipped with a processor manufactured by Texas Instruments. *(Shilov May 19, 2011)*

Nokia did not directly respond to Intel's comments on MeeGo.

Even though Elop said MeeGo was for “future disruption”, it turned out that the MeeGo team was eventually dissolved and team members departed the company to create quite a few start-up companies in Finland, with financial support received from Nokia’s “Bridge” program. (*Lunden July 10, 2012*)

4.2.4 Software developers’ resistance

4.2.4.1 Philosophical conflicts between F/OSS and proprietary software supporters

Before Nokia switched its focus to Windows Phone, it had been a long-time supporter of Free and Open Source Software (F/OSS) – Qt, the application framework shared across Symbian and MeeGo, is open source (*Qt Project Hosting 2011*); Symbian was once open sourced under the Symbian Foundation set up by Nokia (*Symbian Foundation November 2010*); and MeeGo itself was initiated as an open source project. (*Intel Corporation February 15, 2010*).



Figure 4-7: Nokia N9, Nokia's only MeeGo smartphone, is based heavily on the Qt application framework. (Photo courtesy: Nokia Corporation)

Microsoft’s Windows Phone, in contrast, is a totally proprietary platform like Apple iOS. Its closed source nature heavily limits developers’ freedom to innovate (*Lee October 8, 2010*), and developers often have to work around different ways to bypass the restrictions imposed by Microsoft.

The F/OSS communities have a strong philosophical belief that everyone should have the freedom to access, modify and redistribute the source code of all software, given that the modified code must also be open source. (*The Free Software Foundation 2012*) For decades, the F/OSS communities see Microsoft as an “evil” company as it attacked open source initiatives in the past. (*Smart July 22, 2009*)

Many F/OSS software developers involved in Nokia related projects were angry about the change, because they felt that Nokia betrayed them with fake promises on Qt and MeeGo to fall in love with the “devil”. These developers discussed the news on Twitter and tagged with hash tag #elopocalypse, a combination of “Elop” and “apocalypse”, to express their anger. (*Samatjain February 10, 2011*)

To address developers’ concerns, Nokia emphasised that Symbian and MeeGo smartphones would still be based on Qt, while feature phones would also be using open web technologies. Nokia welcomed developers to continue to contribute their efforts to these platforms. (*Delaney November 2, 2011*)

4.2.4.2 Sceptical view of Stephen Elop being Microsoft’s “Trojan horse”

Stephen Elop was the Head of Business Division in Microsoft before joining Nokia, and he was the CEO of Macromedia which was then acquired by Adobe during his term. Elop was found to be holding Microsoft’s shares after he had become the Nokia CEO for months. (*Meyer February 13, 2011*) There had been a character flaw and sceptical view among the developers and customers that Elop is actually a “Trojan horse” sent from Microsoft in order to destroy Nokia’s share price to facilitate Microsoft’s

acquisition. Elop was even asked by an audience publicly "Are you a Trojan horse?" in the Mobile World Congress 2011. (Rockman February 14, 2011)

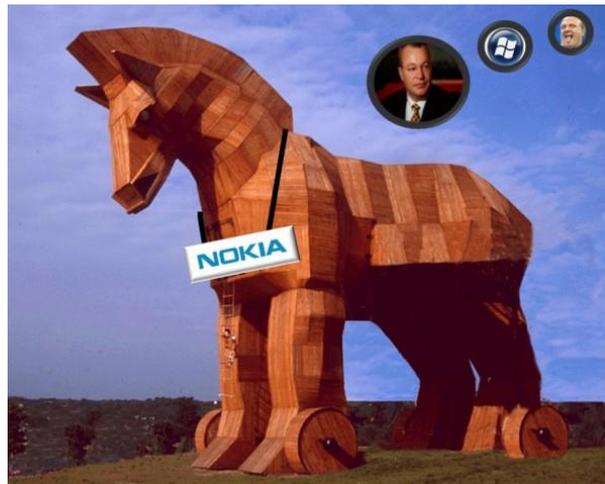


Figure 4-8: Stephen Elop was rumoured to be Microsoft's "Trojan horse" to destroy Nokia for easier acquisition (Photo courtesy: MyNokiaBlog.com)

Elop, of course negated the claim and said the speculation of Microsoft to acquire Nokia was totally baseless. He also tried to explain the situations of his Microsoft shares. (Rockman February 14, 2011, Burrows et al. June 2, 2011)

