STRATEGY TETRAD FOR EVALUATING STRATEGIC CHOICE

Marko Forsell

Central Ostrobothnia University of Applied Sciences, Talonpojankatu 2, FI-67100 Kokkola, Finland
Email: marko.forsell@cou.fi

Abstract. Evaluating business strategies is a neglected research area in strategic management literature. This might be caused by the fact that there are at least three essential reasons why evaluation is so hard: new strategies are created to replace old ones, so strategies "must" be better; benchmarking strategy with competitors' strategies leads to mediocrity, and you can only be sure of success after the fact. This paper first reviews literature to find the most common ways to evaluate strategies and then synthesizes these approaches in a model called Strategy Tetrad. The model is then applied to three companies in the mobile phone industry to test it. The paper concludes by suggesting that the Strategy Tetrad allows us to get deeper insights of the competitive advantage and, maybe even more importantly, the pitfalls that the strategy imposes onto the company.

Keywords: strategy, strategic management, strategy evaluation, strategy tetrad.

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1. Introduction

"Everybody has a plan until they get punched in the face", says Mike Tyson, former heavyweight champion in boxing. This is a good line to remember for all the strategists in the turmoil of the current economic situation. It seems that our plans did not survive the harsh reality. When making plans, they should fit reality. The plans should identify and overcome the key challenges and the implementation should be impeccable.

Strategy evaluation (Rumelt 1979) should be inseparable part of strategy building. However, quite often textbook approaches omit it or handle it as an after-the-fact rehearsal based on the financial results. This is futile in a sense that nothing is to be done to it and nothing useful can be learnt from it (Rittel, Webber 1973; Camillus 2008).

The purpose of this paper is to describe how evaluation is treated in strategic management literature and to see how it affects the formulation or implementation of the strategy. It is expected that better evaluation would lead to more robust and efficient strategies.

The aim of the paper is to build an evaluation model called Strategy Tetrad that allows us to a get deeper insight about a strategic choice and its strengths and weaknesses. Strategy Tetrad looks at strategic choices from different points of views and tries to see strategy's possible consequences in the future.

The Strategy Tetrad model is built based on existing strategy literature and it is tested by using it in the mobile phone industry. We use three case companies and identify their current strategies based on Resource Allocation (Bower, Doz 1979; Burgelman 1983) and Upper Echelon (Hambrick, Mason 1984) theories. These identified strategies are then scrutinized through proposed Strategy Tetrad model.

The rest of the paper is as follows. In chapter two the existing approaches to strategy evaluation are described. The research question and method are described more closely in chapter three. Chapter four build Strategy Tetrad model based on existing strategic management literature. The model is tested by applying it to mobile phone industry in chapter five. Finally, in chapter six conclusions are presented.

2. Literature review

The basic strategy process goes, according to the planning school, that you first appraise the internal and external environment, and then generate a set of solutions, next, select one, and finally, implement it (Mintzberg *et al.* 2009). But this is only true in the textbooks: in reality the strategy creation can be described as an ill-structured or wicked problem (Rumelt 1979; Camillus 2008). Ill-structured problems' structure lacks definition in some respect, e.g. a clearly defined problem or solution spaces, a clear set of criteria to test the solution, or a clear set of solution steps from start to end state (Simon 1973). Wicked problems are almost always societal problems which have no clear end state or knowledge when the end state is achieved. Rittel and Webber (1973) list ten properties for wicked problems claiming e.g. that the so-

lution is not true-or-false but good-or-bad, and that every solution to a wicked problem is a "one-shot operation": and a solution always leaves marks in the environment. The basic *strategy process* includes at least the following steps (Rumelt 1979; Mintzberg *et al.* 2009):

1. Structuring Problem.
2. Generating Solutions.
3. Evaluating (or Testing/Simulating) Solutions.
4. Selecting (and Implementing) Solution.
5. Evaluating Implementation (and Strategy).

