# Business model transformation as an explanation of dramatic demand-supply change events

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*Abstract*— **This paper discusses Business Model transformation in corporate turnaround events. This is accomplished with a Business Model Framework and by studying a set of cases, where demand-supply constellation has dramatically changed. The cases are from Finland (Nokia) and China (Baidu). A fourth case compares two business models with each other that existed simultaneously, but in different parts of the world.**

**It is commonplace that a Business Model is thought of as a blue print of a desired future business opportunity and as such it is often embedded in the business plan in a rather blurred form. It remains in history as a snapshot of thinking of its time and bears little support for business creation or navigation in turbulent circumstances.**

**Our ambition is to be able to suggest improvements to the state of the art by proposing better means to model dynamics of dramatic transformations that lead to turnaround of corporations.**

*Keywords*— *business design; business model; business model framework; demand-supply; change management; strategy map; red ocean; blue ocean; yellow ocean; green ocean*

## I. INTRODUCTION

This paper is a precursor of a new research on demand-supply networks from the point of view of strategic business management, at Aalto University in cooperation with the Chinese Academy of Sciences.

We hypothesize that a Business Model Framework is an appropriate means to model business before and after a dramatic change and transformation of the business, respectively. What's more, a Business Model Framework can be used to study business models that exist in parallel, separated e.g. by geographies. This 'compare and contrast' approach of investigating simultaneously existing business models can be useful from benchmarking perspective.

In this paper we discuss three different cases of great business transformation that in their times were considered crisis situations. The cases are Nokia (two cases) and Baidu. The fourth, longer, case study discusses the business models that were used in introducing i-mode to the consumer market in Japan, and in rolling out WAP services in Europe.

The rest of the paper is organized as follows. In section II a brief account of business model frameworks found in the literature is given, and rationale for choosing KITE Strategy Map for our study is presented. Section III summarises the three cases that are presented in terms of the selected concepts of KITE Strategy Map. Section IV gathers the findings from the cases into one explanation and a set of findings. Also, observations about the applicability of KITE Strategy Map to such explanation are offered. Finally, section V concludes the paper with summary of findings and discussion about the direction of future research.

## II. BUSINESS MODEL FRAMEWORKS

In Value Migration (1995)[1], Adrian Slywotzky wrote that products, technologies and manufacturing prowess alone can not create value growth any more. The new sources of economic discontinuity are business designs that meet customers´ most important priorities (p. 23). According to Slywotzky, a business design must answer the key questions about customers and offering and the way the organization delivers the utility. He recognized Toyota, McDonald´s and Carrefour as pioneers of business designs and wrote that we are entering the age of business design. Later, the term business model became more popular than the original term business design.

Same year, a team of Finnish consultants published a book on what they called "KITE framework"[2]. This was a holistic tool for modeling business with four perspectives: intentional (or leadership), internal (or resources, assets, structures, and

capabilities), external (or customers and markets), and operational (or processes). Owing to its shape in visualisations, with its four corners, it was named KITE Strategy Map. The KITE metaphor emphasises the connections between the kite's corners – i.e. the rods that hold the KITE together.

KITE Strategy Map was a summary of long consultant practice and experience, and at the same a classification of the main schools of management thinking. KITE Strategy Map provides a standard but flexible tool for framing and connecting specific issues and initiatives. Framing means that issues are consciously observed from different perspectives, with different methods, to avoid *single-issue management*[3].

Over the years, KITE Strategy Map turned out to be a memorable and flexible tool for practical purposes in communicating and modeling complex issues, as well as in collaboration across business functions. People understand the tool in seconds and remember it since that.

In their development of the Balanced Score Card methodology, Kaplan and Norton have proposed a Strategy Map to describe how the organization creates value [4].

As a business model framework, KITE Strategy Map has two main differences with respect to the Kaplan-Norton Strategy Map . The leadership perspective is added, but the number and names of perspectives need not necessarily be fixed and predetermined [5]. In addition, KITE Strategy Map can be used to describe business dynamics. For example, business transformation is defined as a multi-phased and multi-dimensional change process and described as dot clusters (Critical Business Issues, CBIs) [6]and arrows (thrusts) on the map. The dots must be aligned to form relevant constellations (fit). Further, connecting and phasing the dots over time traces reactive and proactive business moves and the trajectory of the whole transformation. The dynamics of moves on the map resemble the arrows that sports coaches draw on whiteboards except that the playfield and rules are not given and players come and go and form new teams all time.