4.2.5 Shareholders' resistance

Shareholders were shocked about the strategy shift and Nokia's share price was steep-dropped by nearly 10% immediately after the February 11th announcement, and as of March 2013 Nokia's share price is still far from recovering back to the pre-strategy-change level. (Weisenthal February 11, 2011)



Figure 4-9: Nokia's share price trend (Thomson Reuters March 8, 2013)

4.2.6 Responses from analysts

Market analysts from all over the world had diverse views on the strategy change. Some thought the change was in correct direction but how the transition was managed was wrong; while some totally disagreed with the context of the change. (Reed October 19, 2012)

One of the extreme negative voices was from the mobile industry analyst and ex-Nokia executive Tomi Ahonen, he said Elop's "Burning Platform" memo "wiped out \$13B revenues, destroyed \$4B profits in just 12 months" and reckoned that "Elop is indeed the worst CEO ever seen in corporate governance and he truly must be fired immediately". (Ahonen June 14, 2012, Ahonen July 6, 2012)

Nokia did not do much to respond and address the concerns brought out from industry analysts, besides directly quoting Tomi Ahonen’s immediate feedback a day after the announcement in a Nokia official blog article and verbally answering questions at the annual general meetings and various other occasions. (Phil February 12, 2011)

4.3 Comparing Resistance of Change from stakeholders with the Grief model

The stakeholders’ reactions on Nokia’s strategy change can be reflected on the Kübler-Ross grief model (Zell 2003, Pearson 2013b):

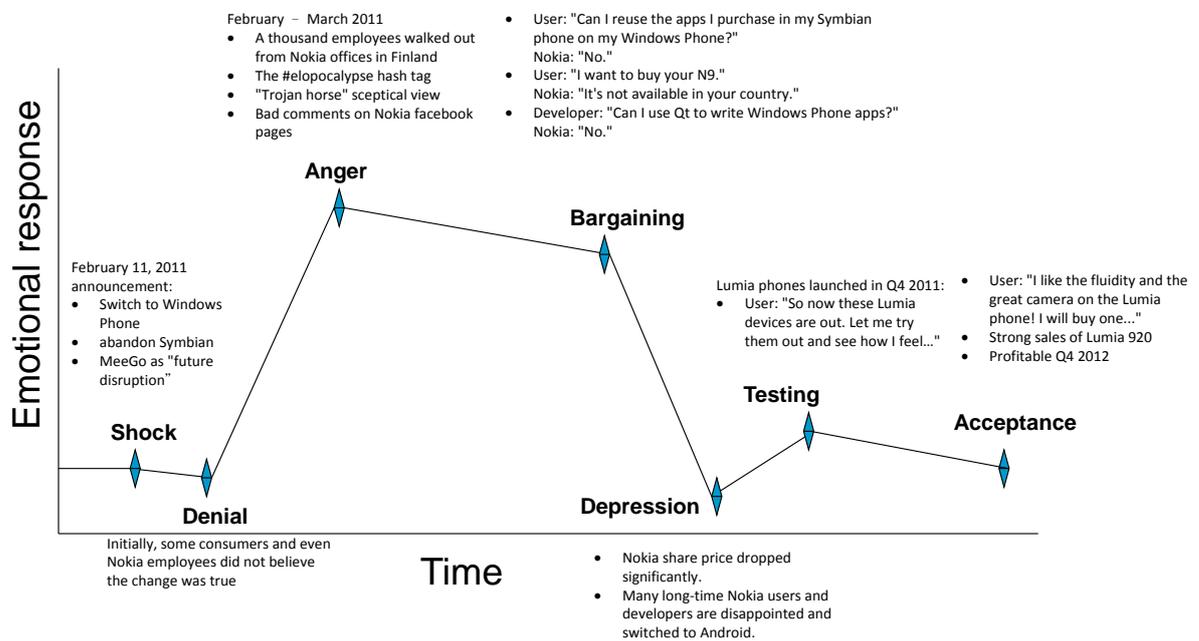


Figure 4-10: Nokia's strategy change as reflected in the Kübler-Ross grief model

4.3.1 Shock

As discussed earlier, many customers, software developers and even Nokia employees felt shocked when the strategy change to adapt Windows Phone and abandonment of Symbian were announced on February 11, 2011.

