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Business Model Adaptation as a Dynamic Capability: A Theoretical Lens for Observing Practitioner Behaviour

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Abstract

The paper adopts the dynamic capabilities framework as a theoretical lens for observing business model adaptation by practitioners. It explicates how very recent contributions to dynamic capability theory have made the connection clearer. It is part of a larger program aimed at understanding the forces that affect business model adaptation and innovation in technology-based firms. The very rare previous research has been mostly theory based, focused on eBusiness, or focused at the industry level. This study is seeking a theoretical base for making sense of practitioner behaviour, in studying the process of adaptation and innovation. The theoretical base needs further development and will likely be augmented or altered as patterns are discerned from the field studies, as well as through other extant theories. Contributions will be not only to business model research, but also to the fields of entrepreneurship, commercialisation and strategic management.

Keywords: Business model adaptation, Dynamic capabilities, Technology commercialisation

1 Introduction

Sustained superior performance in new and fast moving environments depends crucially on the deployment and re-deployment of superior strategic assets as appropriate for those environments. One such asset is the firm's business model.

Adaptation of the business model should therefore be an important area of practitioner and scientific interest (Chesbrough and Rosenbloom 2002; Pateli and Giaglis 2004; Zott and Amit 2007.) Practitioners, in this sense, also include for example financiers and public policy makers. They have an interest in knowing whether firms have the capacity to adapt and innovate, as well as how they should adapt over time. While financiers might wish to intervene directly in the change process (Lerner 1995), public policy makers should aim to provide appropriate regulatory and related support for the

effective evolution of business models and regional economic development (van der Sijde and van Tilberg 2000; European Industry Fund 2005; Lazzeretti and Tavoletti 2005.).

There have been several examples of scholarly research in the field of business model adaptation (Papakiriakopoulos et al. 2001; Petrovic et al. 2001; Krueger et al. 2003; Andries and Debackere 2006; Swatman et al. 2006; Andries and Debackere 2007). They are, however, mostly focused specifically on eBusiness. They are also theory-based, rather than having been developed from observations in the field.

This paper is part of a larger program to study the process of business model adaptation in innovation based firms. It therefore in principle has a broader perspective than eBusiness alone, but will still not cover the full spectrum of economic activity. The research program will also be grounded in field research, rather than theory (Yin 1981; Eisenhardt 1989; Yin 2003; Eisenhardt and Graebner 2007).

This paper aims to develop the dynamic capabilities framework as a theoretical lens through which to observe business model adaptation.

While theory building can proceed from direct observations in the field, and while there is no theory on this topic in the business model literature, potentially relevant theory does exist in other business related areas that can assist our search (Ballon 2007.) This paper, therefore explores in particular the dynamic capabilities framework as a theoretical lens through which to observe business model innovation in practice (Langley 1999). The inductive field research to be conducted at a later stage will then help develop a theory of business model adaptation.[1] Then, just as we might have borrowed theory from elsewhere (Ballon 2007; Zahra 2007), so could research on business models contribute to research in other domains.

The following section presents the motivation for researching the topic of business model adaptation. Section 3 then presents several contributions to dynamic capabilities thinking that have potential as a lens through which to analyse observed facts and that can be themselves adapted to this context through inductive reasoning (Lambert 2006.) This serves also to acknowledge that the researcher would not be entering the field as a *tabula rasa* and that at least some frames of reference exist in their mind (Eisenhardt 1989; Hofstede 1994; Eisenhardt and Graebner 2007). Several other elements of theory appear *a priori* also to be relevant, but are not treated in detail here: effectuation; *bricolage*; time; emergent strategy. Being able to view the perceived facts through different lenses would add richness to the analysis (Langley 1999). It is indeed consistent with the integrative nature of the business model concept.

The Discussion section develops some tentative propositions. It points to some inevitable limitations of the study and draws conclusions that should help advance this research effort. Further refinement and clarification through conversations, in person and via publications, with other researchers will be an important contributor to this advancement.

2 Motivation

This section briefly introduces the business model concept and related literature leading to the focus on the process of change.

