Digital skills for digital disruption and value creation

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Chapter 10

New business models that incorporate the digital economy

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Introduction

In this chapter, we present an 'emergence' perspective on business models, which proposes a useful methodological approach that addresses the difficulties faced by owner-managers in the exciting, but challenging environment, presented by the so-called 'digital economy'. Our chapter draws examples from an SME we have worked with over the last 15 years, referred to as FD in the chapter. FD is a UK-based airline service company that has diversified its business model to cover new niches over the 25 years of its existence as new digital technologies have reshaped repeatedly the context of the company. The airline industry has seen considerable changes in operating systems over the last two decades with the conversion of manual service systems to electronic systems driven by the digital economy. : Furthermore, deregulation and structural change at the supranational level have stimulated entrepreneurship changing the way consumers interact with service providers in the industry globally. Examples of such changes include the preference for internet booking over traditional travel agents. For a small service company seeking to survive and grow in an environment dominated by big players and changing digital technology, early adoption of new digital technologies can provide a competitive edge, but poor choices can put the firm at risk. Our chapter provides valuable insights for owner-managers by explaining how business models can be developed through an 'emergence' process that incorporates changes in the digital economy as they occur. The emergent process of business modelling explained this chapter would also be valuable to educators and policymakers in the small business and entrepreneurship fields.

Background

The impact of the digital economy on developing business models

The last decade has seen a plethora of digital innovation in a whole range of areas. Some of these are quite familiar, such as broadband and mobile technologies combined with smart-phones and tablets. SMEs trading from people's homes, plumbers for example, can now invoice and take payment for small jobs on the spot, using mobile devices, internet banking and dedicated application software. Many SMEs make use of the 'cloud', with even simple developments, such as Dropbox for data storage and access proving useful. Other applications are relatively new, such as 3D printing, 'internet of things' or Big Data, but are relevant to SMEs, particularly those at the leading edge of such technologies. SMEs have also changed the way they interact with others, in some cases using 'social media' for better marketing and customer relationship management or even funding new projects through mechanisms such as 'crowd-funding'. As an example, a PhD student at a UK university recently set up a new business around a novel 'flying car' that incorporated very new technology. Rather than develop the idea in the university's incubator, as might have happened in the past, he was up and running very quickly using the 'Kickstarter' platform to obtain sponsors and funding.

These developments in the digital economy have led to falling prices, enhanced the value and use of product and services, sped up the development of new products, eased entry barriers and intensified competition. As Normann (2001) predicted, and Yoo *et al.* (2012) pointed out, the digital economy has transformed the traditional competitive space for SMEs and calls for new business models. The digital economy revolves around innovative and often unorthodox collaborations, where numerous large, small and micro-businesses come together for the duration of a single project, then disband and form new partnerships for the next project. For example, ED, the small airline service company used as a case study here, put together a one-off collaboration with a number of stakeholders in the travel industry. As a result, they were one of the first firms to put together a secure 'digital passport bank' where passengers could store scanned versions of their passports, visas and other travel documentation, and if the need arose, access them from anywhere in the world with an internet connection. More widely, there has been an explosion of change and innovation that present a challenge to the traditional conceptualisations and development of business models. The digital economy presents important opportunities for SMEs, which have the flexibility to take advantage of novel technologies. There are also challenges, as the new business models required to successfully implement the innovations are not always obvious. The diversity, fluidity, interconnectedness and potential range of novel new combinations, for which there may be currently no precedents, presents a challenge for researchers, educators and policymakers. They need to not only know, but explain, and anticipate, what is going on, so that appropriate development and support mechanisms can be put in place. We explain the process of developing business models in the next section and how it relates to the digital economy.

Developing new business models

The term 'business model' has been used in many ways in the business and management literature, drawing on many theoretical and conceptual approaches (Zott, Amit and Massa, 2011; Camison and Villar-Lopez, 2010; Casadesus-Masanell and Ricart, 2010). These approaches range from quite simple expressions of how a firm will implement an idea through to revenues (Stewart and Zhao, 2000) through to far more powerful conceptualisations that attempt to capture the full range of stakeholder relationships necessary to ensure the business prospers. In these wider systemic perspectives, the business model is, at heart, an integrating concept that can explain value creation in different contexts (Zott and Amit, 2010). A broader view of the business as a system enables actor independencies and interactions to be brought to the foreground in the business model development process. It further implies that value creation transcends business frontiers (Amit and Zott, 2001; Dyer and Singh, 1998; Chesbrough, 2003).