4.3.2 Denial

A lot of questions and internal clarifications were floating around the company and on the web immediately after the announcement, and some consumers and even some Nokia employees did not believe the change was true initially.

4.3.3 Anger

Stakeholders’ Denial stage shortly turns into the Anger stage - Nokia employees walked out from office to protest; the #elopocalypse hash tag spread out on Twitter; the “Trojan horse” sceptical view spread out everywhere on the Internet, and Nokia’s facebook pages were flooded with negative comments.

4.3.4 Bargaining

After a few months, when people did realise that Nokia is serious about the Windows Phone strategy, they started bargaining with Nokia on what they wanted for the forthcoming Nokia devices and platforms:

- Users requested to transfer their bought applications on Symbian to the new Windows Phone platform, but this is technically impossible;
- When the N9 was announced, many consumers asked about its availability in their countries, but soon they found out that Nokia intentionally limited the production volume and markets of the N9 and so the device was not made availability globally. This had caused consumers in N9-unavailable markets either turned back to the Anger stage, or preceded to the Depression stage. *(Nokia Hong Kong September 21, 2011)*
- Software developers also plead for the Qt support in the Windows Phone Software Development Kit (SDK), but Nokia said Microsoft would provide its own SDK that instead.

4.3.5 Depression

Consumers and software developers started to depress as they could not gain much from the bargaining process. Many of them started to consider switching to other mobile platforms such as Google Android.

In between the February 11 announcement and the launch of the first Windows Phone devices, Nokia's shareholders were uncertain about Nokia's future. Some of them went through the Depression stage and sold their shares, causing the gradual drop of Nokia's share price.

4.3.6 Testing

When the first Windows Phone products, i.e. the Lumia 800 and 710, launched in Q4 2011, consumers and software developers wanted to find out more about the new products in order to justify whether they should continue to spend time on the new mobile platform. This Testing stage was proven by the fact that the term "Lumia" was in fact being searched more than the term "Windows Phone". *(Wilhelm July 4, 2012)*

4.3.7 Acceptance

The fluidity of the operating system and the superb camera quality of the Lumia devices had gradually accepted by long-time Nokia users. It had also attracted some iPhone and Android users to switch to the Windows Phone camp, as reflected in the strong sales of the Lumia 920 and a profitable Q4 2012. *(Nokia Corporation January 10, 2013)*

5 Evaluating Nokia's strategy change with Kolb and Frohman's change model

Nokia's management of change will be critically evaluated with Kolb and Frohman's change model, which comprises of seven major phases: Scouting, Entry, Diagnosis, Planning, Action, Evaluation and Termination. (Kolb, Frohman 1970):

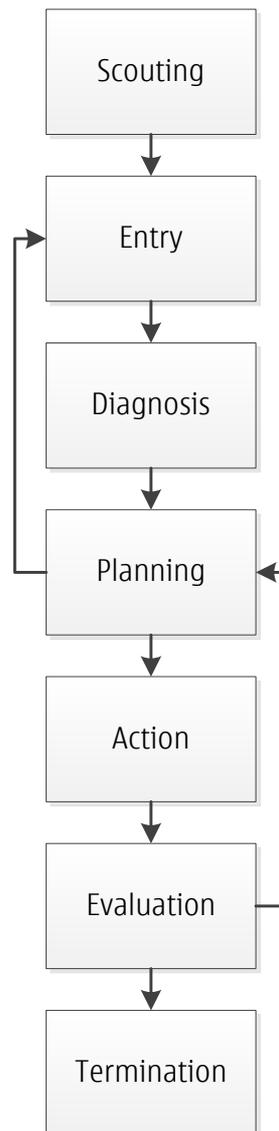


Figure 5-1: Kolb & Frohman's Change Model

5.1 Scouting

In the Scouting phase, feasibility study of the change needs to be performed. Once the change is considered feasible, an entry point of the change will need to be identified by negotiating the expectations of the stakeholders.

In the case of Nokia, even the February 11th event was coming near, the leadership team could not even make up their mind on platform selection in January 2011. (Burrows June 2, 2011) The Scouting phase thus was conducted far too late, causing Nokia not being able to plan for the change properly.