A great deal of the strategy literature stems from so-called classical strategy theory. It has its roots in industrial organizations, and the prominent framework of generic competitive strategy comes from Porter (1980). There are extensions and competing frameworks (Mintzberg 1988) and these have been evaluated by a number of studies (e.g. Cambell-Hunt 2000; Kotha, Vadlamani 1995). The classical strategy theory is based on the Structure-Conduct-Performance framework which dictates that the performance of the companies depends on the environment. The main objective of this line of research is to help managers conduct steps 1 - 4 of the strategy process quickly and efficiently. The resulting strategy frameworks offer criteria to look at the environment, e.g. the market scope (broad vs. focused) and the source of competitive advantage (cost vs. differentiation). The possible solutions are generated according to criteria such as Cost Leadership, Differentiation, or Focus. The evaluation and selection of the strategies is done by putting the company into this framework. The laborious task that is left to managers is to find the right kind of actions to implement the selected strategy. There is a wide range of research studies that follow this line, but they are mostly verification-oriented follow-up studies.

Step one of the strategy process is in many ways very important for classical strategy theory since it states what criteria are important to look at in the environment, and usually these criteria dictate what kind of strategies companies can have and what they should select. Lawless and Finch (1989) conclude that the environment, at least partly, dictates what kind of strategy works. Bourgeois (1985) advices that in the volatile environments companies should acknowledge this, and Venkatraman and Prescott (1990) remind that successful firms adapt to their environment. Finally Audia *et al.* (2000) raise a voice of warning stating that successful companies are very reluctant to adapt to the significant changes in of the environment, and thus are in danger of losing their competitiveness.

Step two in the strategy process creates a number of strategic choices. Often these are based on critical environmental criteria. Gingsberg (1988) looked into large and established organizations and how they create new strategies. He summarized that there are no definite answers but that the fit between internal and external change seems to be critical. This should not be a surprise given the context. Selecting between choices can be eased up by using quota or level requirements in cutting off choices (Feinberg, Huber 1996). However, Bhide (1994) looked at how successful entrepreneurs craft their strategies and concluded that there is little room for researching and analyzing strategic choices. Successful entrepreneurs concentrate on a few key issues and quickly try out different strategies in practice. Entrepreneurs go quickly through steps 1 to 5 in the strategy process. This kind of approach is not feasible for large companies.

The corporate level strategies widen strategic options somewhat, i.e. they help to create a few more strategic options (see e.g. Grant 2010) in step two of the strategy process. Basically the corporate level strategies provide an answer to the question what businesses the company should be active in. There are three different options here: to stay on current markets, to diversify on related markets, or to diversify on unrelated markets (e.g. Keats 1990; Gupta 1987; Amit, Livnat 1988). The other dimension is to decide if this should this be done domestically or internationally.

King (1983) wants to evaluate the whole strategic planning system. He casts a shadow of doubt on the idea of centralized planning, as does Mintzberg (1994). King offers 12 evaluation points for the strategic planning system, and one of them is 'Relative worth of Strategy', which suggests that a strategy should be assessed based on some external standards. This is step three in the strategy process. King offers Rumelt's (1979) evaluation criteria for this, which is the focus of this article.

The first major difficulty to evaluate different strategic options arises from the fact that there is no generally agreed definition of strategy (Whittington 2001), so it might not be such a big surprise that basic strategy textbooks do not raise the issue of strategy evaluation (see e.g. Grant 2010; Johnson *et al.* 2005; Barney, Hesterly 2010; Hill , Jones 2007; Volberda *et al.* 2011), and even if you take textbooks that should go deeper in the issue of strategic management and evaluation, you can barely find a mention of strategy evaluation (e.g. Faulkner , Campbell 2006; Ambrosini *et al.* 1998). Add human factors to the challenge of evaluation, and you may be assured that evaluation is quite often superficial (see Tichy 1993). Few basic

strategy books do take evaluation of strategy into consideration (Mintzberg *et al.* 2003; David 2005), and they rely on Rumelt's framework. Mintzberg *et al.* (2009) notify that Rumelt's framework is one of the best evaluation tools for strategy. Rumelt (1979) requires that strategies must pass test for

1. *Consistency*. Strategy policies and actions must be in coordination.
2. *Consonance*. Strategy must present an adaptive response to key trends in environment.
3. *Advantage*. Strategy must maintain or enhance existing competitive advantages, or it must create new ones.
4. *Feasibility*. The company must be able to implement strategy with its resources and it should not create new bigger problems for the company.