The current state of research is fluid, still lacking universally accepted definitions and taxonomies of the business model (Osterwalder et al. 2005; Lambert 2006). Indeed, most of the definitions are meta definitions, consisting of lists of elements that could or should be included in a business model. That said, there is reasonable overlap in the lists of components (Pateli and Giaglis 2004). Similarly, attempts at formulating taxonomies have generally been industry- or market-specific, as in Bienstock (2002), Hemphill (2006), or Leem (2004), hence, as Lambert (2006) points out, they are typologies, rather than taxonomies.

There are several possible reasons for the lack of academic research on business models. Chesbrough and Rosenbloom (2002: 533) point to the fact that the business model concept "integrates a variety of academic and functional disciplines, gaining prominence in none." It is also consistent with the laments that academic researchers are far removed from managerial practice (Markides 2007; McGahan 2007) which in turn would lead to a significant lag between management practice and research[2].

Pateli and Giaglis (2004) present the scholarly developments that have occurred in various sub-domains of business model research, together with their respective limitations. Their findings are consistent with the analysis by Ghaziani and Ventresca (2005) of how use of the term business model has evolved over time and within different disciplines. In fact, the differences in nuances in the definitions and the relative emphasis on different aspects of business models are likely to remain, as "subcultural interpretation of the global category *business model*." (Ghaziani and Ventresca 2005: 532, emphasis in the original.)

As a result, despite its very short history of academic research, the literature on business models is sufficiently mature to move beyond the definition stage, no longer at risk of being a mere fad once the dotcom bubble burst (Osterwalder 2004), but being heralded as a potential substitute for industry as a unit of analysis (Osterwalder et al. 2005). In fact, it has also moved beyond a focus on e-business (Mahadevan 2000; Afuah and Tucci; Amit and Zott 2001; Weill and Vitale 2001) to other sectors such as biotechnology (Bigliardi et al. 2005; Pisano 2006; Rothman and Krafft 2006; Willemstein et al. 2007). Indeed, Malone et al (2006) conducted a wide-ranging empirical study of *all* publicly-traded US companies in COMPUSTAT from 1998 through 2002, during which they found that business model "is a useful construct and can predict performance." (Malone et al. 2006: 4.)

For the purposes of our broader research program, we integrate the definition given by Amit and Zott (2001: 511) with the application to technology commercialisation by Chesbrough and Rosenbloom (2002), and modified through Kay's thinking[3] (1993) to arrive at:

> **DEFINITION:** *The Business Model depicts the architecture of internal and external relationships across business functions that creates and captures value through the commercialisation of technology and scientific knowledge.*

Within this general context, there have been several authoritative calls for enquiry into business model adaptation (Chesbrough and Rosenbloom 2002; Pateli and Giaglis 2004; Zott and Amit 2007) which is the topic of section 2.1.

2.1 Calls for research on business model adaptation

In this sub-section, we present three calls for research on business model adaptation from senior scholars who have conducted major studies in this field.

Zott and Amit (2007) list this among the fields of research that could follow from their important study, which takes an entrepreneurial perspective on business models.

In the final paragraph of their study of Xerox Corporation's experience with business models and innovations, Chesbrough and Rosenbloom (2002: 552) highlight the importance of understanding the process by which business models develop and evolve.

They start the paragraph with:

> We need to learn more about the forces that facilitate and impede the search for constructive adaptation in the elements of an extant business model.

They hypothesize a difference in this respect between "independent ventures" and "established firms", consistent with Zahra et al (2006). Finally, they end the article by saying: "These issues are well worth further exploration."

Pateli and Giaglis (2004: 311) consider business model adaptation to be an important stream of research, with potential to provide useful structures or guidelines for purposeful action. It is also "one of the most challenging areas for business model research in the future", partly because existing research on this topic was still very tentative and generic, partly because of the integrative - hence complex - nature of the question:

> … when innovative business models are considered, research to date is yet to satisfy the need for methods that can structure a firm's change endeavour either towards adopting a new business model or extending a current one to include new dimensions. (Pateli and Giaglis 2004: 310)

The calls for research on business model adaptation are consistent with Lambert's (2006) highlighting the need for inductive research to develop appropriate frameworks and business model theory.