5.2 Entry

In the Entry phase, expectations of all the stakeholders affected by the change should be evaluated and negotiated. Nokia should have performed stakeholder mapping and analysis as illustrated in the examples below:

Table 5-1: A stakeholder analysis example of Nokia's strategy change: Level of influence versus Standpoints
(template adopted from (Boddy, Buchanan 1987))

Level of influence	High	<ul style="list-style-type: none"> Nokia operating system developers Nokia Symbian / MeeGo software developers Nokia production lines Nokia human resources teams Nokia cloud based services (application store, mail etc.) teams Finland government Intel (strategic partner in MeeGo project) 	<ul style="list-style-type: none"> Nokia major shareholders Network operators Business analysts Cross-platform application developers 	<ul style="list-style-type: none"> Nokia top management Microsoft top management Accenture (takes over Symbian support) Digia (acquires Qt from Nokia) Component manufacturers Users in emerging markets
	Medium	<ul style="list-style-type: none"> Symbian / MeeGo / Qt application developers Nokia R&D centres Texus Instruments (processor manufacturer of Series 40, Symbian and MeeGo devices) 	<ul style="list-style-type: none"> Mass market consumers Long-time Symbian users Long-time Android / iOS users Nokia hardware teams Nokia marketing teams Nokia frontline sales people Nokia maps and location-based services teams Technology media 	<ul style="list-style-type: none"> Microsoft Software Engineers Nokia mobile phone (Series 40) teams Windows ecosystem supporters Windows Phone application developers Application developers for the emerging markets Enterprise users
	Low	<ul style="list-style-type: none"> Other MeeGo ecosystem participants Open source software developers Symbian / MeeGo user groups Individual bloggers 	<ul style="list-style-type: none"> VERTU (luxury phone) teams Nokia minor shareholders Handset retailers Accessory manufacturers 	<ul style="list-style-type: none"> Windows Phone user groups Individual bloggers
		Opposed	On the fence	Supporting

Table 5-2: A stakeholder analysis example of Nokia's strategy change: Likely reactions, strategy and priority
(template adopted from (Pearson 2013ab))

Stakeholder	Likely Reaction	Strategy	Priority
<ul style="list-style-type: none"> Nokia operating system developers Nokia Symbian / MeeGo software developers Symbian / MeeGo / Qt application developers 	<ul style="list-style-type: none"> Angry as own contributions being demolished and the company decides to use someone else's works Feeling of losing control and disrespect 	<ul style="list-style-type: none"> Attempt to convey the value proposition of the changes. Communicate the detailed plan and product roadmap with them as early as possible. Provide opportunities to exchange views with top management. Acknowledge their previous contributions and emphasise that their skill sets are valuable and transferrable. Send engineers to Microsoft and get them involved in the Windows Phone development together. Never eliminate the need to develop an own platform for the far future. 	High
<ul style="list-style-type: none"> Nokia production lines Nokia human resources teams Nokia cloud based services (application store, mail etc.) teams Finland government 	<ul style="list-style-type: none"> Worry about job-cutting Losing motivation of work 	<ul style="list-style-type: none"> Offer relevant skills training, job rotation and relocation options. Communicate the detailed layoff plan with the government if necessary. 	High
<ul style="list-style-type: none"> Intel (strategic partner in MeeGo project) Other MeeGo ecosystem participants Open source software developers Symbian / MeeGo user groups Individual bloggers (opposing) 	<ul style="list-style-type: none"> Feeling of betrayal Doubt on Nokia's credibility as Qt and MeeGo investments become fake promises Angry and disappointed as Nokia goes from open platforms to closed platform 	<ul style="list-style-type: none"> Discuss plan to quit the MeeGo project with all related stakeholders as early as possible. Handover all outstanding works to open source communities properly. Spare a small team to continue to support the communities. Never eliminate the need to reuse these technologies in the future. 	High
<ul style="list-style-type: none"> Nokia hardware teams Nokia marketing teams Nokia frontline sales 	<ul style="list-style-type: none"> Not so sure about the impact to their job roles Worry about the sales 	<ul style="list-style-type: none"> Clearly communicate the impact to their job roles months before the changes are implemented. 	High

