

BUSINESS MODEL INNOVATION - A GAMBLE OR A MANAGEABLE PROCESS?

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ABSTRACT

Purpose – Any business model innovation process involves a certain level of uncertainty, complexity and, in effect, risk. A sloppy approach towards the management of risk may result in catastrophic, sometimes even fatal, consequences to a company's core business. Although risk, risk appetite and risk management are relatively well-established concepts, their role in business model innovation is not well understood. The objective of this paper is to investigate how risk, risk appetite, risk management and business model innovativeness interact to affect the success or failure of a business model innovation process.

Design/methodology/approach – Retrospective case studies of business model innovations undertaken by three industrial companies provide the empirical basis for this paper. These companies were selected based on their relatively successful, yet somewhat different, business model innovation experiences over the years, and focused on the, in total four, cases in which they failed to implement their new business model attempts successfully. The reasons that led to these failures are discussed.

Findings – Important factors explaining the business model innovation failure of

these cases, appear to be the company's risk appetite, the risk associated with the radicality, reach and complexity of the business model innovation, the management of risk, and especially the fit between these factors.

Originality/value – There are many lessons to be learnt from the aftermath of a failed attempt in terms of what not to do and what to improve a next time. The cross-case analysis produced six testable propositions that enhance our understanding of business model innovation success/failure, with particular focus on: characteristics of the business model innovation; overall innovation management; risk, risk appetite and risk management; and interactions and fit between these constructs.

Keywords: Business Model Innovation; Risk Management; Retrospective case studies.

1. INTRODUCTION

Business model innovation is risky business. The inherent uncertainty and complexity of embracing new business models (Berends et al. 2016) potentially jeopardize both the existing business and the new activities, which are subject to the new business model. Especially if a company follows a first mover strategy, arguing from a “*no risk no reward*” aphorism, a sloppy implementation approach towards business model innovation, let alone a complete business model renewal (e.g. Doz and Kosonen, 2010), may result in catastrophic or even fatal consequences to the company's core business (e.g. Taran 2011). Thus, managers should recognize that taking, while at the same time controlling, risks is fundamental to the successful development and implementation of a sustainable business model (Demil and Lecocq, 2010). However, although there is a

considerable body of literature on business models and their innovation in general (e.g. Wirtz et al. 2015; Zott and Amit 2010, 2013; Spieth et al. 2014; Baden-Fuller and Haefliger, 2013; Arend, 2013; Chesbrough, H., 2010; Teece 2010; Hock et al. 2015), risk management has not yet been fully incorporated into this core business decision-making process (Deloitte ERM survey 2008). Previous work focused primarily on linking risk management with project management (e.g. Chapman and Ward 2004; Kendrick 2003) and product innovation management (e.g. Keizer *et al.* 2002; Keizer and Halman 2007). This paper seeks to enhance the understanding of the potential interplay between risk, risk appetite and risk management in the context of business model innovation.

2. LITERATURE REVIEW

2.1 RISK, RISK MANAGEMENT AND RISK APPETITE

The term risk refers to “*uncertainty of outcome*” (Chapman and Ward 2004). Risk management has been defined as “*the systematic application of management policies, procedures and practices to the tasks of communicating, consulting, establishing the context, identifying, analyzing, evaluating, treating, monitoring and reviewing risk*” (ISO/IEC Guide 73 2003).

Although companies have successfully adopted risk management in their internal audit, treasury, insurance, health and safety, and legal functions, it has not yet been fully incorporated into core business processes related to future growth, such as strategic planning, capital allocation, and performance management (e.g. Das & Bing-Sheng, 1998; Deloitte & Touche 2008). This seems to imply that *unrewarded risks*, in the sense that no premium is obtained from managing them – only the potential for loss is reduced, are the main driver in today’s risk management practices. Apparently, managing *rewarded risks*, which are part and parcel of decision-making processes associated with

future growth, is not yet fully embedded in organizational change and innovation processes.

Furthermore, even if companies attempt to manage rewarded risks systematically, for example in project management (e.g. Kendrick 2003; Chapman and Ward 2004; Raz et al. 2002) or product innovation management (e.g. Keizer and Halman 2007), they essentially assume that those risks can be managed in isolation from the rest of the system. These organizations tend to perceive risk merely in terms of technical and market uncertainty and not in terms of a more comprehensive, i.e. an enterprise risk management (e.g. Arnold et al. 2011; Bromiley et al. 2015; Eckles et al. 2014; Quon et al. 2012), perspective. This narrow view on innovation could undesirably affect the allocation of resources available (Dillon *et al.* 2005), and, through that, overall innovation success. Recent surveys and studies (e.g. Taplin 2005; Deloitte & Touche 2008), however, have shown that a growing percentage of managers worldwide are interested in applying risk management in a much more comprehensive, i.e. proactive and holistic, manner. Yet, despite the benefits gained by applying risk management to enhance risk responsiveness (e.g. COSO 2004) and strategic decision-making (e.g. Hoyt and Liebenberg 2011), an over-abundance of risk management processes may be problematic as well in the sense that it may overload the system with too much and time-consuming control and bureaucracy (*cf.* Taran *et al.* 2013). Thus, although risk management is important, finding the right balance between risk and risk management is a serious challenge.