This paper is part of a broader program, taking on the challenges set by these scholars. By accepting the challenge, business model based research can in turn contribute to scholarship on entrepreneurship, commercialisation and strategic management.

This sub-section provides a context that motivates the study of business model adaptation. Next is a discussion of existing literature on business model adaptation and its gaps.

2.2 Previous work on business model adaptation

A brief review of the scant scholarly research on business model adaptation follows.

Petrovic et al (2001) present a normative "methodology for developing business models" based entirely on systems theory. The term 'developing' is used synonymously with 'change' and 'adaptation'. While the methodology is internally coherent and soundly based upon systems theory, it focuses specifically on eBusiness business models and is not matched against the practice of business model adaptation.

Also in the eBusiness area was the study by Papakiriakopoulos et al (2001.) While they attempt a validation of the proposed framework, it, too, is designed entirely based upon theoretical considerations, rather than inductive research.

Swatman et al (2006) study business model evolution, combining quantitative and qualitative methods. Their study was at the industry level, with the focus on provision of online news and music in Europe. Closer to a firm-level framework for business model adaptation is their earlier paper (Krueger et al. 2003) in which they propose a core+complement approach to business model formation. The complementary component of the business model is where adaptation would occur. It was not within the scope of their studies, however, to delve into understanding the forces that do, or would, aid or hinder such adaptation.

More recently, Andries and Debackere (2006; 2007) have published scientific research on the topic of company-level business model adaptation in technology based new ventures. Their earlier paper (Andries and Debackere 2006) has the same objective as this paper, namely presenting lessons from extant theory that appears relevant to the question of understanding business model adaptation. This paper, however, places far greater emphasis on dynamic capabilities. Andries and Debackere (2006) include dynamic capabilities in their analysis, but it does not take a central role. They conclude by saying that if routines can be identified, then it "would suggest that adaptation is indeed a dynamic capability and that dynamic capabilities exist in high-velocity environments." (Andries and Debackere 2006: 106) This paper claims that one could have placed business model adaptation within the dynamic capabilities framework given existing definitions, but that more recent contributions to the field (Zahra et al. 2006; Newbert 2007; Teece 2007; Augier and Teece 2008) make the connections clearer, from a logical, theoretical perspective.

This sub-section has reviewed existing research on business model adaptation, pointing to some gaps for the current program to fill. The next sub-section explicates the reasoning for seeking theoretical lenses for this program.

2.3 Borrowing and contextualising theory

The approach to seeking theoretical guidance in this study is similar to that taken by Ballon (2007). That is, rather than seeking the theory only from literature that focuses specifically on business models, this study casts a wider net. This research program has a different focus, hence will initially rely on other theories than those used by Ballon

(2007). It will also be empirically grounded on inductive, qualitative analysis of case studies.

In his article providing a guiding perspective on theorising and the use of theory in entrepreneurship research, Zahra (2007) writes about the importance of contextualising theory, for example, when taking established theory from one context and applying it to a new phenomenon, or a new or different discipline. This is illustrated in Figure 1, which is an adaptation and interpretation of Table 1 in Zahra (2007: 446.) It shows the various combinations of new/established theory versus new/established phenomena. The area of business models is one such new field of research to which theories derived elsewhere may be applied in order to develop the body of knowledge.

The proposed research will fall in the New-New (NN) quadrant, in Figure 1, by integrating new theory or elements of several existing frameworks as they emerge from the data, with the new field of business models.

		Phenomenon	
		Established (E)	New (N)
Theory	Established (E)	EE is often seen in journals; offers modest contextual richness; Zahra is critical of how it is generally conducted.	NE is a richer setting than EE; Zahra lists agency theory applied to commercialisation of university research as an example.
	New (N)	Offers moderate contextual richness; Zahra appears to question the value of EN, when there is so much new territory to explore.	NN holds great contextual richness, with interaction of content and process studies.

Figure 1: Linking research phenomena, contextual richness and theory: adapted from (Zahra 2007)

In the following section, we present dynamic capabilities as a theoretical lens through which to observe the practice of business model adaptation.

3 Dynamic capabilities as a theoretical lens

This section reviews the theory of dynamic capabilities and its relevance to the broader research program. In the development of thought, the Resource-Based View (RBV) of the firm is the proximate antecedent of the dynamic capabilities framework.