Rumelt's criteria tell us what are the necessary properties of a good strategy but nothing more. There is some research available on the assessment of the strategy. Morecroft (1984) states that the major challenge in evaluating strategy is to deduce the consequences of choices. According to him, we need models for strategy evaluation. Morecroft's analysis method is built on systems theory and simulation. As a conclusion Morecroft states that to create strategy, managers need a model, not a formal one necessarily, that supports dialogue in the company. Weigelt and MacMillan (1988) trust game theory to aid managers in evaluating what kinds of moves are available and what are the possible reactions of competitors. Their model supports phases 1 to 3 in the strategy process. As a conclusion they also raise the issue that one of the most important things this model enables is fruitful communication about the strengths and weaknesses of each strategy. Lempert *et al.* (2006) present a method to make decisions in deep uncertainty. It draws its theoretical base from scenario planning and mathematical simulation. Also, to them, one of the main contributions of the tool is that it enables dialogue between managers when they assessing different strategic options.

All of the above mentioned strategy evaluation methods create criteria for evaluation as part of the method. In addition, the focus is on strategic action rather than looking at strategic policies. There is Donaldson's (1995) tool for Strategy Audit which is aimed for boards but that concentrates mainly on evaluating financial performance and how much value the owners are getting for their investment, and thus this tool rather belongs to step 5. Donaldson, however, notes that open dialogue is one of the key things that his method gives.

3. Research question and methods

There are inherent problems in evaluating strategy: definition of strategy; evaluation of strategy not implementation; what the focus of evaluation is; how to handle the consequences of strategy; and how to use external criteria. The research question for this study is: *How to evaluate strategic choices and their consequences?*

The model is built by first defining strategy. Then we build our model synthesizing existing strategy literature. The resulting model called Strategy Tetrad is tested empirically. We selected three ICT companies that are especially active and interesting in the mobile industry, namely Apple, Google, and Nokia. These companies were selected because Apple is the current market leader in smart phones, Nokia is the current market leader in mobile phones, and Google is a very interesting challenger with a wide base using its free mobile phone operating system (OS). It would also be possible to take one company and try out different policies which would be the usual way to use the Strategy Tetrad, but that needs to be done in a case study. The ICT industry and especially the mobile phone industry is selected for two reasons. First, it is going through substantial change due to the technological shift that cloud computing is giving (Fenn 2010). Second, author has more than six years of experience in the ICT industry.

Of course it is naïve to expect that an outsider can thoroughly evaluate company strategies (see Snow, Hambrick 1980 for a good list of problems in strategy research). And yet it is as true that even companies themselves may not exactly know their own strategy-in-action (cf. Argyris, Schön 1974). However, we will tackle this problem by using two theories that help an outsider understand a company's strategy. First, we will use Upper Echelon (UE) theory (Hambrick, Mason 1984), and secondly, we will use Resource Allocation (RA) theory (Bower, Doz 1979; Burgelman 1983). The reader should also remember that even if we miss the mark in strategy identification, it does not affect strategy evaluation per se. In using UE theory we concentrate on the CEO and his background. We use Internet sources Forbes.com, Wikipedia, and press releases from each firms web pages. In using RA theory, we rely on the press releases during last twelve months (U.S Securities and Exchange Commission (SEC) and Web pages) and the latest 10-K Report sent to SEC (Apple and Google) or 20-F (Nokia). Using these theories and sources, the main strategic challenge and policies used to overcome it are identified.

UE theory proposes that a company's strategic direction can be predicted from the background of

its management (Hambrick, Mason 1984). The characteristics that affect strategy formulation and selection are age, functional track, career experiences, and education, among other things. Of course external environment does affect choices and their efficiency. Especially significant seems to be the functional track and career experiences. For the functional track, Hambrick and Mason use three categories: output, throughput and peripheral functions. The output functions include marketing, sales, and product R & D. The throughput functions include production, process engineering, and accounting. Peripheral functions are made up of law and finance.

RA theory describes how the allocation of resources in the front line of the organization defines the strategy of a company (Bower, Doz 1979; Burgelman 1983; Noda, Bower 1996). It is not always self-evident that the top management knows the actual strategy (see Burgelman 1991). According to RA theory, the investments follow existing understandings of the strategy. There is induced strategic behavior which is set up by the top management. However, inside the existing structural context, front-line managers exhibit autonomous strategic behavior, thus creating new strategies that will be, if successful, incorporated in the corporate strategy.

