RISK MANAGEMENT STRATEGIES IN LARGE TELECOM COMPANIES: WITH SPECIAL REFERENCE TO NOKIA

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ABSTRACT
This study seeks to identify and examine the nature and strategies of the risk management in the big multinational company ‘Nokia’. It also investigates the pattern and drivers of risk management. These are culminating to ascertain how the company’s strategy is managing the risk.

INTRODUCTION
Events like euro crises, failing projects like London’s Heathrow Terminal 5 or the instable political situation in many countries of the Middle East; these are just a few examples of events that have made people and organisations more aware about risk and uncertainty. Therefore, the risk management has been gaining more and more importance since the 1970s and now-a-days, it is included in most organisations’ policy.

Concept of Risk Management
The connotation of the word ‘risk’ in everyday language is quite negative, it does not just mean as threat (also called “downside risk”), but it can also provide opportunity (“upside risk”). A risk may also mean avoiding a potentially huge opportunity which makes risk management a complex issue that is essential to be considered thoroughly by every organisation which looks toward long-term profitability.

There are many different definitions for “risk”. The ISO Guide 73 describes risk as the combination of the probability of an event and its consequences. Merna and Al-Thani (2008) define it as the likelihood of something undesirable happening in a given time. Risk can also be defined as the undesirable outcome resulting from a given action, activity, or inaction.

In order to be prepared for such undesirable event, firms employ financial managers with the ability of handling the risk. It is their task to identify risks for an organisation and to respond in an appropriate way. The basic task of a financial manager is the assessment of the internal and external environment of an organisation and the identification of the likelihood, i.e., probability and the impact, i.e., consequence of risk. Considering the company’s value, attitude and circumstances, an evaluation can be made before the action plan is implemented. This is referred to as the risk management.

Process of Risk Management
There are different underlying concepts and strategies of risk management which result in different standards on international, national and organisational levels. This becomes especially apparent when it comes to the risk management process.

According to Woods (2011), the process involves five main steps: (1) Identification, (2) Assessment, (3) Treatment or Response, (4) Reporting and (5) Controlling or Monitoring.
These can be found in the COSO Cube which is shown in the figure below. COSO (Committee of Sponsoring Organisations of the Treadway Commission) is a voluntary private organisation in the USA. It has developed a sophisticated model, which is shown in Figure 1, that does not just show risks as a uni-dimensional flow-chart, but, in a three-dimensional way that includes all the different levels that are affected by risk.

![Figure 1: COSO CUBE](http://www.coso.org/documents/COSO_ERM_ExecutiveSummary.pdf)

The risks that an organisation faces have to be identified, for which both the internal and the external environment have to be assessed. This suggests that a risk manager needs to have knowledge about the company, its objective, culture, attitude towards risk, the market itself and competitors. Under consideration of all these aspects, he will be able to identify risks and opportunities that might affect the achievement of objectives. A few examples of techniques that can be used in order to identify the risks are brain-storming, questionnaires, checklists, interviews, workshops, flow-charts, inspection, audit, SWOT and PESTLE analyses.

After the business risks have been identified, they have to be quantified and prioritised. To be able to determine the likelihood of a risk to happen, the source and the motivation of the threat have to be analysed, as well as, the capability of the source. The combination of the likelihood and the impact of risk can be identified in a likelihood chart or table, which enables the ranking of them by calculating a score for every single risk. Thus, the risk manager will be able to assess the significance of the risk and he can decide where to focus.

Responding to risk means implementing appropriate control measures to modify the risk. According to Merna and Al-Thani (2008), depending on the status of the risk that has been determined in the previous step, it can be decided between the following four options of treatment:
1. **Retention** refers to accepting the risks and doing nothing against them. This measure should only be used for the risk that the organisation’s core value-adding activities are associated with.

2. **Reduction** signifies the mitigation of either the likelihood or impact of the risk occurring. An example would be to wear security clothing in dangerous places.