3.1 RBV, antecedent of the dynamic capabilities approach

In the RBV, we think of the firm as a bundle of resources that can be combined into capabilities (eg good logistics, brand management, customer loyalty) and deployed into relevant markets to earn the highest return. While it is most prominent in the business strategy literature, and while it has been applied in other disciplines (Francisco José Acedo 2006; Newbert 2007) its early traditions and intellectual foundations lie in economics (Amit and Schoemaker 1993; Kay 1993; Peteraf 1993; Wernerfelt 1995; Peteraf and Barney 2003): what strategic assets and conditions are required to achieve Ricardian rent, or quasi-rent? Transaction costs, imperfect tradeability, ex-post and ex-ante barriers to entry, imitation and substitutability are tools found in the Economics intellectual armoury.

How well the imperfectly-tradeable asset *stocks* (resources and capabilities) accumulate depends on the quantity and quality of *flows* over time, and can be subject to time compression diseconomies (Dierickx and Cool 1998.) When there are tight time constraints, or some level of critical mass is important, then one must rely on luck, previous investments which had built up the strategic asset, or an intensive investment to build/buy it (Barney 1986; Cohen and Levinthal 1990; Peteraf 1993; Dierickx and Cool 1998).

While this shows there is a dynamic component to the RBV (Helfat and Peteraf 2003), it has been considered inadequate for researching and managing in fast-paced market or technological environments (Eisenhardt and Martin 2000; Zott 2003; Newbert 2007; Teece 2007). This is the context for development of the dynamic capabilities approach, covered in the next sub-section.

3.2 Dynamic capabilities: reaching beyond the boundaries of RBV

Possessing superior resources or competences can allow supra-normal returns in the short term (Ricardian rent), but in order to earn entrepreneurial (Schumpeterian, or Kirznerian) rents, firms need the ability to create, alter, combine, re-combine their strategic assets: dynamic capabilities. Clearly, therefore, these concepts are related, but the dynamic capabilities literature has distinctive components and applicability (Zott 2003).

The earliest (and still among the most authoritative) exponents of the dynamic capabilities literature had been researching strategic management in high-innovation and high-velocity markets (Teece 1988; Eisenhardt 1989; Eisenhardt and Tabrizi 1995; Teece 1996; Eisenhardt and Brown 1998). As a result, while they might have developed their thinking within the RBV framework (Newbert 2007; Augier and Teece 2008) they were compelled to move beyond it: “RBV encounters a boundary condition in high-velocity markets” (Eisenhardt and Martin 2000: 1118.)

The ability to adapt in a manner considered appropriate by a firm’s principal decision makers forms their dynamic capability in the definition of Zahra et al (2006.) Whether this leads to superior performance will then depend on the decision makers’ ability to understand correctly the context and import of their decision, as well as the management and deployment of the dynamic capabilities. In fact, having a dynamic capability is not

sufficient to achieve superior performance (Ghemawat and Costa 1993; Eisenhardt and Martin 2000; Zollo and Winter 2002; Zahra et al. 2006).

Immediately upon reading the definition by Zahra et al (2006.), one could logically deduce that the ability to adapt the business model is a dynamic capability. In fact, it would be so within the other major definitions (Eisenhardt and Martin 2000; Zollo and Winter 2002). A related consideration would be the quality of strategic decision making, in itself an important process for dynamic capability (Eisenhardt and Martin 2000)[4]. Most recently, Teece (2007) made the connection explicitly and clearly:

> "The capacity an enterprise has to create, adjust, hone, and, if necessary, replace business models is foundational to dynamic capabilities." (Teece 2007: 1330)

Eisenhardt and Martin (2000) had referred to business models in their analysis of the distinctions between moderately dynamic and high-velocity markets and the implications for dynamic capabilities. The former environments also present clearer business models and more easily identified market participants, hence relatively more structured dynamic capabilities reliant on existing knowledge and orderly procedures. In the latter environments, they state that market boundaries, market participants and business models are more fluid and unpredictable. Here, Eisenhardt and Martin (2000) find that dynamic capabilities need to be based on few rules, mostly in order to set limits or priorities for knowledge search and creation, because existing knowledge is likely to be counterproductive in the rapidly shifting conditions.