The four KITE perspectives are:

– *Leadership* with *vision, purpose, beliefs, culture* and *values* set unified, visible and stretching aims and explicate and share cultures and values. Diverse local cultures can be an adaptive resource and requisite variety for localization or as a growth springboard.

– *Customer* perspective describes the offering, segments and value.

– The core business *processes* are usually engagement, delivery, innovation and management.

– *Assets* or *resources* include physical offices, plants or shops, web and other digital assets, people and organization and intangible *competences* and *capabilities.*

KITE Strategy Map contains a strong color-logic which is based on life cycle maturity. The four strategy map quadrants are colored:

– North-east: Blue – visioning, leading and dreaming

– North-west: Green – growing, nurturing

– South-east: Yellow – maturing, managing

– South-west: Red – danger, pruning

These colors have analogies to Kim & Mauborgne's (2005) [7] blue versus red ocean strategy, but we also have green and yellow seas. Typically, startups tend to have external problems with customers and old big firms have internal problems. A healthy portfolio of CBIs is multi-colored like a rainbow, and a single-color dot cluster is a symptom of single-issue management, although during certain eras issues gravitate to some quadrant.

KITE Strategy Map is dynamic form-changing tool, not a static criss-cross of rigid one-way causal paths from X to Y. New issues – CBIs as "points of interest" – pop-up on the map and vanish from it when they are solved. Some of them are short-lived, some more permanent. Some are surprising "black swans", some are forecasted. The current snapshot or short list of CBIs is the "relevance landscape". The more permanent locus of CBIs represents a "strategic style" [8]. Thrusts (a concept coined by H. I. Ansoff in the 1970s) describe changing causalities. Thrusts arise from external or internal business moves [9]. A long-term strategy map shows how "wind" changes direction, circulates and creates new thrusts (generated by internal intent or external adaptation or life cycle maturity).

Finally, KITEs are fractals at ecosystem, enterprise, and business levels. Sometimes divisions are a mid-level between businesses and enterprises. Enterprises have multiple simultaneous initiatives which run as programs. They target capability development (such as emerging market sales or R&D or manufacturing), talent management (people), strategic customers, processes and systems. In other words, all quadrants of the strategy map.

**Strategy map**

Varying shapes and center of gravity

Changing causalities
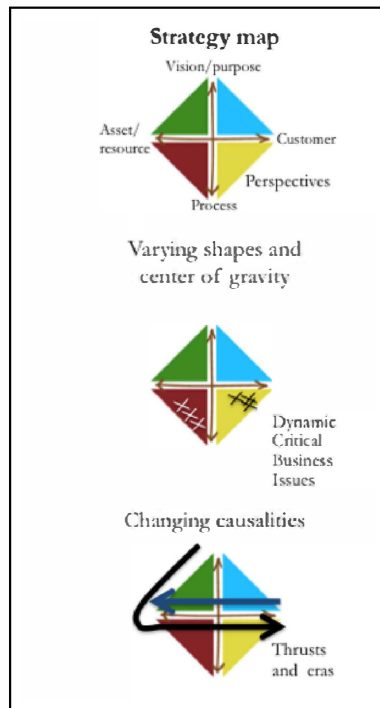
III. THREE CASES OF DRAMATIC CHANGE & ONE CASE OF
BUSINESS MODEL COMPARISON

### A. NOKIA, logistics crisis

During its history since 1865, Nokia has jumped several "S-curves" of technological development. The corporation has jumped from paper to rubber, cables, aluminum, and electronics. These are known as 'long waves' in management literature. The venture into electronics and further to information and communication technologies (ICT) during the 1960s enabled Nokia to e.g. sell and manufacture computers, produce telecommunications switches, and finally mobile phones. In 1992 Nokia decided to concentrate only on mobile phones, as the company had diversified too much and parts of it (e.g. television business) were unprofitable. Note that the changes that happened during this period, happened inside a single 'S-curve', the mobile phone business. In effect, Nokia decided to focus on to only one of the various ICT 'S-curves', mobile phones.

During the post-1992 era, Nokia has also weathered several storms of which two are going to be briefly described here.