3. **Transfer** means the elimination of the risk. The most obvious way to transfer risk is by insuring, either with a insurance company or by captive insurance. Both are ways of risk financing.

4. **Avoidance** implies the elimination of activities that create a given risk. It can be described as removing the source of the risk, for example, by not taking part in risky projects.

To be able to decide between those options, a risk matrix chart, as shown in Figure 2, can be applied (Merna and Al-Thani, 2008).

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Insignificant</th>
<th>Minor</th>
<th>Moderate</th>
<th>Major</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost certain</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>Extreme</td>
<td>Extreme</td>
</tr>
<tr>
<td>Likely</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>Extreme</td>
</tr>
<tr>
<td>Possible</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Extreme</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Rare</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
</tbody>
</table>

Figure 2: Risk Matrix


To be able to control the effectiveness of the risk responses, a risk register can be maintained which will be helpful to provide a comprehensive overview of all the risks and their significance, like in the risk matrix chart, plus the applied strategy, the action plan.

The next step “Information and Communication” is sometimes also called reporting and crucial to “enable people to carry out their responsibilities” (COSO, 2004). It is also internally important for control purposes and externally with regards to the organisation’s accountability towards stakeholders etc.

Monitoring is the last step of the risk management process that is of great importance in order “to ensure the ongoing effectiveness of a risk management system” (Woods, 2011). Organisations have to control the success of their risk strategies and review processes to be able to learn from their experiences.

Risk management has to take place on all levels of the organisation from strategy level to day-to-day operational activities and special projects. According to the COSO Cube, it can be on the entity level, the division, the business unit and the subsidiary. Furthermore, in its vertical columns, the COSO Cube sets four categories that are required to achieve objectives: setting strategic goals, operations (the effective use of resources), reporting and compliance with laws and regulations.
Using this comprehensive approach to risk management enables organisations to understand risks, take reasonable decisions and does contingency planning, which eventually improves outcomes. Thanks to the monitoring process, companies will draw valuable lessons that allow better modeling for future projects and investments.

**TYPES OF RISKS**

Organisations experience a lot of different and complex risks, which is why it does make sense to categorise them into groups. Major risk categories are explained below.

**Product and Market Risk**

Product and market risks arise when introducing a new product and they often go together. If the organisation has just a limited understanding of the market, there is the danger of misreading signals or concentrating on wrong aspects and finally, developing a product that may not be feasible or lacks unique qualities. According to Schneider and Hall (2011), a product, that is over-complicated and confuses its potential customers, does not work properly. As a result, the product does not find a ready market, competition becomes very strong and the organisation’s customers are dissatisfied with the product.

**Strategic Risk**

Strategic risk refers to the risk concerned with where the organisation wants to go, how it plans to get there, and how it can ensure survival (Office of Government Commerce (UK), 2007). For example, in 2011, Tesco had to pull out of the Japanese market completely and sell all their shops, as they did not have a lucrative business despite all its efforts. Entering the Japanese super-market industry was a strategic mistake that endangered the profitability of the whole business. (Jones and Nakamato, 2011)

**Liquidity Risk**

Liquidity risk means the hazard of an organisation not being able to generate sufficient resources to meet its liabilities. It is also described as a cash flow problem and it is extremely dangerous for an organisation, as, it can quickly lead to bankruptcy especially due to cross-default clauses.

**Political Risk**

Political risk is the hazard where political decisions or events will have a negative effect on your business. For example, BP (British Petroleum) is experiencing political risks in Russia, where the company is trying to merge with another oil and gas company named Rosneft which is permanently boycotted by the Russian government. Whether the companies merge or not is completely up to the Russian politics, especially, to the opinion of Vladimir Putin who is in charge of the country’s whole energy sector (Hulbert, 2012).

**Environmental Risk**

Environmental risk arises from activities of the organisation that mean an actual or potential threat of adverse effects on living organisms and environment by effluents, emissions, wastes, resource depletion. Chemical and pharmaceutical companies tend to hit the headlines with regards to environmental topics, but in the last year, large oil companies have been causing scandals.