Most significantly, however, the business model concept is given major prominence by Teece (2007), as displayed in the quote above. In fact, the business model features in each of the three disaggregated components of dynamic capabilities he presented in that article: sensing and shaping opportunities and threats; seizing opportunities; managing threats and reconfiguration. It appears to be the first time Teece made any reference to the concept in a publication.

If *managing reconfiguration* is logically clearly an aspect relevant to business model adaptation, so is *sensing the threat or opportunity* that could occasion the change. In turn, *seizing the current or prospective opportunity* can depend upon business model design and adaptation. More specifically, Teece (2007) sees the following

- **Sensing threats and opportunities.** While this process could be considered external to the adaptation itself, the need for change would not even be perceived without an appropriate sensing mechanism; indeed, the function of scanning and processing information can be designed into the firm's processes and can be part of an ongoing validation mechanism for the business model. The ability to conduct effective search in dynamic environments will depend on the range and quality of internal and external relationships (as per the definition of business model adopted in this program.)
- **Seizing opportunities.** This is the most relevant area for the current study, in that the appropriate construction or adaptation of a business model is precisely the mechanism for seizing the opportunity. In fact, the first microfoundation identified for this capability is "*Selecting product architectures and business models*" (Teece 2007: 1329 emphasis in the original) which in turn reflects the

business model's role as the architecture that creates value for the customer/user and captures it for the firm. While there are many options for business model design and adaptation, idiosyncrasies of the firm and its ecosystem will affect the process and outcome.

- **Managing reconfiguration.** Organisational design that allows the requisite amount of autonomy at the periphery of the firm, while retaining connections and control of co-specialised assets will likely aid swift reconfiguration, when "there is a continuous need to modify product offerings, business models, enterprise boundaries and organizational structures." (Teece 2007: 1339)

The degree to which one should deploy dynamic rather than static capabilities will vary. That is the topic of the next sub-section.

3.3 Balancing static and dynamic capabilities

Greater use of either static or dynamic capabilities reduces their cost of implementation in absolute terms and relative to each other (Zahra et al. 2006.) Thus, ongoing use of a substantive capability without change makes it progressively more difficult to execute dynamic capabilities (Ghemawat and Costa 1993). On the other hand, repeated exercise of dynamic capabilities raises the cost of implementing any single substantive capability, but lowers the cost of future change. There is therefore a form of learning effect occurring in the use of one tool, which tends to atrophy the use of the other:

> The argument, baldly put, is that organizational arrangements that promote static efficiency may be inconsistent with arrangements that promote dynamic efficiency. (Ghemawat and Costa 1993: 63)

Using the model in Figure 2, one can see that there is a point either side of which the organisation becomes excessively or insufficiently dynamic. As mentioned above, this would depend on how dynamic is the external environment, but also on the internal organisational capabilities, such as the sensing, seizing and managing capabilities (Teece 2007). Zahra et al (2006) and Teece (2007) vest the internal capabilities in managers and entrepreneurs. They conclude that firms who balance both substantive and dynamic capabilities are those most likely to survive longest and to succeed in the face of change.

The model in Figure 2 also illustrates the finding that organisations could efficiently move progressively to an extreme position in the static/dynamic continuum