Risk appetite is “*the total impact of risk an organization is prepared to accept in the pursuit of its strategic objectives*” (KPMG 2009, p. 3). HM Treasury (2006) developed a risk appetite scale, which helps companies to map various possible impact categories (e.g. reputation and credibility; operational and policy delivery; financial and legal/regulatory

compliance) and to determine their corporate risk appetite on a scale ranging from:

1. “*Averse*” – Avoidance of risk and uncertainty is a key objective.
2. “*Minimalist*” – Low degree of inherent risk, but with a limited potential of reward.
3. “*Cautious*” – Preference for safe options that have a low degree of residual risk.
4. “*Open*” – Willing to consider all options and choose the one that is most likely to result in successful delivery.
5. “*Hungry*” – Eager to be innovative and to choose options based on potentially higher rewards.

2.2 BUSINESS MODEL INNOVATIVENESS SCALE

Taran et al. (2015) have identified three approaches to measure innovativeness. The first approach, associated with business model innovation radicality, “defines” business model innovation as a radical change in the way a company does business (Chesbrough 2007, Linder and Cantrell 2000). Linder and Cantrell in particular clearly attempt to draw a line in suggesting what can and cannot be defined as business model innovation.

The second approach defines innovativeness in terms of, what might be called, the reach of the innovation (e.g. Rogers 1983, Garcia and Calantone 2002). A suitable scale measures the degree to which an innovation in terms of “new to whom”, which could range from new to the company, via new to the market and new to the industry, to new to the world.

The third approach considers measuring the innovativeness of a new business model through its complexity, where any change in any of the (core) building blocks or the relationships between them could be considered as a form of business model innovation (Amit and Zott 2001, Osterwalder *et al.* 2005, Magretta 2002). Alternatively, in line with

Abell (1980) and Skarzynski and Gibson (2008), business model innovation could also be considered in terms of the number of building blocks that are changed simultaneously: any change in one of the building blocks would constitute a simple innovation, while simultaneous changes in all of the building blocks would be the most complex form of business model innovation.

If these three approaches are combined, a three-dimensional space, first proposed by Taran *et al.* (2008) and later published in Taran *et al.* (2015), emerges, which helps in qualifying the innovativeness of a new business model (Figure 1):

- **Radicality** – how new (incremental vs. radical) is each building block (see Table 1 for different examples).
- **Reach** – to whom is the innovation new?
- **Complexity** – number of building blocks changed simultaneously.

Please insert Figure 1 about here:

Figure 1: A three-dimensional (business model) innovativeness scale (Source: Taran *et al.* 2015)

Please insert Table 1 about here:

Table 1: Incremental and radical orientation to each building block

In this space, any business model innovation can be positioned in terms of its *degree* of radicality, reach and complexity. Some changes are more radical and/or complex than others, and some (e.g. radical product innovation, incremental process improvement) are better understood than others (e.g. a holistic, new to the world departure from all business models known so far). The basic assumption behind this paper is that the risks involved

in business model innovation increase with the radicality, reach and complexity of the innovation.

2.3 RESEARCH OBJECTIVE

The above discussion shows that risk, risk appetite, risk management and, to a certain extent, business model innovativeness are relatively well-established constructs. However, their role and interaction in business model innovation processes is not well understood. The objective of this paper is to investigate how risk, risk appetite, risk management and business model innovativeness interact to affect the eventual outcome of a business model innovation process, in terms of its “success” or “failure”.

3. RESEARCH DESIGN

3.1 CASE STUDIES DESCRIPTION

Four retrospective case studies of business model innovation processes undertaken by three industrial companies (Table 2) provide the empirical basis for this paper. These companies were selected based on their relatively successful, yet somewhat different, business model innovation experiences over the years, and focused on the, in total four, cases in which they *failed* to implement their new business model attempts successfully. The study began early 2009 and ended in 2013.