Stakeholder	Likely Reaction	Strategy	Priority
<ul style="list-style-type: none"> people Nokia maps and location-based services teams VERTU (luxury phone) teams 	<ul style="list-style-type: none"> performance of Windows Phone devices Worry about job-cutting 	<ul style="list-style-type: none"> Offer relevant skills training, job rotation and relocation options. 	
<ul style="list-style-type: none"> Nokia major shareholders Nokia minor shareholders Network operators Cross-platform application developers 	<ul style="list-style-type: none"> Worry about the sales performance of Windows Phone devices Worry about the impact to their own revenue Worry about the future prospect of the Nokia and whether or not to put more investment to it 	<ul style="list-style-type: none"> Communicate about the changes with external stakeholders only after the internal communications have been done. Require external stakeholders not to disclose change details before new product launch. 	Medium
<ul style="list-style-type: none"> Mass market consumers Long-time Symbian users Long-time Android / iOS users Technology media Business analysts 	<ul style="list-style-type: none"> Not so sure if the Windows Phone products have better user experience and overall quality Not so sure about the Windows Phone platform has enough applications for them to consume 	<ul style="list-style-type: none"> Announce the platform switch to the market only when products equipped with the new platform are ready to be announced. Explain the competitive advantages of Windows Phone. 	Medium
<ul style="list-style-type: none"> Microsoft Software Engineers Nokia mobile phone (Series 40) teams Windows Phone application developers Application developers for the emerging markets 	<ul style="list-style-type: none"> Welcome the changes as they bring more business and technical cooperation opportunities between Nokia and Microsoft. Welcome the changes as they bring more channels of application sales. 	<ul style="list-style-type: none"> Facilitate knowledge sharing between Nokia and Microsoft outside their bureaucracies Support application developers by providing technical support and marketing aids. 	Medium
<ul style="list-style-type: none"> Windows ecosystem supporters Enterprise users Windows Phone user groups Individual bloggers (supporting) 	<ul style="list-style-type: none"> Welcome the changes as they align with their own beliefs and technology preferences. 	<ul style="list-style-type: none"> Leverage their influencing power to help convince others to buy into the Windows Phone platform. 	Low
<ul style="list-style-type: none"> Accenture (takes over Symbian support) Digia (acquires Qt from Nokia) Component manufacturers 	<ul style="list-style-type: none"> Welcome the changes as they bring more business opportunities through the partnership with Nokia 	<ul style="list-style-type: none"> Consolidate the relationship with the partners by securing orders for future products. 	Low
<ul style="list-style-type: none"> Texas Instruments (processor manufacturer of Series 40, Symbian and MeeGo devices) 	<ul style="list-style-type: none"> Worry about losing huge orders from Nokia 	<ul style="list-style-type: none"> Convince them that there is a high demand for Series 40 devices in emerging markets. Tell them their products would always be considered if Windows Phone can be made compatible with them in the future. 	Low

With the shock and anger from nearly all the stakeholders, the Entry phase was obviously absent in Nokia’s case as none of their expectations were managed properly.

It was observed that most of the power was obtained from Stephen Elop and his leadership team. The source of power for planning such change was primarily formal and coercive, although Elop did refer to quite a few market research data to justify his decisions (an “expert” source of power) and attempted to share a common vision with the company by briefing staffs and issuing the “Burning platform” memo just days before the February 11th announcement. *(Burrows June 2, 2011)*

The staff briefing and the “Burning platform” memo did not touch the actual details about the change and they happened far too late than expected. Therefore the common-vision source of power was too weak for managing the change. With the worries of losing jobs that were observed among the Finnish employees, trust-based and reward powers for change were also obviously absent.

5.3 Diagnosis

In the Diagnosis phase, the root causes of the change as well as the pressures for and against the change should be identified. Goals and resources should also be set.

One of the ways to analyse the pressures is to perform a Force Field analysis. In the diagram below, Nokia’s high level pressures for and against the change are analysed.