The first crisis was about logistics and happened during 1995-1996. In perspective, 1995 was the year when GSM mobile telephones started to grow exponentially in popularity. As is customary during 'start-up' phase of business, Nokia concentrated on channeling the new know-how to the market as quickly as possible. Sourcing, material planning and logistics were done in an ad-hoc manner. When the demand exploded, Nokia was unable to produce telephones because of material shortages.

This type of crisis is very typical during the S-curve turning into a tornado. Nokia responded by designing and implementing global demand-supply network processes and operations, and the problem was solved.

In terms of KITE Strategy Map, the crisis was caused because the Process perspective was not paid enough attention to. When the KITE became healthy again (i.e. operational excellence rose), Nokia was ready for the exponential growth of years 1997-2000.

### B. NOKIA, form factor crisis

A second crisis happened during 2003-2004. During that time consumer preference turned toward "clam shell" mobile phone form factor. At that time, Nokia did not believe that "clam shell" would become a dominant design, and thus chose not ~~not~~ include it in their portfolio.

In terms of the KITE Strategy Map, Nokia's view of customer value (the East direction) did not include "clam shell" phones. The capability to build "clam shell" mobiles (the West direction) was there, but the portfolio planning (the East direction) did not believe in their becoming a dominant design. The strategic leadership made the critical choice based on this view.

When this situation was noticed, it was decided to quickly take the "clam shell" form factor into Nokia's portfolio, and the market situation was rectified in 9 months.

### C. BAIDU, market segment failure

Baidu Inc. operates the number one search engine in China, and is the most visited Chinese web site. Its business is quite similar to Google, so it is called "the Google of China". The company's core business is selling advertising online, and it offers various services to users (content search, news, community-based information sharing, etc.) to create an audience for its paying customers' ads.

In year 2000 when Baidu was founded, it executed a B2B business model. It offered search engine service to other web sites. Although it had excellent enabling technology and great assets, the company was not profitable. In 2001, the leadership of the company decided to change business model from B2B to B2C, and published its searching engine to public. After that, the company's financial status got much better, and in 2004, the company became profitable.

This business model change can be explained by KITE Strategy Map. The business model change was initiated by leadership. After the leadership re-defined their business, i.e. from B2B to B2C, the company's resources and processes were changed correspondingly. Then, the company's services were targeted toward consumers and citizens, rather than other businesses and organizations and their web sites. By this business model change, the company got great success.

### D. Explaining success/failure of two temporally co-existing business models: WAP in Europe & i-mode in Japan

Another potential application of KITE Strategy Map is to compare the success and failure of co-existing business models. One such example is WAP (Wireless Access Protocol) in Europe and i-mode in Japan. The two business

models were in existence simultaneously, with one (i-Mode) being very successful, and WAP being a failure (initially) [10].

The difference between WAP and i-mode may be analyzed via KITE Strategy Map. The intent of both technologies was to enable the use of internet in mobile devices. WAP Forum was originally a consortium of three parties: Ericsson, Nokia and Unwired Planet. WAP intended to establish a unifying protocol for internet access for all handheld devices. WAP had no clear guidelines for service providers, and this had a negative impact on user experience. The spectrum of released WAP services in Europe ranged from very professional to marginally better than 'beta release'. Also, the operators wanted to be gatekeepers of the Internet, and provided WAP services as pay-per-time to consumers. A further turn-off from consumer point of view was the fact that WAP services were very slow to use, and the consumer picked up the bill for the waiting time.

In contrast, the i-mode service in Japan was controlled by one operator – DoCoMo. i-mode was built on a restricted set of HTML (c-HTML) which was already popular with developers during the late 1990s. DoCoMo also provided hardware specifications for device manufacturers that maximized the user experience of i-mode services. Furthermore, tight guidelines were specified for i-mode service providers, and all services were inspected for compliance before public release. DoCoMo adopted pay-per-packet charging for i-mode services which greatly increased consumer appeal. The users could browse i-mode directories with no charge, and they would pay only for downloading service content.

In terms of KITE strategy map, WAP was technically oriented (West direction was strong), but all the other directions (North, East, South) were poor. The consumer experience (East direction) was lacking because of pay-per-time charging and varying quality of WAP services. The unorchestrated developer ecosystem processes (South direction) made possible the release of beta-level services. Finally, the strategy dimension (North) was lacking as the operators did not form tight relationships with the ecosystem. Moreover they kept the price of Internet surfing artificially high by pay-per-time charging model.