Please insert Table 2 about here:
Table 2: Company descriptions

3.2 DATA GATHERING TECHNIQUES

Given the exploratory nature of this research, the case study methodology was adopted (Yin 2003). Multiple qualitative data gathering methods were used to ensure the validity and reliability of the research. The desk research involved gathering of information

through books, articles, websites, as well as documents received from the three companies. The field research consisted of semi-structured interviews, e-mail correspondence and company visits. The questionnaire covered all five constructs (risk, risk appetite, risk management, business model innovativeness, success/failure) plus contextual variables (e.g. company background and strategy) and was semi-structured in order to allow the respondents maximum freedom to explain their views on the new business model and their understanding of the innovation process, and the researchers the possibility to discover unexpected yet relevant issues. The interviews were held with the companies' middle managers (e.g. technology/innovation, product, project or marketing managers). In Alpha, 18 hours of interviews were conducted, and in Beta 7 hours of interviews in total. In Gamma, the interviewees represented the eleven organizations involved in that company's business model innovation. More than 25 hours of interviews were recorded.

3.3 ANALYTICAL FOCUS

The cross-case analysis focused on identifying and analyzing the similarities and differences between the four focal business model innovation experiences. In order to increase the credibility of the research, the data gathering and analysis of all cases focused on the following, theory based, criteria:

- *Characteristics of the business model innovations*, in terms of radicality (how new?), reach (new to whom?) and complexity (Table 1 and Figure 1).
- *Overall innovation management*. Here, the innovation process of each company was analyzed using Tidd and Bessant's (2009) innovation model of "Search-Select-Implement".
- *Risk, risk appetite and risk management*, including the analysis of: 1) both strategic and operational risks occurring, 2) the risk appetite of each company over

the years, and 3) the way risks were managed (e.g. explicitly, implicitly, stage-gate oriented).

- *Fit*. Looking for the role of the interaction between risk, risk appetite, risk management and business model innovativeness, and its effects on the success of business model innovation, the analysis particularly focused on the “fit” between these constructs, reasoning that the higher the risk appetite of a company, the higher the likelihood that it will pursue a more innovative business model, which will involve greater risk which, in turn, needs to be managed more tightly in order for the new business model to be realized and become a success.

Given the exploratory character of the case studies, additional criteria emerging from the case studies were also actively sought, but not found.

4. RESEARCH APPROACH AND METHODS

4.1 DATA GATHERING RESULTS

Table 3 summarizes the case study data gathered. As Table 3 illustrates, the cross case analysis focused on the selection of dimensions describing similarities and differences between the three companies’ experiences (e.g. Eisenhardt 1989).

Please insert Table 3 about here:
Table 3: Summary of the case data

5. CROSS-CASE ANALYSIS AND PROPOSITION DEVELOPMENT

The cross-case analysis produced six propositions, which are organized according to the five criteria formulated above.

5.1 CHARACTERISTICS OF THE BUSINESS MODEL INNOVATION AND SUCCESS RATE

Company Alpha: Throughout the years, company Alpha engaged in seven business model innovations. Four cases were very successful¹, one case partly succeeded, and in three cases, the company failed to succeed (cases A and B). The successful cases involved the exploitation of existing technology, or the development and exploitation of new technology-based products, together with a partner, in a market segment new to company Alpha. The two failure cases, presented here, were attempts to outsource the production (case B) or marketing and sales function (case A) to a third party. Two factors caused their failure. First, the partner did not match the company's high quality standards. Second, they realized in a later phase (particularly case A) that the market was too small to play a significant part in the company's turnover (i.e. low reach).

Company Beta: Over the years, this company engaged in three business model innovations experiences, two of which became a success, while one attempt failed (case C). The successful cases involved the application of existing, and the development of new, competences and technologies for a new market segment, followed by an acquisition, which was much riskier for the company, both in terms of investment as well as time constraints, and involved the development and exploitation of new technology for a new market segment. In case C, a failure, the company "pushed" a self-developed radically new product into the market in an attempt to exploit a new emerging technology, without any idea of how customers would respond, which was eventually rejected.

Company Gamma: This company was very eager to meet the new challenges of a post-privatization period (during the innovation project the ownership of company Gamma shifted from a number of different public organizations to an investment fund). To this point, the experiences of the company in business model innovation were limited (i.e. low

radicality, reach and complexity), since it had always relied on a familiar and fixed group of customers within the public sector. Actually, the target customers of the company were to a large extent also the company's owners. Consequently, case D actually concerned a fundamental innovation experimentation for company Gamma.

Table 4 provides more details on the data gathered by visualizing the business model innovation cases through their degrees of innovativeness in terms of radicality, reach and complexity.

Please insert Table 4 about here:
Table 4: Radicality, reach and complexity of the four cases

On the aggregate scale combining radicality, reach and complexity, cases A, B and C were low in radicality and reach. Case D, however, was high in radicality and reach. All cases were highly complex. Case A involved the establishment of a new business unit offering incremental improvements to existing products, combined with outsourcing of marketing and sales to a partner. Case B concerned outsourcing of manufacturing to a partner, which, however, failed to result in a competitive product. Alpha was a highly competent design company, pushing new products into the marketplace and with a successful history of collaborative technology development. However, they seemed to have underestimated the complexities involved in establishing a successful operational collaboration through outsourcing. In Beta, new product development activities were usually based on market-pull. Case C failed because the company "pushed" a radically new product into the market without any idea of how customers would respond. Gamma's case D was a radical and new to the industry innovation, which went far beyond the company's previous innovation experiences. Thus, the companies' experiences suggest

that the innovativeness of a new business model affects its success potential.