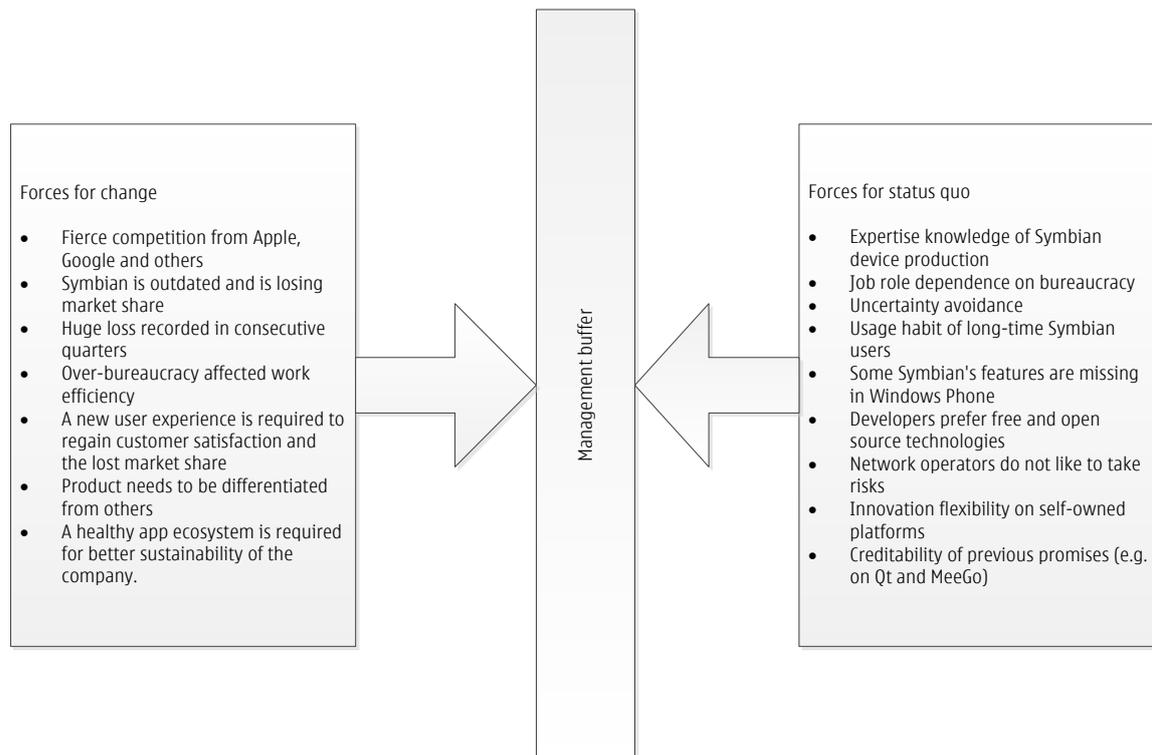


Figure 5-2: Force Field Analysis of Nokia

With the limited time available for Nokia to prepare for the announcement, Nokia did not diagnose the change, its pressures, its goals and its resources in great details, resulted in the chaotic situations mentioned earlier.

5.4 Planning

The Planning phase takes the results analysed from the Diagnosis phase and comes up with intervention plans based on six different subsystems: the People subsystem focuses on personnel flow interventions and education. The Authority subsystem focuses on authority relationships in job titles or other informal means. The Information subsystem focuses on visibility of important information and knowledge sharing. The Task subsystem focuses on employee satisfaction and the technology on which the job is based. The Policy/culture subsystem focuses on rules concerning working hours, reward system, promotion and work procedures. The Environment subsystem focuses on organisation’s own architecture and external factors that affect the organisation. (Kolb, Frohman 1970)

By assessing the intervention plans on these six subsystems, a planning checklist similar to below could be prepared. If the proposed solutions are predicted to have severe negative impacts to many other subsystems, it would be wise to redo the Entry and Diagnosis phases before performing the Planning activities.

Table 5-3: A planning checklist example of Nokia's strategy change (template adopted from (Pearson 2013ab))

Subsystem	Problem definition	Proposed Solutions	Possible effects on other subsystems
<i>People</i>	<ul style="list-style-type: none"> • Job role dependence on bureaucracy. • Politics among teams constrain innovations. 	<ul style="list-style-type: none"> • Restructure teams for clearer job roles. • Resources allocated for innovations should be independent from existing products. 	<ul style="list-style-type: none"> • Risks of feeling of losing control by certain senior roles in the Authority subsystem. • Overall job satisfaction levels in Task subsystem could be improved as organisation efficiency improves. • Positive effects on policy / culture subsystem as actual benefits of promotion become more prominent.