In contrast, i-mode was designed to be customer oriented (East direction) from the beginning. Pay-per-packet charging, DoCoMo-specified handset specifications and common look-and-feel of WAP services translated to very strong East direction of strategy map. The North direction was also strong, as DoCoMo formed strong partnerships with the developers and handset makers, and saw service providers as equal partners from the beginning. The clear service development guidelines and processes ensured strong South direction. Only the technological direction (West) was weaker than in WAP. However, this was also a calculated decision – the hardware specification was the minimum that would provide a great i-mode service use experience. All extra features were discarded.

Thus, KITE Strategy Map provided a tool through which the co-existing business models of i-mode and WAP could be compared. The strong consumer-centricity of i-mode helped it become very successful even though its technological choices were considered somewhat less advanced than those of WAP.

## IV. EXPLAINING A BUSINESS TRANSFORMATION WITH A BUSINESS MODEL FRAMEWORK

The first three cases summarised above are *before - after* pictures of the respective business models. We used KITE Strategy Map to explain crisis and what was done to rectify the situation – i.e. to make the KITE healthy. The fourth case displays another use-case for KITE Strategy Maps, that of comparing temporally co-existing business models. This is very useful for e.g. benchmarking purposes. The reason for including the fourth case study rests in the ultimate goal of the present research direction – we want to understand how the transformation to Mobile Internet really occurred. As such, understanding the precursors of Mobile Internet, i-mode and WAP, is of essence.

We have restricted the case analysis to the aspects represented by the KITE's corners only. The information about the internal corporate connections and management mechanisms was not enough to make an attempt in explaining them in terms of the connections between the KITE's corners. – Thus, to fully understand business transformation, it is crucial to analyze how a change in one of the four corners will affect others through the six available connections.

A small shift in one corner – say, a customer portfolio – does not automatically necessitate a large shift in the other three corners. In this case it can be argued that after a minor change a company is still adhering to the prevailing business model.

Sometimes a large shift in one corner will require a considerable shift in the other three corners. In these cases a company truly creates a new business model. One may even argue, that a true business model transformation requires a considerable shift in all corners of KITE Strategy Map. Small shifts in subset of the KITE Strategy Map spokes would not qualify as true transformation.

It is interesting from research point of view to understand these shifts in each of the four corners and their relationships to explain minor shifts of business model versus the creation of completely new business models.

All in all, we see that KITE Strategy Map is applicable for explaining companies' past turnaround situations. The descriptive power of KITE Strategy Map also allows for differential analysis between the *before* situation and the *after* situation over a transformation or a crisis.

## V. Conclusions and further study

The paper presents the first findings about the applicability of Business Model Frameworks to explaining past business transformations. - It will be interesting to study the applicability of Business Model Frameworks to the planning for a large-scale business change. If successful, it is conceivable that corporations could, with the help of a well equipped "business intelligence control room" actually design the next transformation ahead of time, and avoid a crisis that otherwise would provide for the burning platform that has imposed radical change in the typical case of the past.

We see that KITE Strategy Map is applicable for explaining companies' past turnaround situations. The descriptive power of KITE Strategy Map also allows for differential analysis between the *before* situation and the *after* situation over a transformation or a crisis. It is also possible to study how a change in one corner of the KITE will affect the others in designing a new well-functioning business model. This type of *delta* analysis can be a part of our future research.

As far as the case studies themselves are concerned, we have restricted the case analysis to the aspects represented by the KITE's corners only. The information about the internal corporate connections (between the KITE's corners) and management mechanisms was not enough to make an attempt in explaining them in terms of the connections. We expect the full descriptive power of KITE Strategy Map to increase the depth of insight into corporations' management in times of change. In order to harness this power, more accurate and extensive information about the critical business issues and the corresponding management decisions has to be acquired. This was left for further study.

The study has been qualitative, so far. Further study can be conducted on quantitative methods of analysis and planning of specific aspects of business transformation. Such aspects must be identified and corresponding measures and sources of data have to be discovered. It is possible that quantification of some critical business issues leads to supporting the investment decisions that are required in order to meet or lead coming change.

Another aspect of future research relates to cultural aspects of perception of the effectiveness of the business model, and consequently the identification and priorisation of Critical Business Issues. Future research can drill into the top corner of the KITE (strategic intent and culture) and attempt to integrate the cultural aspects into business model designs with the particular objective of addressing the globalisation challenges of demand-supply management.

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