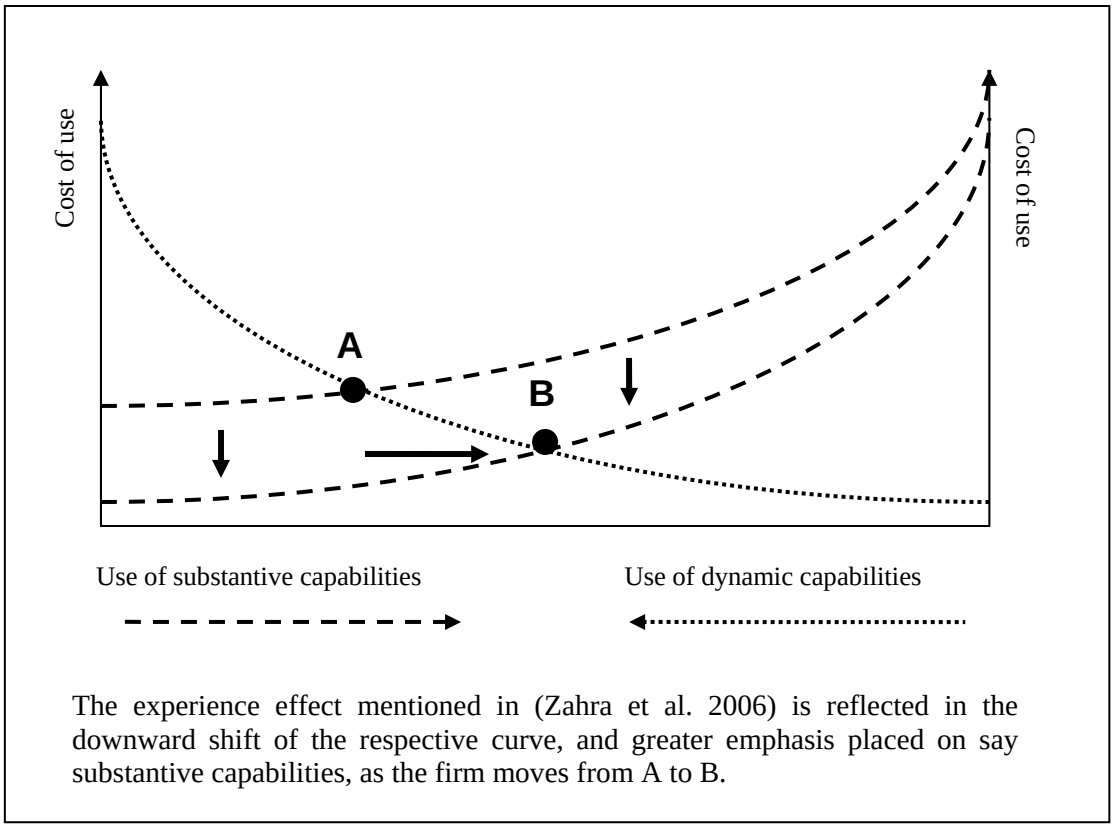

Figure 2: Trade off between deployment of substantive vs dynamic capabilities

In this respect, as Zahra et al (2006) develop propositions about the difference between new and established ventures, they cite research (Autio et al. 2000) showing that a learning culture designed and developed early in an organisation's existence will make it easier to maintain flexibility throughout its life.

One could then suppose that such balancing of static and dynamic capabilities would impact upon the willingness and ability to adapt business models. Further, the above considerations place heavy premium on appropriate design of the interface between the firm's internal and external environments, consistent with the definition of business model adopted for this research program.

This section analysed developments in the dynamic capabilities framework that impinge upon business model innovation.

It is noteworthy that two very recent studies in the dynamic capabilities field (Teece 2007; Augier and Teece 2008) are using similar language to that of effectuation literature. For example, the verb 'to shape' is used in two studies a decade apart (Teece et al. 1997; Teece 2007), but in very different ways. In the earlier article, it is mostly used in the passive sense, as the firm's position and path impact upon its assets and competitive advantage. In the latter paper, it is an active verb, refering to the firm actively shaping its external environment, very much in the effectuation mode of thinking. Eisenhardt and Martin (2000: 1107) used language presaging effectuation, in

a limited manner when defining dynamic capabilities as processes through which firms attempt "to match and even create market change."

As a result, there are connections between dynamic capabilities and effectuation that is the topic of the next sub-section.

4 Discussion

The dynamic capabilities framework appears to hold significant prospect for aiding the research into business model adaptation and innovation. It was developed to study determinants of sustained superior performance in fast moving and high technology markets, where the earlier resource-based view of the firm was deemed to be inadequate. That fits perfectly with the use of the business model construct and with the ultimate objective of business model creation and adaptation in technology-based firms.

Given the very early stage of research on business model adaptation, I will concentrate most of the Discussion on limitations of the present paper, to be addressed ahead of, and in conjunction with, the proposed field research for the broader program.