Subsystem	Problem definition	Proposed Solutions	Possible effects on other subsystems
<i>Authority</i>	<ul style="list-style-type: none"> • Overlapping and overloaded senior job roles and job titles. • Decision making overheads due to bureaucracy. • Cultural differences between leadership team and other employees. 	<ul style="list-style-type: none"> • Layoff underperforming senior roles. • Restructure teams to leaner ones to speed up decision processes. • Agile methodologies are preferred over waterfall ones. • Culture and communication workshops should be held in Nokia offices all over the world. 	<ul style="list-style-type: none"> • Teams affected in the People subsystem may feel discouraged and demotivated. • Overall situation in People subsystem would be improved due to quicker decision making. • Job satisfaction in Task subsystem would be improved.
<i>Information</i>	<ul style="list-style-type: none"> • Cross-team information and knowledge sharing are weak. • No systematic ways to obtain and value customers' feedback. 	<ul style="list-style-type: none"> • Set up internal wikis, blogs and Intranet infrastructures to facilitate information and knowledge sharing. • Build in monitoring tools in products to aggregate product issues automatically for easy feedback. 	<ul style="list-style-type: none"> • New skills can be acquired from other teams, hence improving job satisfaction in the Task subsystem. • External communications with customers in environmental subsystem could also be improved.
<i>Task</i>	<ul style="list-style-type: none"> • Low job satisfaction levels causing waves of resignations. • Symbian and MeeGo engineers are not familiar with the Windows Phone platforms. 	<ul style="list-style-type: none"> • Short-term rewards given to employees after product launches or milestone success • Coordinate with Microsoft and give relevant training to employees. 	<ul style="list-style-type: none"> • Education given to employees would improve the employees' skills in the People subsystem. • Getting familiar with the new platform in advance relieve the uncertainty feeling of employees, and help diluting the Symbian-pride culture in the Policy / culture subsystem.
<i>Policy / culture</i>	<ul style="list-style-type: none"> • Confusing organisation structures degrade the effectiveness of promotion. • Innovations from individual teams are not valued by management. • Symbian perceived as the "pride of Finland", limiting innovation. 	<ul style="list-style-type: none"> • Restructure teams to leaner ones. • Innovations from different teams should be managed by the company centrally, valued equally and utilised fairly. • Regular team rotation could improve the skill sets and broaden the mind sets of employees. • Explain to employees the risks of satisfying the status quo and the brutal realities of fierce competition. 	<ul style="list-style-type: none"> • Improvements would be seen in the problems encountered in Task subsystem and People subsystem.
<i>Environmental</i>	<ul style="list-style-type: none"> • Ambiguous job titles cause chaotic communications. • Fierce competitions in the industry. • Financial pressure due to huge loss in consecutive quarters. • Weak user experience and ecosystems of own platforms. 	<ul style="list-style-type: none"> • Restructure teams to leaner ones and standardise the ways for cross-team communications. • Encourage employees to use competitors' products to get a sense of how end users would compare against Nokia's. 	<ul style="list-style-type: none"> • Improvements in the Environment subsystem will at the same time benefit the Information subsystem, as cross-team communications improve.

Most Nokia employees only knew the change when Elop announced it in front of the flashlights. The job cuts, relocation policy and architectural changes only happened months after the announcement of the strategy change, instead of before. These suggest that the Planning phase was either absent in Nokia, or its proposed solutions were not even executed.

5.5 Action

Since the "Burning platform" memo and strategy change announcement were all prepared in rush, Nokia nearly did nothing in some of the pre-Action phases of change management. As a result, when Nokia tried to execute the change, vigorous resistance from nearly all its stakeholders were encountered. Many shareholders lost their confidence about the company and sold off their shares, causing significant drop of Nokia's share price. Thousands of great talents were lost not only due to Nokia's deliberate job cuts, but also due to waves of resignations. The outcome was simply disastrous.

5.6 Evaluation

The cost of Nokia's mismanagement of change had been painful. Miscommunication of the change details with employees, developer communities, network operators and consumers; insufficient diagnosis of the problems; and poor stakeholder analysis and management had all contributed to the prolonged anger, bargaining and depression stages of the Kübler-Ross grief model (as discussed in section 4.3) and the revenue loss during those periods.

Nokia should seek independent consultant to evaluate the entire change management process and identify the areas that it had missed or had done wrong, as well as to suggest how these mistakes could have been fixed in Nokia's context. Additional Planning, Action and Evaluation iterations might be required to find out the best ways to deal with the change.