**Reputation Risk**

Reputation risk has been ranked the most important risk in a study conducted by the Economist Intelligence Unit in 2005, in which senior executives from around the world took part (Woods, 2011). It is defined as the risk that a company will lose potential business because of its character or quality which is questionable. Reputation is the key driver of the
business value; its profitability will decrease, if the problem of reputation arises. Apart from the effects, reputation affects the customers of a company; it also affects investor’s choices and employee’s loyalty.

**RISKS IN NOKIA**

For several years, Nokia has been the biggest player in the mobile phone market, since 2008, the company has been losing more and more of its competitive advantage and struggles with a decreasing market share, falling share prices and a declining reputation (Milne, 2012). In the following, an analysis of Nokia’s internal and external environment will be undertaken and the types of risk, the company faces, will be identified:

**Product and Market Risk**

The Apple iPhone and devices running on Google’s Android system have over-run the long-established brand Nokia that has simply missed its chance to grab its share of the lucrative smart-phone market at the right time. The Finnish company has developed their own range of smart phones, but sales of the Lumia series go slow. The phone lacks uniqueness and Nokia cannot keep up pace with other manufacturers. Due to the increasingly strong competition in this market, Nokia does not even belong to the five biggest smart-phone vendors in 2012, as depicts in Figure 3.

As shown in the figure, Nokia is increasingly suffering heavy market risk. If the company is not able to understand the market and develop a unique smart-phone before its competitors do, it will lose its market share in the long-term.

![Figure 3: Market Share of Smart-phone Vendors Worldwide for a 3rd Quarter, 2012](http://www.blogcdn.com/www.engadget.com/media/2012/10/idcq3-1351238676.jpg)

**Strategic Risk**

After having teamed up with Microsoft, Nokia’s CEO Stephen Elop described this alliance and the development of the Windows phone as Nokia’s principal smart-phone strategy (Savov, 2011). However, Nokia is not the only manufacturer that uses the Windows
platform. The day Lumia 920 was launched, HTC also brought a Windows-operated phone in the market and Samsung was also planning to introduce a smart-phone with the new Windows technology just a few weeks after the launch of the Nokia phone. Figure 4 shows that there is a little distinction between the three Windows phones.

The article “Software is king in an industrial rebirth” in the Financial Times (Keen, 2012) stated that companies like Nokia are currently at risk of decline because they have “failed to develop popular software of their own”. While Google and Apple have their own distinctive software, Nokia is dependent on the collaboration with Microsoft and it is possible that the Lumia 920 phone will not be successful because it is not innovative and unique enough.

Figure 4: The Three Windows Phones- HTC, Nokia and Samsung


**Liquidity Risk**

In October 2012, the Financial Times covered news that Nokia was desperately trying to squeeze cash out of the business, in order to avoid bankruptcy. After disappointing product launches and downgraded by S & P (standard and poor), they were looking to sell their headquarters in Finland, use patents and advanced royalty payments to raise money (Milne, 2012). The risk of going bankrupt will materialise if Nokia is not able to meet payments when they are due.

**Political Risk**

Nokia has worldwide production, which means that political risk plays an important role in decision-making. In 2012, Nokia made about 4,000 employees redundant in which 1,000 employees are from Finland and the others are from Hungary and Mexico, in order to shift production to Asia. The reasons for this are the proximity to suppliers as well as to the
customers and the low labour costs. Nokia has production sites in India, China (Beijing and Dongguan), South Korea, and Vietnam (the latter established in 2012) (Nokia, [n.d.]). However, outsourcing brings massive political risks with it, like culture alignment, hidden costs, quality issues and the theft of data and intellectual property, which is especially important in the electronics industry.