Proposition 1: *The business model innovativeness has a positive effect on the company's profitability.*

Moreover, the case studies suggest that business model innovation failures are situated at the “extremes” of: 1) a low radicality and reach, i.e. reactive companies pursuing a *defender* strategy (cf. Miles and Snow 1994), and 2) a radically (disruptively) new and far reaching, i.e. *prospector* strategy (cf. Miles and Snow 1994).

Proposition 2a: *Pursuing a complex defender strategy to business model innovation, is likely to result in failure, or, at best, limited profitability potential.*

Proposition 2b: *A complex prospector strategy to business model innovation is likely to fail, particularly if the company does not have the disruptive exploration capabilities required to support this strategy.*

Yet, however tempting it may be to propose that companies best stay away from the extremes, the more compelling reason for these failures seems to be the lack of prior related knowledge (Cohen and Levinthal 1990). Alpha was a technology developer, without any experience with operational collaboration. Beta understood how to translate market requirements into new products, but did not understand how to push new technology into the market place. Gamma overplayed its hand by trying to accomplish a new to the industry innovation, which went far beyond its previous experiences.

Proposition 3: *Irrespective of a company's strategy (defender, prospector) and the business model innovativeness pursued (radicality, reach, complexity), lack of prior related knowledge is likely to result in business model innovation failure.*

5.2 OVERALL INNOVATION MANAGEMENT

Company Alpha: In most business model innovations ventured by this company, there was never a search process for new business models. Rather, ideas were slowly developed along the way based on the company's existing core competences (e.g. technologies, know-how). The company simply considered it obvious that existing competences would give them relatively easy access to other industrial settings. It seems that the company had a prevalence for generating an idea, testing it first internally, starting with a low scale production process, and considering growth in due course (e.g. through a joint venture, or a new business unit). This inside-out replication of previous business model innovation processes seemed to be a winning formula for the company, and was expected to work in any (future) business model innovations. However, in cases A and B, one of the key challenges for the company was to find the right partner to work with, and here the company failed.

Company Beta: As was the case with company Alpha, company Beta never implemented a formal search process for new business models. Radically new ideas emerged in the course of time, either through existing technological development capabilities, cost reduction programs, or as a reaction to emerging competitors' technologies, which was the circumstance in case C. Furthermore, the failure of case C, caused by a pure "technology push" strategy, made the management team even more aware of the need to understand customer demands as a basis for selecting future innovation ideas.

Company Gamma: The innovation process was marked by a rather wide and creative search for new business models. At an early stage, company Gamma realized that the developed concept would be marked by a significant complexity, which was beyond the complexity of the products and services that had traditionally been produced by the

company. The entire network of organizations involved in the project was invited into a co-creation process where they should be able to mirror themselves in the final outcome of the process. The two project managers of company Gamma (there was a shift during the process) and the area director, who initiated the project, explicitly stated that the intention was to invite everybody into the process. Both project managers were willing to accept the inherent risks of this open innovation process experimentation (e.g. the risk of knowledge spill-over to potential competitors; the risk of one of the participating organizations to be inspired and develop their own solutions without the participation of company Gamma). Sadly, though, this high level of inherent risk acceptance did not work to their benefit. The business model innovation failed and in the aftermath company Gama chose to reduce its network and be more cautious, i.e. accept less risk. Altogether, experimentation, learning from previous experiences and using the lessons learned, appear to have significant impact on the success (or failure) of business model innovation.

Proposition 4: *Lack of experimentation with new business model processes and lack of learning from failures increases the likelihood of business model innovation failure.*

5.3 RISK, RISK APPETITE AND RISK MANAGEMENT

Company Alpha: The company's risk appetite used to be "hungry", but they gradually took fewer risks and moved towards "cautious". In the past, the company was more willing to take risks, and experimented with new, rather than "more of the same", products and business models. However, due to a significant downturn in the company's profits during the last couple of years, which was partly related to the financial crisis and resulted in hiring a new CEO, the strategy of the company changed significantly and, with that, also its risk appetite.