We draw from the case study of FD to illustrate the idea of systemic business models. FD put together a new website specially designed to allow passengers to book air tickets online with a vast range of regional and domestic providers that were previously accessible only via travel agents. The associated business model comprised a set of revenue streams derived from customer bookings, participating airline fees and of course, advertisements. Correspondingly, registration and operational payments needed to be made to various agencies in the air travel industry to secure the bookings. This business model was based on realizing value from a negotiated set of diverse, international stakeholder relationships under many different regulatory regimes, including those with the developers of the necessary dedicated software. This required a systemic overview of a wide range of activities, not just a simple pricing mechanism around a specific product.

Researchers agree that the business model concept draws together multiple concepts around the creation of value (Zott, Amit and Massa, 2011). It allows the articulation of the system of activities that firms use to create value for one or many market segments, with an ultimate goal of generating a flow of sustainable revenues (Dubosson-Torbay, Osterwalder and Peigneur, 2002; Teece, 2010). It embraces the engagement of the human, material and financial resources that are brought to bear by the focal firm and other actors who aim to reach specific goals (Zott and Amit, 2010; Alt and Zimmerman, 2001).

The wider system concept is useful in that it allows the boundaries delineated by a variety of interlocking technical, technological, cost, innovation and risk factors to be explored in relation to the anticipation of value. It draws attention to the 'boundary spanning' nature of business models (Zott and Amit, 2010). These authors stress that organisations need to make connections with different business actors. Those connections permit a focal organisation to rely on the resources and the capacities of third parties and allow it to capture external ideas and technologies. The concept of a system also refers to an exchange relationship that deals less with the product or services but more with the wider value created through a combination of critical resources and capacity. So the business model can be seen as a set of elements interacting with each other that permits in the end, the pivot firm to implement an innovation (in any of the Schumpeterian forms) that create value and generate revenues Zott and Amit, 2010). Other authors such as Chesbrough (2003, 2006) and Chesbrough and Rosenbloom, 2002) 'open innovation', as a new paradigm where the focus is specifically on the potential to create value across and outside organisational boundaries through new relationships with customers and partners. Correspondingly, they attach the idea of 'open business models' to this line of thinking, which again takes a systemic perspective.

More specifically, the prism of the business model describes the roles of different actors (the firm, distributors, customers, allies, investors, and other stakeholders) and the relationships that can exist among them. It permits the identification of the main product, information and money flow and determines the benefits to each of the business actors (Weil and Vitale, 2000). As a consequence, the act of defining the business model leads to localizing the focal enterprise within a network of partners (Osterwalder, Peigneur and Tucci, 2005) Hence, in order to better understand the business model concept, it is necessary to understand the system in which the firm is situated and to highlight the interdependencies engendered by the resources engaged by the business actors (Amit and Zott, 2001). Interdependencies between business actors are thus at the core of the concept of the business model.

Juggling technical, technological, cost, innovation and risk as suggested above, in a range of multiple stakeholder relationships, particularly where new technologies are involved is no easy task for busy, hard-pressed owner-managers. Yet as one of the senior partners of FD said, when referring to the process of business model development during the creation of the website above: "we had reached a critical point. If we didn't do it, someone else would – and that might be the end of the game". There are of course, useful toolsets and processes available to help owner-managers develop business models effectively, particularly in the fast-changing digital space. In response to this challenging environment, Silicon Valley practitioners such as Reis (2011) and Blank *et al.* (2012) have worked on 'agile development' which recognises the need for flexibility and change during business model development. They have developed tools such as the 'business model canvas' (Osterwalder and Peigneur, 2010) which attempt to simplify the consideration of the many variables involved in business model development. An effective business model should enable speedy changes (or 'pivots') to the key dimensions, in response to significant shifts in the surrounding context, as often occurs in the digital environment. Reis (2011) and Blank *et al.* (2012) emphasised the 'disposable' business model, which they describe as a set of testable hypotheses with a strong emphasis on community development and stakeholder engagement. In this mode of thinking, the business model is not just systemic, it is temporary and contingent on stakeholder actions and the environment in which the focal business will operate. Taking FD as our example, although we characterise the regional airlines website as 'one' emergent business model, we could identify many associated, temporary versions, that were continuously shaped, re-shaped and strengthened as stabilisation took place over time. The owner-manager was the key decision-maker during that process, and his activities were central to entrepreneurial action. As George and Bock (2010) point out, it is the business model that establishes the boundaries and enabling mechanisms for entrepreneurial action, mediating between the fundamental opportunity and the entrepreneur's perceptions of the opportunity landscape.