Environmental Risk

All over the world, masses of electronic waste are causing problems, and as one of the leading mobile phone manufacturers, Nokia plays an important part. Furthermore, Nokia is in a battle with its competitors to be more sustainable, create “greener” devices and use better and more recycle material. As Nokia has already been overtaken in the development of innovative technology, it might also face the risk of being too slow in the development and implementation of measures in regards to sustainability and environment protection. Their suppliers are another risk factor for the company because they might produce the individual parts under bad environmental conditions, or use raw materials that come from an unfriendly and morally questionable background. To find out where every component comes from exactly is a big challenge for every manufacturer that purchases parts from all over the world. In addition, Nokia has to ensure the health and safety of all its workers around the world which might be hard to control.

Reputation Risk

Nokia is at risk of losing its reputation, especially because of the recent lay-offs of employees (10,000 in 2011 and 4,000 in 2012) and the shift of production to Asia. In Germany, people were angry because Nokia had left its production site in Bochum (Germany) in 2008 to shift production to Romania, and in 2011, they left Romania again to move in to Asia. They have been named “grasshoppers” which in German is a metaphor for something that might be best described as “corporate raiders” means an organisation that exploits one place after another and moves on. Apart from their reputation as a fair and good employer and a responsible organisation, Nokia is losing its image of a manufacturer of innovative phones. During recent years, all the financial, environmental, strategic, product and market risk eventually reflect the organisation’s reputation and its reputation might be damaged and with that there is the risk of the whole organisation going down.

NOKIA’S STRATEGIES TO MANAGE RISKS

It suggests “open and explicit risk discussions” for organisations to be able to react to external and strategic risks. It states that overconfidence, group think and too narrow risk assessments are the biggest threats for risk management (Kaplan and Mikes, 2012). Exactly these aspects explain how it could be possible for Nokia to misread the markets and overlook the threat of the iPhone and other smart-phones.

Under consideration of the roots of Nokia’s previous mistakes, a comprehensive risk assessment has been undertaken and respective strategies have been analysed. The main results can be summed up in the following strategic concepts:

Diversification and Product Development

This is one of the strategies that can help to treat different risks, such as product, market and financial risks that eventually also prevent reputation risks. In order to create a competitive advantage over other smart-phone manufacturers, Nokia introduced a special offer of Apps (the “Nokia Collection”) that was only available on Nokia phones in 2012. To convince consumers to decide for the Lumia 900, it included a valuable NAV SET system that worked without Internet connection. This helped the launch of the Lumia 900 to become
quite successful. Thus, innovation and the development of new products will be absolutely vital in order to survive in the fast-paced technology industry.

On the smallest scale, this would mean to invest more in R&D and developing mobile phones that are clearly differ from competitor’s products. It can also mean to create new similar products which Nokia will be doing with the development of their own tablets (Milne, 2012). This, however, bears new risks that the company has to deal with, as they are penetrating a market that might already be satiated. A more daring strategy for Nokia would be to look for completely new markets, target groups and products. These aspects – product and market development as well as diversification – are core topics of the Ansoff Matrix, which suggests ways to increase sales and therewith the competitive advantage of an organisation. (See Figure 5)

![Ansoff Matrix](http://www.timeanalyzer.com/lib/ansoff.htm)

**Figure 5: Ansoff Matrix**

**Alliances**

The purpose of alliances in the business world is the sharing (transferring) of risks and resources. Currently Nokia is working in collaboration with Microsoft, who is providing them with new software called Windows 8. Thanks to this alliance, Nokia has been able to increase their offer of applications from 6,000 to 80,000 and brought phones like the Lumia 900 in the market that became a success. However, Nokia has to differ clearly from its competitors in order to get back its competitive advantage, and this will not be possible if it keeps using Microsoft technology, that several other phone manufacturers offer too. To treat the risk of a too high dependence on Microsoft, Nokia should think about either being very innovative and developing unique software on their own or entering new alliances with other companies.

**Market Research and Marketing**

Nokia has to understand the markets and to analyse and predict future demands, which is why accurate market research is essential. The company has to improve in this area, and might want to think about bringing in new people, methods or even hiring a special agency for these tasks, to avoid mistakes like group-think and too narrow assessments that have been made in the past.