The innovation process of the company was very structured and followed many gates. The process and gates were the same for all innovations. The company considered the gates, to a certain extent, as risk reduction processes. Any business development project in progress had to meet each requirement at each gate before green light was given to proceed to the next stage. However, no explicit risk management/assessment processes were applied. An additional, one mechanism used to reduce risks was associated with time. That is, despite the fact that the innovation process and the gates remained the same for all types of innovations, the time it took to move from gate to gate increased as the level of radicality, reach and/or complexity increased. This gave the company the flexibility to proceed with more caution and to terminate those projects that were expected to be unsuccessful without too many consequences. Yet, it was also apparent to the management team that despite the fact that the decision-making and implementation processes were well designed for technological success, the company did not really possess adequate processes to predict the possible success in the market place, i.e. commercial success. Consequently, the management team was very keen to search for new, more structured ways to deal with risk-benefit projections and increase the likelihood of commercial success of future innovations. Those new processes, according to the company's innovation director, are not meant to increase control but rather to reduce uncertainty as regards future sales.

Company Beta: The company used to focus on electronics and instruments that were used in switchboards in factories. It was very traditionally oriented, and had relied upon North Europe as its sales market. The company's risk appetite used to lay somewhere between "cautious" and "open", but had grown significantly since the early nineties and was leaning towards "open" and "hungry" at the time of the study. This is partly due to a replacement of the senior management, but also because sales volume had grown and new

technologies had emerged that opened up new opportunities for the company. Willing to take chances, the company was aiming high, even though they were aware of the risks involved.

Company Beta does not have an explicit risk management process in place either. Instead, the company considered the gates as risk reduction processes, where each gate sets a higher level of control requirements. However, unlike company Alpha, which gave the innovation team the flexibility to manage the stages freely from gate to gate, in company Beta, the control processes were very formal and continued also through the processes from gate to gate. According to one of the managers, the innovation processes involved a lot of paperwork and forced the innovation team to spend a lot of time on completing checklists instead of managing the process forward, but has very little impact on output effectiveness. In its *technological* innovation projects, company Beta used scenario planning. Performed by the business intelligence unit, this method involved the development of three sales forecast scenarios: an optimistic, a realistic, and a conservative scenario. These scenarios used to assist the company with analyzing the actual “as-is” business progress (e.g. better than expected, as-planned, worse than expected). However, those scenarios were not applied in any of the *business model* innovation processes.

Company Gamma: Historically, this company serviced a substantial number of customers within the public sector. The strategic focus was not to expand the market or to innovate products and services. Instead the primary goal of the company was to stick to the current customers, products and services. This risk-averse approach to business modeling and innovation was revised as a consequence of the privatization of company Gamma. The privatization process ran in parallel with the innovation project and drove the initial stages of the project in terms of involving external organizations in the innovation process and

the development of the business model.

Company Gamma did not have an explicit risk management process in place either. Yet, unlike the other two companies, company Gamma was willing to *accept*, i.e. tolerate, a substantial risk during the entire innovation process. Yet, they saw the involvement of some of the potential customers (the utility companies) as a way to minimize the risk if a failure outcome should occur. Furthermore, it was very important for the company to have the customers “on board” to ensure market fit to the project objective. In effect, here too, risk mitigation activities were only partly and, then, implicitly initiated. The area director addressed this issue by stating that the end-result of this open innovation process could potentially result in little to no positive impact to the organization overall and possibly even with an (affordable) loss. This “all-in” gambling by the company was often mentioned during the network meetings, and the project managers as well as the area director emphasized that the project should not be perceived as a “Gamma project” but rather as a “network project”, which consisted of all the organizations involved. The project was closed down as a consequence of a strategic shift within company Gamma. A new area director sought to get an overview of the various projects within the business area. He did not see any potential in this particular project, nor a fit between this project and the newly-planned overall strategy, closed down the project and fired the project manager.

In all three companies, the top management risk appetite had a strong but different impact on the company’s corporate risk appetite. Although the replacement of the CEO in company Beta, and the privatization process that took place in company Gamma turned both companies to be more “hungry” in pursuing new business model opportunities, in company Alpha it turned the company to be more risk averse. However, in none of the

three companies an explicit risk management program was in place, which reflected the company's risk appetite. Risks were managed implicitly, i.e. embedded in the innovation stage-gate process design (companies Alpha and Beta), or not managed at all, i.e. substantial risk was tolerated (company Gamma). In effect, “problems” continued to manifest themselves in different ways, some of which had, what seemed to be at the time, a more tolerable impact along the process, e.g. unexpected but solvable surprises; goals and objectives that required redefinition during the process; accepted solutions that were rejected in a later phase; implemented solutions that were less effective or glamorous than anticipated; and/or schedule and budget overruns. Yet, the cumulative effect resulted in the entire business model innovation project to fail. Clearly, neither of the companies was satisfied with its risk mitigation processes, but none of them had any solution – they did not really know, and never learned, how to optimize the process and, particularly, how to manage risk proactively.

Proposition 5: The absence of dedicated risk management in a business model

innovation initiative increases the likelihood of the initiative to fail.