4.1 Limitations

This study and the broader research program are limited by the scope of enquiry being focused on firms bringing new technologies to market. Further, this paper specifically focuses on one central theoretical stream, namely that of dynamic capabilities.

There are other theoretical lenses that have obvious potential for aiding the analysis of observed practitioner behaviour, such as effectuation, *bricolage* and emergent strategy.

They are consistent with the dynamic capabilities framework, hence the essence of their contributions will be captured by adopting dynamic capabilities as a frame of reference. For example, a major exponent of the effectuation school proposes as a useful research effort the following:

> "… instead of directly assessing the effect of industry environment on firm performance, we could study how entrepreneurs, given that they have survived in particular environments (say, high-velocity environments), design decision procedures that cope with those environments (Eisenhardt, 1989)." (Sarasvathy 2004: 715)

The similarities with the dynamic capabilities mindset is obvious, but potential insights could be missed by not explicitly considering those other strands of theory more explicitly.

While it was considered when discussing the posited differences between new and established ventures, this paper does not adequately spell out the relevance of time in its three dimensions:

- Time elapsed in (ie speed of) decision making process
- Time since inception, that is age of the enterprise
- Timing of the event

The emergent nature of strategies, business models and of the processes for their monitoring and development is also not explicitly delineated. Henry Mintzberg (1978) characterised emergent strategy as an interactive process between the organisation's environment, its internal bureaucratic system and its leadership. These three elements are important components of the dynamic capabilities framework, but their interaction is also dependent upon all three dimensions of time listed above.

Emergent strategy can thus evolve as a result of organisational learning, whether from accidental learning and sense making (Pascale 1984; Agius et al. 2006) or intentional actions such as improvisation and experimentation (Zott 2003; Zahra et al. 2006), or other sensing activities (Doz et al. 2001), or some combination of both as in the real options approach (Luehrman 1998; Williamson 1999). Positively reinforcing double loops (Doz 1996; Doz and Kosonen 2008) and deutero learning (Schon 1975; Haho 2004; Visser 2007) also help.

A danger arises when the strategy or culture that supported success becomes so entrenched that it cannot change when environmental conditions change, or it fails to continue innovating and creating new opportunities (Schein 1996; Zott 2003). This is the problem described by Chesbrough and Rosenbloom (2002). On the same note, Burgelman and Grove (2007: 966) borrowed an image from Craig Barrett, former CEO of Intel, who would refer to the "creosote bush conundrum."[5]

Similar thinking, in terms of inertia, or myopia, once successful routines had developed, have been expressed by March and Levinthal (Levinthal and March 1993; March 2006), to the point of advocating that *foolishness* be allowed, if not encouraged, in organisations. Under these conditions, it is likely that the punctuated equilibrium approach (Gersick 1991; Sabherwal et al. 2001) and the time- and event-paced decision making (Gersick 1989; Gersick 1994) will add theoretical and managerial relevance.

This paper does not explicitly consider cultural forces at play, whether national (Chesbrough 1999; Casper and Kettler 2001; Kettler and Casper 2001; Whitley 2002; Chesbrough 2003), or organisational/professional (Levinson 1965; Schein 1996; Cormack et al. 2001; Gittelman 2007; Nord et al. 2007; Nord et al. 2007).

All these considerations warrant further development, for application to the study of business model adaptation in technology-based organisations. By the same token, having such frames of reference carries the risk of limiting what the researcher will observe in the field, blinding them to possible idiosyncracies.

There are limitations within the dynamic capabilities framework itself. While it evolved from a need to understand entrepreneurial activity in high-velocity markets, hence it logically appears relevant to the study of business model adaptation in innovative environments, it is probably an error that it should be entirely defined by the environment (Zollo and Winter 2002; Zahra et al. 2006). As a result, it also holds promise of relevance to business model research in a broader view of economic activity. That is, the capabilities could be useful in static or slow moving markets. Teece (2007) implicitly acknowledges this when he states that the speed and frequency of using dynamic capabilities should be balanced against the speed and stability of the firm's ecosystem, but also when he states that possessing dynamic capabilities "is especially relevant" (Teece 2007: 1320) to certain situations. Further, the relevance of dynamic

capabilities can be due to internal considerations, including, for example, changes in personnel, or in their objectives and aspirations.