Other authors have for some time discussed tools and approaches that are relevant in this space, such as open innovation (Chesbrough, 2003) as mentioned above. Some focus on canvassing the voice of the customer in development (Griffin and Hauser, 1993), or including those 'lead users', people who take up new technologies at an early stage in development processes (von Hippel, 2012). There are also 'technology road-mapping' techniques that anticipate where and how technological fields might develop (Phaal, Pharrukh and Probert, 2004). While these discussions are helpful to aspirant entrepreneurs, they do not provide explicatory or predictive devices that fully identify or explain the range of processes and structures business model development in fast moving technological contexts, which remains difficult (Markham, *et al.*, 2010; Boocock, Frank and Warren, 2009; Barr, *et al.*, 2009). With that in mind we now turn to entrepreneurship and introduce the concept of emergence.

Entrepreneurship – a multilevel phenomenon?

We naturally tend to think of the entrepreneur (in this case the owner-manager) and entrepreneurship as individual phenomena, albeit that take place in a social context. Yet, if we characterise entrepreneurship as 'creative destruction' effected by an entrepreneur, then the acts of entrepreneurship must surely impact across more than one level of analysis (Jack and Anderson, 2002; Phan, 2004; Spedale and Watson, 2013). Creative destruction assumes the pre-existence of a social structure, that is, the everyday habitual practices, rules, power and resources available to people in normal life. The actions of individual entrepreneurs must be related in some way to this existing structure, and at the same time disrupt and change the structure, resulting in the emergence of novelty in the form of new products, service, processes and modes of organising (including the formation of new ventures, and potentially, disrupting whole industries).

As an example when the owner-manager of FD created the new business model around the booking of regional airlines referred to above, he did so in classic entrepreneurial fashion: developing a novel idea through to fruition using new digital technologies. In doing so, he set in motion an innovation that involved widespread changes of behavior, not only for customers, but also for airline sales systems of various kinds, impacting a variety of firms and regulatory regimes in different countries across the wider value chain. His actions therefore impacted at multiple levels – obviously, individuals changed their behavior (at the micro level), and the structure of the firm and its partnerships were affected (meso level). There were also slight changes to the macro-structure as the business model filled a niche in the international booking context as agreed by negotiation with a number of regulatory bodies. The need therefore for multilevel approaches to theorizing entrepreneurship (and we would argue business models) has arisen in the literature (Thornton, 1999; Phan (2004, p619). Spedale and Watson (2013) link these debates to the growing body of entrepreneurship research on the context in which business activities take place (Welter, 2011). Tracey, *et al.* (2010) take a multilevel approach to linking the creation of new organisational forms at micro-meso-macro levels to individual and institutional entrepreneurship. Such approaches are of course related to wider debates in social sciences such as Giddens' (1984) duality of structure (structuration theory), a point also developed in the entrepreneurship literature (Jack and Anderson, 2002).

Other authors have overtly placed methodology at the heart of understanding the interconnections between the micro, meso and macro levels from an analytic point of view, building on social constructionist approaches. Downing (2005) for example, uses a framework connecting narratives and dramatic processes to link organisations and entrepreneurial identities, and Anderson and Warren, (2011) contrast individual entrepreneurial identities to construct, at the macro level, entrepreneurial stereotypes in government and media discourse. Corner and Wu (2013) connect the micro to the macro-level through the notion of dynamic capabilities.

Such thinking can help bring coherence to our understanding of the business model as a systemic construct, in ways that we argue can help owner-managers in every day practice. Next, we take a deeper look at the concept of emergence in entrepreneurship, which inherently spans different levels of analysis as entrepreneurial acts effect changes in structure with impact at industry and organisational levels, which are mediated through the exchange processes and captured in business models. Our particular emphasis is on characterizing the business model as a temporary (or ephemeral) construct which emerges in response to entrepreneurial agency, resonating with the Reis (2011) and Blank *et al.*'s (2012) notion of a set of testable hypotheses.