5.4 FIT

On an aggregate level, the four failure cases indicate that risk, risk appetite, risk management and business model innovativeness and, more importantly, the fit amongst these constructs, play a significant role in the success or failure of business model innovation initiatives.

The concept of “fit” plays a central role in various theories, including manufacturing strategy (e.g. Skinner 1985), organization theory (e.g. Mintzberg 1979) and innovation theory (e.g. Boer and During 2001), but has not been used so far to understand the relationships between business model innovation and risk management. Miles and Snow

(1994), for example, discuss the dynamics of internal-external fit. They argue that “minimal fit” is necessary to ensure a company’s survival, “tight fit” frequently results in excellent administration, while “early fit” may enable a company to sustain an unusually high level of performance over an extended period of time. Yet, they were also aware of the fact that “fit” has its limitations as well – even “Hall of Fame” companies may suffer from downturns in performance (e.g. due to unexpected external hazard impact).

In cases A, B and C, companies Alpha and Beta were “open” to take risk, but they pursued low risk, low (overall) innovativeness initiatives, and did not apply any risk management mitigation activities regardless of the high complexity (Table 4) inherent in the process. In case D, company Gamma used a more “averse” rather than “open” risk appetite approach to a highly risky, highly innovative initiative, and did not apply any risk management either. In short, the companies’ risk appetite, the innovativeness of, and, consequently, risk associated with, the business model innovations pursued and, finally, the effort the companies put into risk management, did not fit together.

Although it can be argued that a perfect fit between risk, risk appetite, risk management and business model innovativeness will not automatically ensure business model innovation success (and vice versa), it will increase the probability of success substantially. Both Alpha and Beta had multiple successful business model innovation experiences in their past, and it has been observed (e.g. Taran *et al.* 2015) that fit, particularly between the companies’ risk appetite and the business models’ innovativeness and associated risks, was much better in the successful cases than in the failure cases. For example, in its successful attempts (e.g. a new joint venture; new business unit development), company Alpha built slack (e.g. Galbraith 1973) into the process by taking more time to get from gate to gate as the level of radicality, reach and/or

complexity increased. This gave the company the flexibility to proceed with more caution and to terminate those projects that were expected to be unsuccessful without too many consequences. In addition, company Alfa also mapped each innovation project's timetable as red, yellow or green to illustrate both its readiness to meet the next gate requirements deadline, as well as the sense of urgency for its process completion.

Proposition 6: *The likelihood of launching a successful new business model increases if the company's risk appetite, the innovativeness of the new business model, and the risk management approach adopted, align with the risks associated with the intended innovation.*

5. DISCUSSION AND CONCLUSION

5.1 CONTRIBUTION

The cross-case analysis produced six testable propositions. Together, these propositions seem to suggest the following picture.

Risk appetite seems to play a significant role in business model innovation decision-making. The top management's personality, risk appetite, and assessment of the company's economic position and outlook overall, tend to have great influence on selecting new business model innovation initiatives. As such, it is perhaps imperative to consider whether the various internal stakeholders' and also external partners' risk appetites are aligned, in order to reduce the likelihood of future conflicts when designing the company's innovation portfolio. This proposition is also confirmed by e.g. Rogers (1983), who argued for the important role that key stakeholders' perceptions (e.g. Laplume et al. 2008) have in "setting the innovation stage".

Additionally, it is vital to consider the *strategic aggressiveness* trajectory as part of

business model innovation decision-making. Top management perception greatly affects its appreciation of the nature of the innovation, and may lead to underestimation of the difficulties involved, even, or perhaps especially, at the two business model innovation extremes of:

- Incremental (radicality), new-to-the-company (reach), but highly complex business model innovations initiatives. Risk-averse managers may have the impression (possibly, illusion) of “safe enough” business model experimentation, but may risk that the innovation will have little or no positive impact in the market place.
- Radical, new-to-the-industry or new-to-the-world (reach), highly complex business model innovations, which in most cases depart from the company’s previous strategy and do not, consequently, build on experiences with previous innovations.

Although the likelihood of failure seems to be largest at these extremes, they are fundamentally different, so that it is quite important to distinguish between the two. Using Miles and Snow’s (1994) terminology, the first can be considered to reflect a defender, maybe even a reactor, strategy (cases A, B, and C), the second is a much more proactive, i.e. prospector, initiative (case D). Being too defensive and, in effect, unambitious may lead to failure, while pursuing a prospector initiative requires managers to appreciate the high uncertainties and the consequent risks inherent in the process, which in many cases go beyond the scope of the company’s existing core competences and capabilities and requires *non-prior* related knowledge (*cf.* Cohen and Levinthal, 1990).