On the basis of clear results from market research, target groups can be established and appropriate marketing measures can be implemented. With this the consumers’ perception of the brand Nokia will improve which will help to mitigate reputation risk. Furthermore, marketing will increase customer acquisition and retention, which will increase sales and mitigate financial risk. However, these marketing measures should happen under avoidance of a reputation-reality gap, which would eventually just increase problems (Eccles et al,
Communication with customers and information to stakeholders and the public have to be flawless and honest.

**Staff Development**

Nokia has already started to give extra training to its shop personnel of the AT&T phone stores. They trained in explaining the advantages of the software. This seems to be a step in the right direction, as improved customer service will help to increase both Nokia’s reputation and sales.

Apart from trainings for employees, Nokia should think about getting on board new people that are experts in certain areas, like innovative technologies. This will improve their R&D and enable them to keep pace with competitors or develop new products or an own software. In general, it can be beneficial to bring new people to the company, as they act as change drivers. It might also be an interesting strategy to introduce a reward system for employees that come up with ideas and innovations in order to treat market and product risks.

**Insurance**

The traditional way of hedging risk is by transferring them to insurance companies. For Nokia, this can be used as a treatment for several risks, such as political risk, turmoil, war, terrorism, catastrophic events, failed products, accidents etc. Equity risk, for example, can be treated by reinsurance or hedging (Merna and Al-Thani, 2008). Nokia will cover different risks with different insurance companies and may be also have a captive insurance.

**Sustainability**

According to its “Sustainability Report 2011”, Nokia is already working hard to achieve the competitive advantage in this field.

During the production process, the focus is on energy efficiency and the sustainable use of materials. Nokia is increasingly purchasing green energy in order to reduce CO2 emissions. The mobile phones are made with materials that can be re-covered and re-used as materials, or to generate energy in the recycling process.

Nokia very carefully selects suppliers in order to ensure they comply with environmental and social requirements. They are also tracing down the origins of raw materials and try to ensure their mobile phones are free from “conflict minerals”. For the same reason they are part of alliances such as the “Public-Private Alliance for Responsible Minerals Trade” and cooperate with NGOs. Nokia is also the first mobile phone manufacturer to have a “full material declaration of mobile devices”. The Nokia Substance list is published annually to show their products are free of bad chemicals.

Concerning electronic waste, Nokia has sophisticated strategies such as creating awareness for recycling and offering “the world’s largest take-back programme for old mobile devices”, in which they take mobile phones from all brands and pass them on to entrusted recyclers.

Nokia also has an environmental-friendly and energy-efficient product range (including packaging) with green phones that are called “eco-hero devices”. A new strategy is developed to create solar-powered devices. They have also developed applications that offer innovative solutions to enable people having less impact on the environment.

The company is frequently setting targets and goals and reports its results back to the public. All in all, Nokia’s environmental strategy should be continued as it is at the moment.
Control, Observation and Assessment

There are a few risks that will be taken by Nokia, for example the risks connected to outsourcing. The mitigation that can be applied to these is to observe the political situation in those countries and have strict control mechanisms in order to decide to retreat if the probability or the impact of the risks becomes too high. Continuous monitoring of internal and external factors (for example by SWOT or PESTEL analyses) is essential in order to prepare for any kind of future events.

CONCLUSION

Although the mobile phone industry environment has changed drastically, Nokia has yet to adopt its strategies to realise the changes. However, in business, one regress as soon as one stops progressing, which has caused exactly the problems Nokia is facing. In order to get back on the track and create new opportunities, a company has to be daring and take new risks. One of the important principles it should apply is a very thorough risk management, because enterprise risk management helps an entity get to where it wants to go and avoid pitfalls and surprises along the way. This way should lead to innovation and continuous change, but yet it is questionable, if Nokia will be able to bridge the gap with the competitors like Apple, Samsung and HTC and if the evolutionary process of the survival of the fittest will eventually bring an end to the once most successful mobile phone manufacturer of the world.

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