Emergence

Entrepreneurship is premised on the notion that novel entities or constructs such as products, services and indeed business models 'emerge' from the relationships between individual and the environment. Hence, 'emergence' has provided a substantial conceptual underpinning for entrepreneurship studies, both explicitly (Gartner, 1985; 1993; 1995; Katz and Gartner, 1988; Gartner, *et al.*, 1992; Busenitz, *et al.*, 2003; Lichtenstein and Mendenhall, 2002; Lichtenstein, Dooley, and Lumpkin, 2006) and implicitly, for example in the context of bricolage (Baker and Nelson, 2005) legitimizing behaviour and trust building (Delmar and Shane, 2004; Tornikowski and Newbert, 2007; Welter and Smallbone, 2006) the role of identity creation for entrepreneurship (e.g. Down, 2006; Fletcher, 2003; Warren, 2004) effectuation and causation mechanisms (e.g. Sarasvathy, 2001) opportunity recognition (e.g. Eckhardt and Shane, 2003; Shane and Eckhardt, 2003; Sarasvathy, 2003) and entrepreneurial action in context (Spedale and Watson, 2013) In all cases the implicit meaning of 'emergence' in these studies is a description of the appearance of something new or different.

The perception of organisational emergence as a process of "how organizations make themselves 'known'" (Gartner 1993, p. 234) paved the way for more recent research focusing on legitimating behaviour of nascent entrepreneurs and its connection to organisational emergence (e.g. Tornikowski and Newbert, 2007) or firm survival (e.g. Delmar and Shane, 2004). In this regard, Aldrich (2000) suggested that successful new entrepreneurs are more likely to be those who can build networks of trust, which assists them in creating legitimacy within the market. He refers to an earlier, unpublished paper by Gartner and Low (1990) who argue that:

> *… organizations emerge when entrepreneurs are successful in achieving an understanding among the trusting parties – potential customers, creditors, suppliers, and other individuals and organizations – that things will work out.*

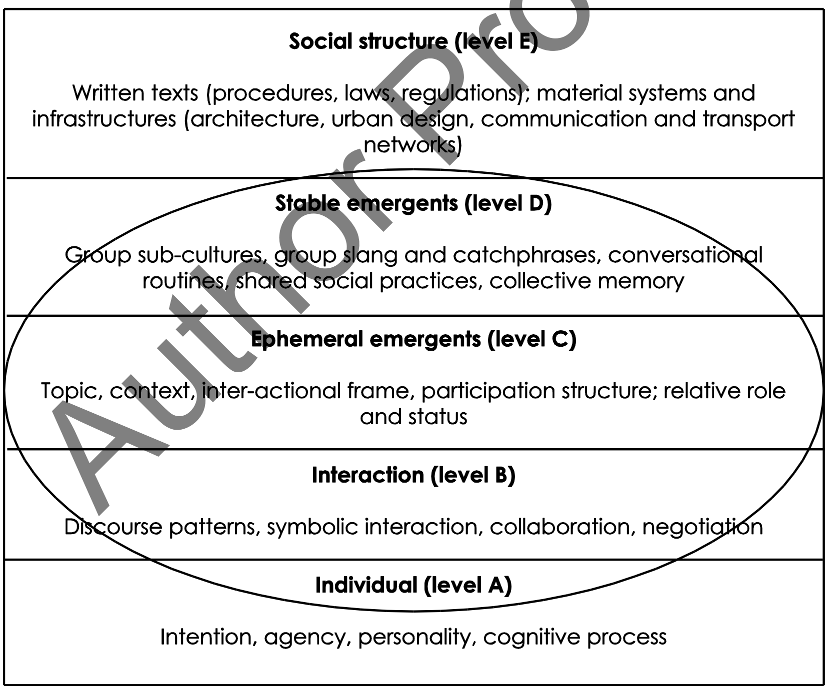
With regard to organisational emergence, the above research illustrates how activities undertaken to obtain trust and legitimacy can reduce venture failure and enhance venture creation. Thus what emerges is a set of transactions or intentions between parties, sustained by trust, and mediated through a business model that codifies interaction.

Another stream in the entrepreneurship literature, which implicitly uses the notion of emergence, draws on cognitive approaches, for example in analysing opportunity recognition processes. Here, several studies have explored how opportunities 'emerge', discussing whether opportunities are 'out there' (Davidsson, 2003) or whether they are 'enacted' as individuals make sense of information and their actions, thus retrospectively 'discovering' and 'recognising' opportunities (Gartner, *et al.*, 2003; Fletcher, 2006) In this sense the enterprise emerges as a recognised pattern. Sarasvathy (2008) suggests that studying opportunities might add knowledge on how value in society is created, thus drawing attention to an outcome of entrepreneurial activities, which often is neglected in narrowly focusing the emergence debate on venture creation. In this 'outcome' sense the enterprise emerges as value constructed around a business model. Other studies concentrate on how opportunities are discovered, evaluated and exploited (e.g. Eckhardt and Shane, 2003; Shane and Eckhardt, 2003) which these authors see as central to the process of venture creation, although such an approach focuses largely on the early stages of organisational emergence (Hindle, 2004).