Companies should not overlook the importance of *learning from failure* either. There are many lessons to be learnt from the aftermath of a failed attempt in terms of what not to

do and what to improve on for a next time. Sadly, the cases presented here indicate that due to locked-in path dependency trajectories (Nelson and Winter 1982), companies tend to “simply” repeat successful business model innovation processes and to, equally “simply”, drop unsuccessful approaches, rather than learning from them. The inherent danger is that a company fails to learn how to approach innovations that are essentially new to the company, which, in turn, may decrease its growth potential significantly.

Taking a *risk management and alignment* perspective, even if 1) a company’s risk appetite fits its economic position and outlook, and 2) the company estimates the nature and characteristics (radicality, complexity, reach) of the intended innovation correctly, and 3) the company is prepared, if necessary, to learn new approaches, business model innovation is still loaded with risks. Hence, risk management and, more importantly, its alignment with the other three key constructs (i.e. risk, risk appetite, and business model innovativeness) is of paramount importance in any business model innovation process. Furthermore, it appears that using a widely used approach such as the stage-gate process (Cooper 1993) to manage a business model innovation process is not enough. The three companies’ experiences suggest that incorporating dedicated risk management processes (Chapman and Ward 2004) into a business model innovation process, whether that process is stage-gate driven or not, can help reduce the likelihood of innovation failure. Moreover, as case C suggests, risk management can also potentially facilitate meeting customers demand. Too much focus on technological aspects combined with insufficient attention for commercial aspects and, possibly, a ‘push’ strategy, may lead to technical success but commercial failure (*cf.* e.g. Voss 1988).

5.2 FURTHER RESEARCH

The empirical investigation performed in this research involved four retrospective case studies, based on mostly qualitative data. There are several well-documented advantages to this methodology, such as richness and depth, but also weaknesses related to, amongst others, generalization. Accordingly, the case study results and propositions developed here should be tested on a larger scale, using a mix of comparative and longitudinal case studies as a first step, aimed at enriching, sharpening and adding to the propositions presented here. Thereafter a larger case or questionnaire-based survey may be used to test and generalize the propositions developed.

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Table 1: Incremental and radical orientation to each building block

Building block	Incremental innovation <i>“Do what we do but better”</i>	Radical innovation <i>“Do something different”</i>
1. Value proposition	Offering “more of the same”	Offering something different (at least to the company)
2. Target customer	Existing market	New market
3. Customer relationship	Continuous improvements of existing channels	New relationship channels (e.g. physical/virtual, personal/peers/ mass awareness)
4. Value chain architecture	Exploitation (e.g. internal, lean, continuous improvements)	Exploration (e.g. open, flexible, diversified)
5. Core competences	Familiar competences (e.g. improvement of existing technology)	Disruptive new, unfamiliar, competences (e.g. new emerging technology)
6. Partner network	Familiar (fixed) network	New (dynamic) networks (e.g. alliance, joint-venture)
7. Profit formula	Existing processes to generate revenues followed-by/or incremental processes of (cost) retrenchments	New processes to generate revenues followed-by/or disruptive processes of (cost) retrenchments

Table 2: Company descriptions

Alpha	Beta	Gamma
Large global company, which is specialized in developing, manufacturing and marketing (for the most part) professional audio products	Large global company, specialized in developing, manufacturing and marketing flexible electrical/electronic control and instrumentation solutions within power production, marine and offshore	Large IT company, which is specialized in providing IT solutions for primarily public organizations
Two failure cases (A and B)	One failure case (C)	One failure case (D)

Table 3: Summary of the case data

	Alpha	Beta	Gamma
The four failure business model innovation cases	<p>• Case A – New business unit offering existing technology-based products to a new market (studios), plus outsourcing of marketing and sales to a partner (low radicality, low reach, high complexity).</p> <p>• Case B – Outsourcing the manufacturing of one of the products – failure (low radicality, low reach, high complexity).</p>	<p>• Case C – New technology-based product, aimed at serving existing and potential new customer segments: after one year of heavy investment in the product, the project was terminated due to incongruity with customer demands (product shape and size; price – too expensive) – (low radicality, low reach, high complexity).</p>	<p>• Case D – New IT solution based on approaching shift in technological opportunities within metering utility consumption: The project was terminated due to strategic shift within the company and lack of believe in customer demand (high radicality, high reach, high complexity, given the difficulty in network structure among the participating organizations).</p>
Overall innovation management	<p>Search processes - No search process in any of the cases. <i>“It was just something that came up along the way”</i>. One project was managed proactively in search of a radically new business model (Case B).</p>	<p>Search processes – Recognized as one of the weaknesses of the company. They do not really have any systematic processes to manage radical, or even incremental, innovation ideas. It is something that usually just <i>“pops up”</i>. They</p>	<p>Search processes – Initial idea developed by area director of the company. In continuation of this initial idea, ten additional organizations were involved into the further development of the business idea and the</p>

Otherwise, it was internal give more attention to ideas business model underlying competences chosen to that come from their main the project. be used elsewhere. customers.