5.7 Termination

Once Nokia has worked out how major changes should be managed, formal processes, frameworks, policies and reward systems should be defined so that they can be institutionalised within the company. This is particularly important for Nokia as it could not afford to go for the same mistakes again.

6 Conclusions

The switch to the Windows Phone platform itself was a controversial decision; although it was in fact logical and was not totally nonsense. (*Kamran February 10, 2013*) As the strategy change decision was made in rush, nearly all stakeholders were shocked when the change was announced, leading to subsequent disastrous consequences. Even Bill Gates, Microsoft's chairman and co-founder, admitted that the Windows Phone strategy was a mistake. (*McAllister February 18, 2013*)

Nokia should have planned such major change carefully at a much earlier stage – this include conducting diagnosis to the problem and feasibility studies of possible solutions; performing serious stakeholder analysis, risk and expectation management and prioritisation (*Cameron, Green 2012*); fostering multidirectional communication channels inside the company; adopting a well-established change management model (such as the Kolb and Frohman one) and then set up and execute the frameworks for change, employees' involvement and choice (*Burnes 2009*) that are relevant to their local context.

It is not the end of the world after all. With the recent traction gained from the newest Lumia devices and the Windows Phone 8 platform, the leaner Nokia could still realign its troops and resources to strike back. Nokia still has a lot of gems on hand that could create products with strong competitive advantage:

- **Quality offline maps** - Its turn-by-turn navigation, map data completeness and offline capability still beat similar offerings from iOS and Android.
- **Camera innovations** - as seen in the ground-breaking 41 megapixel sensor found in 808 PureView and the first-of-its-kind Optical Image Stabiliser found in the Lumia 920.
- **Superior hardware design** - as seen in N9 and Lumia 800 that had inspired future generations of Lumia devices as well as products of other manufacturers.
- **Intuitive user interface design** - as seen in the swipe gesture and activity feed page in the N9, as well as the augmented reality technologies used in the Nokia City Lens application.
- **Solid manufacturing capabilities** - Strong relationships and bargaining power with component manufacturers and network operators around the globe that had been created and maintained for decades.
- **Dominance of feature phone markets** - Nokia has still been dominating the low-priced feature phone market in fast-growing emerging markets, such as China, Southeast Asia, Africa and South America.
- **Great patent portfolios** - One of the largest portfolios of patents in mobile industry regarding mobile design, network and infrastructure innovations.

In particular, its low-end feature phone strategies worked very well in emerging markets, which could at the end fund the entire company to focus on the smartphone war.

Both Nokia and Microsoft need to act quick, though – the markets are rapidly changing and even in emerging markets, smartphones are replacing feature phones at an unbelievable fast pace. Perhaps in addition to planned change approaches, from now on Nokia should also consider emergent change approaches that are more responsive to environmental changes. (*Burnes 2009*)

7 Appendix

7.1 About the author



Amanda Lam is a Product Manager of the Candidate Relationship stream at jobsDB, the most used recruitment channel in Hong Kong and online recruitment market leader in Asia Pacific. She has led numerous mobile projects in jobsDB, such as the new jobsDB mobile sites and mobile apps for the iPhone and Android platforms.

Besides work, Amanda is an amateur technology blogger and podcaster who publishes many gadget product reviews and tutorials at her Chinese blog, DaDaBlog.net, her Youtube channel and a popular technology podcast in Hong Kong. She is also an amateur application developer and published numerous applications for the Asus Eee PC and the Nokia Maemo and MeeGo software platforms. Amanda was a main contributor of the Traditional Chinese localisation projects of the Nokia's Maemo operating system, and hence she established relationships with both current and ex Nokia employees in Hong Kong and Finland. She is a founding member of the Hong Kong MeeGo Network, and she was invited as a guest speaker in the GNOME Asia international conference, Software Freedom Day, and some other events organised by the local open source communities.

Amanda's current primary phone is a Lumia 1020 (Nokia's first Windows Phone with a 41-megapixel camera sensor) which is jointly developed by Nokia and Microsoft. As a collector of Nokia's Linux devices, Amanda also owns an N950, a rare developer-only device that is not for sale; an N9, Nokia's only MeeGo phone; an N900, the only Maemo smartphone; and an N810 Internet Tablet, Nokia's first Internet Tablet with hardware QWERTY keyboard.

Amanda's LinkedIn profile is available at: <http://www.linkedin.com/in/amandahoic>

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