4. Development of the strategy tetrad model

The development of the model starts by defining what the strategy is. With the clear definition of strategy the target of evaluation becomes clear. We define strategy based on following Rumelt (2011) and Hambrick and Fredrickson (2005). These two definitions see strategies as made up of three important constituents: (1) there is an internal or external challenge to overcome, or an objective to achieve. The right identification of this is the first task. (2) At the heart of the strategy is a policy or "the central integrated, externally oriented concept of how we will achieve our objectives" (ibid. 53). (3) Finally, there is a group of key actions which when orchestrated together will fulfill the policy that will get the company closer to its objectives.

The first task in creating a strategy is to identify the key challenge; only after this can the creation of different polices to overcome it start. In this article we are not evaluating the identified key challenge but only the strategic policies to overcome it. We will also leave out of our consideration the specific actions that fulfill the policy, since there is no point in evaluating these until the right strategic policy is selected. We will specifically concentrate on step 3 of the strategy process. The evaluation of implementation is also futile if

we are to take Camillus' (2008) words seriously that strategies are wicked problems.

The next and the most important question is how to evaluate the consequences of different strategic policies. Here we turn to McLuhan and McLuhan (1988) and use their Media Tetrad. They claim that the Media Tetrad can be utilized to evaluate effects of technological innovations and human created artifacts including ideas. It has four parts which are presented as the following questions (ibid. 98-99):

1. What does the artifact enhance or intensify or make possible or accelerate?
2. What is pushed aside or obsolesced by the new artifact?
3. What recurrence or retrieval of earlier actions and services is brought into play simultaneously by the new artifact?
4. What is the reversal potential of the new artifact?

These four aspects serve well as the starting point for strategy policy evaluation. Of course one should keep in mind that strategies must still fulfill Rumelt's (1979) original four criteria and that the premises, i.e. interpretation of current strategic challenge, are the correct one. Next we will present four essential perspectives of strategy evaluation, which look at what proposed strategy policy reinforces, reduces, retrieves or may reverse into. We will call this evaluation model the Strategy Tetrad. A summary of key questions in each perspective concerning strategic policies is presented in Table 1.

4.1. Reinforce

The holy grail of strategic management literature is to be found in (sustainable) competitive advantage (for an extensive set of references see e.g. Barney, Hesterly 2007). Strategies should improve a company's competitiveness and create unique competencies (Prahalad, Hamel 1990). Strategic policies should reinforce existing competencies, or at least keep them at a competitive level. Also, some new advantages might be needed and thus reinforced. When looking at strategy policy, the key advantages should be identified that are necessary in order to overcome challenges.

Table 1. Strategy Tetrad's key questions

Reinforce	Reduce
How does policy reinforce the competitive advantage? What new advantages are created or old ones dropped? What is made possible or what is accelerated by the policy?	What advantage is reduced with policy? What kinds of advantages are made futile? How is competition reduced?
Retrieve	**Reverse**
What is brought from the past? Are there some lessons learnt that are in used here, or should be used? Are the premises the same; if not, what are the effects?	When taken to excess what are the consequences of the policy? What kind of actions, when taken too far, might harm the company?

4.2. Reduce

The other thing to consider in strategy is to somehow reduce competition. There are some direct measures that companies make in order to reduce competition, such as hiring key people from their competitors, but there are also a lot of strategic actions that may reduce competition in other ways. One useful framework here is Porter's five forces (Porter 1985). A company can for example build entry barriers to our industry to reduce competition. A totally different approach is presented by Kim and Mauborgne (2005) who argue that the best way to compete is not to compete at all but find a new basis for competition. A strategy that has been time proved and nearly always seems to work nicely is to create niche markets. A good position in one specific niche is like a little monopoly with no room for competition.

4.3. Retrieve

Strategies are not created in isolation, and they are often built on lessons learnt. There is a number of studies that try to identify those key elements that should be found in all successful organizations (see e.g. Collins, Porras 1994), and one way to evaluate strategy is to benchmark it. Also, there are successful moves in the history of the company and industry that might be fruitful. For example, most classical strategy literature is helpful, e.g. generic competitive strategies, industry maturity, and BCG matrix. It is good to identify the sources where ideas come from, and this way the premises of ideas can be challenged. It might be that the proposed strategy did work in the past, but some key aspects in the environment have changed. Al-

so, some successful strategic moves in big companies do not work in for SME companies.