Selection and

Selection and

implementation

Selection and

implementation processes

processes - Following a stage-gate model, radical innovation ideas are handled with extra awareness. A slower process, which always starts with small steps and then grows slowly. Radical ideas follow gates similar to those of incremental ideas. The difference is, though, that it takes more time to move from gate to gate.

implementation processes - A stage-gate model is used to move the business concept idea through a maturity roadmap and development process. Many complaints about the fact that there is not enough market research behind ideas proposed. In effect, lacking understanding of the potential market and sales volume.

- An open, network-based approach to develop and test the business idea. A development process, which was marked by a substantial number of iterations and radical shifts in the overall business model.

Risk, risk appetite and risk management

Used to be between “open” and “hungry”. Currently moving towards “open” – “cautious”, and taking fewer risks. Intending to move to ‘hungry’ again in future.

Used to be between “cautious’ and “open”. Moving towards “open” and “hungry”. Willing to take chances and aim high, but aware of the risks involved in that. No explicit risk management

Mostly “averse” but moving towards an “open” approach. Focusing on a new market position in the aftermath of a privatization process.

No explicit risk management processes, but rather a project

processes were identified. However, their innovation processes are highly

No explicit risk management processes were identified. Yet, they perceived the openness approach as a form of risk

culture and a project/ innovation model that is structured by many gates aimed at continuity and reducing the risks throughout the innovation process. It is not an advanced risk management model, or one that applies a risk assessment method, but nonetheless a very sufficient model to reduce many risks through the innovation process.

controlled, to ensure that strategic decisions made at the gates are being implemented adequately at the stages throughout the innovation process, and, the company considers those control processes as a form of risk reduction.

mitigation and sharing, by opening up both the business model and its innovation process, which would be the fundament of the project. The company stated that the project was not so much an internal development project, but rather something, in which all the participating organizations should be able to mirror themselves (i.e. risk sharing).

Fit

None

None

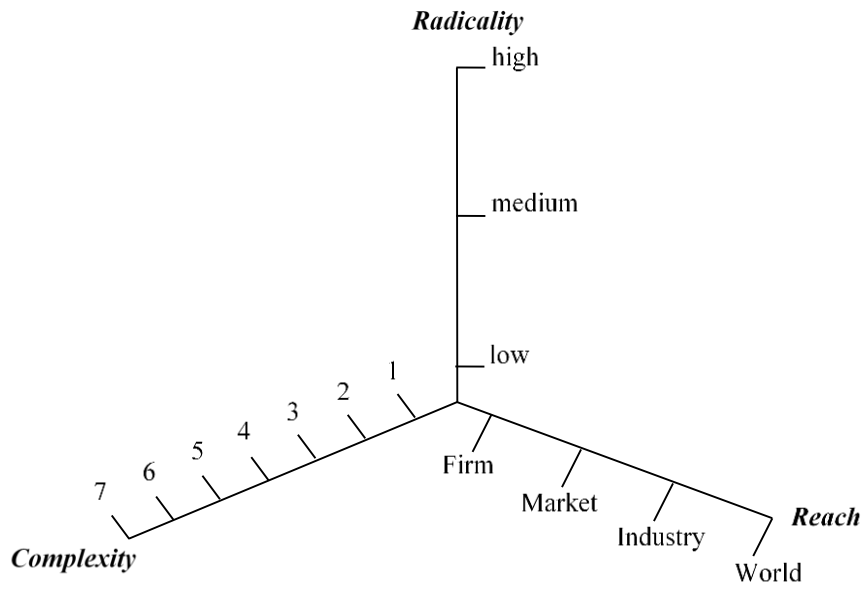
None

Table 4: Radicality, reach and complexity of the four cases

Case	Radicality (to the core business)	Reach	Complexity (to the core business)
Alfa	Case – A Low: (VP; PN)	Low: new to the company	High: VP; TC; VC; PN; CR; PF
Beta	Case – B Low: (VC; PN)	Low: new to the company	High: VP; TC; VC; CC; PN; PF
Gamma	Case – C Low: VP; TC	Low: new to the company	High: VP; TC; CC; VC; PN; CR; PF
	Case – D High: VP; TC; VC; PN	High: new to the industry	High: VP, TC, VC, PN, PF

VP=value proposition; **TC**=target customer; **VC**=value chain; **CC**=core competences, **CR**=customer relation; **PN**=partner network; **PF**=profit formula.

Figure 1: A three-dimensional (business model) innovativeness scale (Source: Taran *et al.* 2015)



Endnote

¹ The success of the business model innovations was measured by their profitability, where *successful* cases were highly profitable for the company, *partly successful* cases were the ones with small profit margins, and *failure* cases were those who failed to bring any profits, or worse.