Of course, the power to achieve a particular stated goal is limited for any SME, particularly in the digital economy which is a heterogeneous environment dominated by influential incumbents. In our FD example, the owner-manager has no influence on what major players such as large airlines or industry regulators do. He has to act on contingency, where strategy allows for speedy response in an environment where the future is unpredictable and often dominated by large firms and fast-moving technological and industrial standards that co-evolve in complex non-linear paths (Garnsey and Heffernan, 2005). He must constantly organise and re-organise for novelty in anticipation of industry change, particularly in high-velocity industries where uncertainty is high, and for an SME, with scarce resources. The constant adaptation of business models is central here, as Lichtenstein (2006) illustrated. They explained that in each of four high technology business start-ups the business model had to be changed several times before becoming stable.

To try and articulated these overlapping debates, we turned to Sawyer (2004) who draws on Archer (1995) in developing what he refers to as the Emergence Paradigm, specifically ‘emergents’ at two levels: ephemeral emergents and stable emergents (See Figure 10.1). Methodologically, this approach brings an emphasis on how the structure of such temporary elements affects practice. Emergents may persist (become stable and realize value) or may disappear (ephemeral); how and what occurs is related to what owner-manager actually do in practice.

Figure 10.1 Sawyer’s ‘circle of emergence’



Source: Sawyer 2005, p. 211.

When FD was developing the business models referred to above, the owner-manager and the rest of the team did not follow a linear ‘stage gate’ or ‘waterfall’ style processes of development, nor did they sit down and work through a business model canvas or other formal planning approaches. Instead, development occurred through informal actions and begaviours in a climate where constant low-impact experimentation prevailed and where many new strategic options were generated, discussed, and often discarded. We found it helpful to characterise these as emergent: chimeric structures, initially at the level of a mental model, the initial 'twinkle in the eye' of the digital passport bank, or the regional airlines booking service. Some of these ideas were very ephemeral, and disappeared in quite a short time. Others persisted, becoming stable over time, with further development into potential business models occurring later. These were constantly assembled, disassembled, reassembled and annealed in line with evolving need. Lichtenstein, Dooley and Lumpkin (2006) and Corner and Wu (2013) also observe similar non-linear behaviour patterns in SMEs.

With respect to Sawyer's 'Circle of Emergence', the 'stable' structural nature of economic systems provided a constraining framework. For example FD can explore, examine and develop new niches, but it is constrained by not only having to make profits, pay staff and so on, but also has to be affiliated with, and accept the rules of, certain travel industry regulatory systems and associations. Nonetheless, there was however a high level of dynamism associated with the instability of the industry, created mainly by new technology, deregulation and therefore greater competition. These called for, continuous innovation of FD, under the drive of its entrepreneurial CEO to co-evolve new business models in rapidly changing niches. Within that milieu, some emergents were more stable than others and became part of the business. The regional/domestic booking systems became stable and realized commercial value, whereas others were not developed to fruition. The Digital Passport Bank, for instance, was not successful for long, as competitors developed better 'fits' for this particular niche. Nonetheless, even structures that did not persist, gained status as recognisable features in the firm and had causal power in terms of attracting resource and attention – at least for a time – as the firm sought to survive and grow.

Thus, from a methodological point of view, we conceive a business model, *firstly,* as an emergent (or emerging complex system) that has an identity, and even at the level of a mental model, it is a significant part of the SME in question. It is part of what meaningfully exists and begins to have an effect in the firm: it attracts and amplifies energy and resource.

Secondly, we would argue that the emergent business model is deemed stable, in business model terms, when it is able to reproduce itself through transactions. *Thirdly*, the emergent business model is a social construct. Until it has persisted and become part of the business, it is just one of many possible futures.