4.4. Reverse

Even the best companies and strategies can be a source of failure. Successful companies may become prisoners of their own success and slowly the strategy will be outdated. Miller (2004) describes the Icarus Paradox which proposes that success leads to specialization and is exaggerated. Slowly it becomes an unchallenged dogma inside the company. Also, Miller and Friesen (1978) describe strategy archetypes, and some of these archetypes are the basis for failure. Thus it is not enough that a company has a good policy in place, but it has to stretch it to see where having a hugely successful strategy might lead the company. This gives good signposts for the future developments to warn company that it is going too far.

5. Testing strategy tetrad

Here we first use Upper Echelon and Resource Allocation theories to identify the strategies of Apple, Google and Nokia. Next, the Strategy Tetrad is tested on identified key challenges and strategic policy.

5.1. Strategies of companies

Each company's CEO's background and key actions based on internet sources, press releases during last 12 months, and the company's annual report are reported here.

Apple Inc. The CEO of Apple is Tim Cook, 50, who replaced the iconoclastic Steve Jobs 24 August 2. Cook's background is in production and logistics, and his functional background is in throughput functions. He joined Apple in 1998, and before Apple he worked for Compaq and IBM.

Apple states in its annual report that its strategy is about creating user experience through innovative hardware, software, peripherals, and services. Apple believes to fulfill these needs with the marketing and R&D. It also acknowledges the need for third party involvement in creating value for customers. Apple's press releases mostly concern the product and Apple Store launches. One new significant launch was iCloud which is a new service for its customers. Also, updates for the highly successful iPhone and iPad were launched. Significant news was to appoint Robert Igor, CEO of The Walt Disney Corporation, to the board and to appoint Art Levinson as Chairman of the Board. Igor's background is in throughput operations and

in management. Igor started as a weatherman and rose through the ranks to his current position. His most significant moves in Disney were acquisitions of Pixar and Marvel. Art Levinson's background is in Research, thus in output functions.

Google Inc. Google's CEO Larry Page, 37, is a co-founder of Google, and he used to be CEO of Google during 1998-2002. Now he started again as a CEO on 4 April 2011 replacing Erich Schmidt. Page's background is in R&D, and he developed the highly successful search algorithms and methods behind Google's success, so his functional background is in output functions. There are no other significant previous employers.

According to the annual report, Google's strategy states that Google is focused on improving the ways people connect to information and access it. Revenue is primarily created by online advertising. When going through press releases one can notice that the most significant news has been acquisition of Motorola Mobility. Other news concern web-based application updates and launches.

Nokia Corporation. Nokia's CEO Stephen Elop replaced former CEO Olli-Pekka Kallasvuo 21 September 2010. Elop's former employers were Microsoft (2 years 8 months), Juniper Networks (1 year), Adobe (1 year) and Macromedia (7+ year). Elop's career started at Boston Market where he served as CIO. Elop's background is in peripheral functions. Elop has been involved with a few some major mergers, first with Boston Market and then with Macromedia.

Nokia has made a significant strategy move by starting co-operation with Microsoft and by abandoning its own OS development and starting to support Microsoft's mobile phone platform. Nokia's strategy rests on three pillars: gain its leading position in smartphones, fortifying its position as a leader in mobile phones, and investing in new technologies. The most significant product launches by Nokia have been two new phones on new platforms, namely N9 on MeeGo OS and Lumia series on Windows 7 OS. Nokia also acquired wireless network infrastructure assets of Motorola Solutions.

5.2. Evaluating companies' strategy policies through strategy tetrad

Next we will evaluate each company's strategy policy by using Strategy Tetrad.

Apple Inc. Apple's biggest challenge seems to be to assure customers that it can continue on its path without Steve Jobs and also to rise as remarkable player in the ICT sector and in the light of Cloud Computing. The strategic policy here seems to be to acquire all needed resources to it and to build the necessary core services by itself.

Reinforce. Apple trusts its own strong brand and fortifies it with constant product launches. It carefully builds the compatibility between its products. iCloud is currently offered to Apple users only, and it will be critical strategic choice if it is opened for rest of the world. iCloud to other than Apple users. The recent changes in its management might give us a hint that more careful and tighter production is coming on the way, and thus Apple may open up cost effective services and products for the masses. One can also see from the board that they have capabilities to start making strategic acquisitions.

Reduce. Apple reduces competition by tightly coupling its products and services. It might respond to the competition with reduced prices if it is able to tighten up its production. Apple has created its own strong niche, and Apple users are very reluctant to change to any other products, regardless of the prices or services.