4.2 Tentative propositions

Based upon the discussion of dynamic capabilities and incorporating the early thoughts from the limitations above, an adequate ability to change appears to require

- Pro-active as well as a reactive stance
- Gathering and processing of relevant information in a timely manner
- Taking decisions within relevant time constraints
- Suitably endowed top management team, consisting of the entrepreneur, of the entrepreneurial team, or of senior staff
- Adequate information and knowledge flows between marketplace and decision makers
- Suitably open communication channels within the firm
- An ability for itself to change and improve
- A readiness for continuous, or semi-continuous change, but also discontinuous, revolutionary change

5 Conclusion

This study is part of a broader program to conduct research on the process of business model adaptation in innovation-based firms. There is a gap in the business model literature with respect to inductive field research on business model adaptation at the firm level. Published scholarly research has thus far been theoretical in nature and generally pitched at industry level, with a focus on eBusiness. This program aims to contribute by studying he process followed by practitioners, and by identifying and understanding the dynamics of the forces that help or impede the process.

Benefits beyond the scholarly field would derive from greater understanding of the process for business model adaptation. Practitioners in the firms, their advisers, their investors and public policy makers stand to benefit by being able to understand the risks and potential solutions that could be implemented both *ex ante* and *ex post*.

Before embarking in the field research, this study acknowledges that potentially relevant theory exists outside of the literature focusing specifically on business models. In particular, it finds that very recent contributions to the dynamic capabilities literature refer directly to business model formation and adaptation. Hence, this framework can provide useful insights. Similarly, as research on business models borrows and re-configures theory from other areas or disciplines, so it can contribute back into those areas or disciplines, as it confirms, alters, refutes what is received.

This study also acknowledges that the researcher will not be entering the field for exploratory research as a *tabula rasa*, but that existing frames already exist in their

mind, as a reminder of potential biases or blind spots when analysing the empirical evidence.

An objective of this paper is to seek a conversation with other researchers who might be thinking about the topic of business model adaptation, whether from a similar or different perspective, in order to develop and refine this specific research agenda.

Theory building in this area is at its very early stages. In fact, it will need to progress through intermediate stages of discovering patterns of behaviour (Bhave 1994; Sarasvathy 2001; Baker and Nelson 2005) or contingency factors (Stacey 1995; Buchanan and Dawson 2007) to build a more consistent picture over time. Empirical studies, largely of a qualitative nature, will form the foundation of this progress (Lambert 2006). Each one will be a collection of *tesserae* to be collated into a larger mosaic by scholars over time, across geographic, disciplinary and market boundaries.

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[1] The terms innovation, adaptation and change will be used interchangeably in this paper. While innovation might bear a more pro-active, distinctive nuance than the other terms, like the others it stems from dissatisfaction with the *status quo* and a decision to take action to improve the outlook. Researchers tend to use 'adaptation' and practitioners tend to refer to 'innovation.'

[2] This appears odd, given that Augier and Teece Augier, M. and D. J. Teece (2008). "Strategy as Evolution with Design: The Foundations of Dynamic Capabilities and the Role of Managers in the Economic System." Organization Studies (01708406) **29**(8&9): 1187-1208. claim the strategic management "field is grounded in practice", but it does suggest an important disconnect between academics and practitioners

[3] Before the time when the business model concept became widespread, John Kay Kay, J. (1993). Foundations of Corporate Success. Oxford University Press, Oxford. wrote:

> Corporate success derives from a competitive advantage, which is based on distinctive capabilities, which is most often derived from the unique character of a firm's relationships with its suppliers, customers, or employees, and which is precisely identified and applied to relevant markets.

[4] Interpreting footnote 1 in Zahra et al Zahra, S. A., H. J. Sapienza, et al. (2006). "Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda." Journal of Management Studies **43**(4): 917-955., I imagine they would claim that the ability to change decision making routines would be the dynamic capability, rather than a decision making capability that was able effectively to change business models.

[5] The creosote is a plant that apparently poisons the ground around it, so that no other plant can grow nearby. In business terms, this refers to a tendency for new ideas or approaches to be banished, hence inhibiting the firm's capacity to adapt or to influence its environment.