Key lessons from this perspective

We began by presenting the literature which conceives business models as a systemic, multifaceted phenomenon. This resonates with the explosion of creativity around entrepreneurship and innovation in the digital economy. In addition, the existence of an unprecedented ecosystem replete with hardware, software, interdisciplinary scholars and practitioners, and burgeoning amounts of data has turned up the clock speed to such an extent that business models are not only complex and embedded, they are also ephemeral, that is, business models are constantly changing emergent constructs. This resonates with dominant practitioner perspective proposed by Blank and Dorf (2012) and Reis (2011) who describe business models as sets of hypotheses to be tested and discarded in co-creative environments until a critical moment for launch is reached. We have added a methodological perspective based on emergence from the entrepreneurship literature to this debate. In theorizing emergence as a transition from ephemerality to stability, taking account of the entrepreneur as an agent within a social context, we foreground the notion of business models as emergent, structural entities that may or may not persist over time as the surrounding context evolves, but which are nonetheless causal – attracting resources and organisational energy – at least for a time. From a methodological point of view, our chapter focuses attention on particular constructs and activities at the time business model development is being carried out. To put it more simply, we show that it may be possible to detect three particular types of activity taking a creative idea into a successful enterprise, i.e. (1) where the pattern is first produced; (2) where a stable emergent (as a business model) is taken to market; and (3) some intermediary activity that stabilises the ephemerality of the emergent pattern by articulating its anticipated value to a particular industry, economy, firm, society or other context that is systemically interconnected. The approach enables researchers to concentrate on the processes, interplays, choices and decisions that owner-managers enact in small firms in regard to the full panoply of potential innovations they consider. More typically research tends to focus, post-hoc, on successes (usually) or failures (occasionally), as indeed do owner-managers.

From a practical point of view, how can owner-managers take advantage of an emergence perspective in the digital economy (see Fuller and Warren 2006 a/b & Fuller and Warren 2008 for underlying concepts)? We end with the following lessons:

1. In regard to business model development, take an anticipatory view and keep business models as fluid as possible for as long as possible. Taking FD as our example, although we characterise the regional airlines website as 'one' emergent business model, we could identify many associated, temporary versions, that were continuously shaped, re-shaped and strengthened as stabilisation took place over time. This was necessary in order to keep strategic options open while still moving forward in a business context that was changing very rapidly.
2. Fostering a culture where low-level experimentation is encouraged. Some 'experiments', such as prototypes or demonstrators are obvious formalisations of potential ideas that are then tested for further development. However, small-scale experiments – mental models, stimulated by conversations with new and different communities of practice, both inside and outside the firm can be productive. For example, attending trade shows outside the sector 'norms' can lead to new thinking, or 'sideways innovation' that may persist over the long term.

3. The owner-manager needs to have a strong vision of what the business 'is' and what it might become. It is important to reflect on the identity of the firm when making strategic decisions. The owner-manager of FD, for example, wanted the firm, and himself, to 'be something' in the airline industry. This had a significant effect in terms of the kind of projects that emerged and were developed and stabilised. Digital Passport Bank, and the regional airlines service, both involved combinations of new digital knowledge and very specialist industry expertise, and as such rapidly took root in the firm, even though only one was successful in the long-term. As such they were considered part of what the firm *might* become over time, while taking over the cheapest sandwich franchise of on-line meals would not be suitable.
4. Owner-managers need to organise for flexibility and agility. On the one hand, the digital economy moves quickly, which is challenging. On the other hand, the entry barriers to experimenting with digital innovations, particularly on the internet are quite low. When FD set up the regional airlines service, they hired temporary contractors to set up the basic architecture in the first instance. Of course, that could have led to a sense of separation of the endeavour from the firm. However the owner-manager worked hard to create a sense of belonging and identity within the firm, by means of simple techniques such as a weekly newsletter about the project (the Altimeter) to keep the full time staff alert and engaged. Thus, once foundations had been laid, they were relatively prepared for what was to come as the new service became part of the mainstream activities in the firm.
5. Many owner-managers are good at 'horizon sensing' and knowing when to engage and take new ideas forward. Such skills can be honed to carefully reflect on the emergent business models in the firm. When are the critical points for assessing whether a new idea becomes part of the firm – or not?

In conclusion, this paper takes a closer look at 'business models' in the digital economy through the concepts of entrepreneurship, innovation and emergence. In doing so, we expand knowledge of the structures of these different value creating processes in the context of the digital economy and how they are different from traditional business models:.

For inroads into further research we fully recognise that we need to explore more deeply the theoretical linkages between our approach and other relevant literatures, for example, strategy, dynamic capabilities, organisational identity, entrepreneurial identity, complexity science, sense making and opportunity recognition. We therefore offer a particular perspective into a wider area of social science research which enables improvement in the understanding of entrepreneurship and the mechanisms by which business models arise, recognizing the particular challenges – and opportunities provided by the digital economy.

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