Retrieve. Concentrating on creating overall architecture and holding all components in the company's own hands have been a proven tactic in the technology industry. Time after time new technological innovations are at a beginning monolithic, and only with time they modularize. If one looks at Apple's actions through the lens of Cloud Computing, one can see that Apple does have all the major components in its hand; its own OS, own devices, own cloud, and own services and software. Apple has been successful in its earlier turnarounds, so it should not be too hard to make the necessary changes at this point of time.

Reverse. Apple has once hit the wall with overconfidence in its own products and this nearly killed the company. It grew to become quite a stagnant bureaucracy (cf. Miller, Friesen 1973). One chance is that this strategy will turn an innovative company to a Tinkerer (cf. Miller 2004). A certain kind of quality and user friendliness image may be pursued too far, and this may scare other than the most enthusiastic users away from its products. It might also be that from Jobs tenure one recalls only the innovative products and neglects the fact that Jobs was very business oriented (see Rumelt 2011). Now one can see that e.g. the iCloud service is only launched to the users of Apple products. Apple's market share is in computers and mobile phones only a fraction of that of market leaders. If Apple continues in this road and

does not e.g. acquire the necessary knowledge, the current strengths can turn to weaknesses. Key signposts to follow are the following: a) Are market shares rising fast enough, or is the company turning more inside? b) Can Apple avoid the trajectory to become a tinkerer and open up its environment to collaboration.

Google Inc. The key challenge for Google is to become something more than a search engine and web storage. Google has the necessary market share and enough resources, but now it faces the challenge to build up credibility as a true ICT company with tangible products. The key policy here seems to be confidence in R&D and to develop and buy capabilities as an infrastructure service and product provider.

Reinforce. Google improves its position as a leading information provider for web users, and continuous innovative product releases and updates keep up this image. Google has an important role providing key infrastructure services such as web search, map services, and mobile phone OS. It also has enough resources to pursue other avenues. By buying Motorola it bought in massive amounts of mobile device capabilities and it also has a proprietary OS for mobile devices. Google is strengthening its key areas and also developing new important capabilities that are needed in cloud computing.

Reduce. Google's tactic of reducing competition is to give services for free. This cuts revenue sources from its competitors. Google's map service forced Nokia to acquire NAVTEQ and to offer similar services free as part of its phones. Also, giving mobile phone OS for free for phone manufacturers is changing the mobile phone industry. New key players in the mobile phone manufacturing are rising as old ones are dropping out.

Retrieve. Like Apple Google is following the learned wisdom that in technological changes you need to be able to manage all the required technologies. This can also be seen that Google is getting ready for cloud computing. But one see the hints of IBM's strategy with PCs when IBM separated OS and PC. This allowed very rapid growth of the industry, and this is exactly what is happening with Google's moves in the mobile phone industry. IBM is one of those few technology companies that have been able to renew itself over the years, which is not a bad example to follow. Free OS, free software, free cloud, so is the next step going to be free devices?

Reverse. Google's rapid innovation mill keeps creating and destroying new services more rapidly than the average net user is able to use, which might lead to be an Escapist (cf. Miller 2004). This is not solved with a new CEO with R&D back-

ground. It might be that with the resources Google has and the freedom to innovate may lead the company to be a headless giant which does not know where to go next (cf. Miller, Friesen 1978). Google is an expert in web environment, but mobile devices and mobile environment is a new area for them, and the CEO does not have any background in other environments. The key signposts to follow are the following: a) Is the cloud computing environment mature enough to separate OS and devices, or should they be tightly coupled with cloud services, b) Is Google able to create a credible image as a company that can make money other ways than advertising and giving everything else out free?

Nokia Corporation. The main problem for Nokia is to turn its stagnant bureaucracy (cf. Miller, Friesen 1973) to become a leading innovator in the mobile phone business. Its strategic policy seems to be to build up ecosystems and to again get become a leading smart phone manufacturer, and both of these with the help of Microsoft.

Reinforce. Nokia is concentrating on its core competencies in mobile phone design and manufacturing and relies on Microsoft to give OS. In a way Microsoft is a logical partner with the massive amount of third parties and customers. This should at least provide chance to build a working ecosystem. Nokia has not been able to build up lively ecosystems and services earlier. Also, Nokia has always been a technological leader in mobile phones, so this should be kept like that. The purchase of Motorola Solution's network infrastructures gives us a hint that Nokia is not going to let its technological lead away.

Reduce. With the Microsoft co-operation, Nokia is trying to reduce competition between mobile phone OSs. Manufacturers using Android are numerous, and Apple's role is to be A leading smart phone manufacturer. Both of these OSs have good ecosystems already around them. Nokia seems to betting that in the future PC, and mobile phone OSs must be more integrated. This is what is happening also with Apple and Android/Linux groups.

Retrieve. Joining forces with Microsoft 1997 paid for Apple, and it was the beginning of Apple as we know it now. It also seems that Nokia sees that mobile phone industry is ready for the step to separate OS and device as Android has shown. This is also a very logical step for Nokia, which has continuously outsourced work as it has become a commodity. Nokia was once known as the most user-friendly phone, and now this is again as its goal.

Reverse. Nokia was and maybe still is Tinker-er (cf. Miller 2004). It focuses too much on technology even with the cost of usability. Elop is probably driving Nokia to very close co-operation with Microsoft, and one danger (or possibility) is that Nokia will be acquired by Microsoft. This would probably suit very well for Microsoft. The problem here is again that two quite independent and big companies may have quite different goals, and this could again create a headless giant which is unable to move in any direction. Things that should be followed carefully include these: a) Nokia does not have its own OS, and if Nokia loses enough money and cannot invest, only the logical step will be to merge with Microsoft, b) is Nokia able to utilize the Microsoft OS and build user friendliness back in its devices and services.

5.3. Summary of strategy evaluation

There are some interesting thoughts that the Strategy Tetrad is able to raise. First of all, the turbulent times in mobile phone industry has left it marks, as all the companies discussed above changed their CEO recently. Something new was needed to be done at Nokia and Google. With Apple the change was unavoidable.

It seems that all of the evaluated companies interpreted their environments gaining the insight that the leading ICT companies must be active in cloud computing. This is one aspect that the companies seem to be getting ready for. When we look at things purely from the cloud computing point of view, we can see that Nokia/Microsof and Apple are in the best positions. They have OS, hardware and content. To be so dependent on Nokia, however, might be unbearable for Microsoft.

It is also interesting to notice that when the reverse sides of strategy policies are looked at, we are able to identify important signposts to follow. All the four perspectives help to see strategic policies in a richer context.

We can see that strategies do arise from common wisdom in industry, and that there are always possibilities for something to go wrong. There are some strategies that are very vulnerable (Nokia) and others that rely on many avenues (Google). We can clearly see that assets and resources do create strategic freedom.

6. Conclusions

This paper aimed to develop a new model to evaluate business strategy. It started by looking at what constitutes the strategy process and how evaluation is done according to strategic management literature. The main conclusion here is that the classic approach offers ready-made categories and static strategies for companies. Also, evaluation of strategy is quite often evaluation of results, which is under dispute because it is hard to find out if the problem lies in strategy, environmental changes, or with lies in implementation. The strategy evaluation methods usually focus on strategic actions, and they create criteria during the evaluation.

This paper presents a new model called the Strategy Tetrad to evaluate strategic policies. It is based on literature and it is a synthesis of existing evaluation approaches. It was tested by analyzing the strategies of three companies in ICT industry.

The main findings are that strategy evaluation is a neglected area of research. Evaluation has not been scrutinized thoroughly and a lot of work needs to be done. The Strategy Tetrad offers external criteria to evaluate a strategy policy consequence which is the most important factor when evaluating strategies. The Strategy Tetrad opens up fruitful a dialogue approach (Mason 1969; Mitroff *et al.* 1979; Mitroff *et al.* 1982) among managers and helps to create meaningful signposts that can be used to evaluate if the company is taking the strategic policies to the right direction.

The main limitation of this study is that strategies were evaluated externally. More long term case studies are needed. Also, more thorough literature research is needed to find out more external criteria to be used in evaluation. Third, it needs to be considered how strategy policy could be assessed in the other steps of the strategy process. The rudimental five-phase strategy process should be more fully explored finding out, in each phase, possibilities to evaluate strategy policy and to improve it, perhaps in the manner that King (1983) presented.

Evaluation of strategic choices and thorough discussions help organizations face the harsh reality of competition and markets. When the reality "hits" and competitors start to take actions, it is good to realize that company's will be the best one available in those circumstances and that a company should stick to it, and not change it when the first punches get through our defenses.

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