

# Business model innovation in a global digital economy, an anticipatory perspective to researching rural enterprises.

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## Abstract

### Objectives

A conceptual framework for the empirical analysis of some effects on rural enterprises of “the digital economy”, linked to the concept of *an anticipatory system*. The superficial context is the expansion of ‘superfast’ broadband into rural areas through public subsidy. The more significant research objective is to explore ways in which rural enterprises are sustained in a digital age, for example by innovation and what processes are employed in achieving such sustainability. How does being enterprising include anticipation and to what effect?

### Prior Work

The focal point of the research is the notion of the ‘business model’ e.g. (Amit & Zott, 2001; M. Morris, Schindehutte, & Allen, 2005; Alexander Osterwalder, Pigneur, & Clark, 2010) and the related influences that rural contexts and broadband may have on the capacity of an SME to sustain itself, either through competitiveness or in value captured (Chesbrough & Rosenbloom, 2002). The work also builds on Fuller and Warren’s programme of research on complexity and emergence in small and medium enterprises, e.g. (Fuller, Warren, & Argyle, 2008; Fuller, Warren, & Norman, 2011; Warren & Fuller, 2015)

### Approach

The conceptual framework is built from the literature on complexity, emergence and anticipation. It is used experimentally on three case studies of rural enterprises, where the focus is broadband and internet technologies and globalisation.

The object of study is a range of rural enterprise business models; firstly through a descriptive lens of business model structures as they relate to each firm’s global and local contexts, secondly through an analytical lens of value creation/capture and a thirdly through a methodological lens of anticipation (Poli 2012) as a precursor of responsible innovation, e.g. (Bocken, Short, Rana, & Evans, 2014; Stilgoe, Owen, & Macnaghten, 2013; Yunus, Moingeon, & Lehmann-Ortega, 2010).

### Results

The usefulness and limitations of the framework are discussed, as is the extent to which enterprises’ anticipatory capacity (Ahlqvist et al., 2012; Poli, 2010) relates to digital technologies. Indications of early findings from empirical case-based research are included.

### Implications

The implications of this theory-building from extant literature is that some profound changes are taking place in the environment of rural enterprises, over which they have limited power. Opportunities for value creation exist but the development of the agential anticipatory capacity should be at the heart of entrepreneurship education and business support.

### Value

The framework is offered as a tool for researchers in this field in order to expand their analytical capacity. The concept of anticipatory capacity is introduced to link the informational aspects of the digital economy with the sense making and entrepreneurial behaviour of rural enterprise management.

## Introduction

The broad research question underlying this study is ‘What forms of anticipation are manifest in specific organisational contexts, and to what effect?’ This question forms part of a wider programme of study on Responsible Anticipation within a broader theme of responsible management research. In this particular case, we are interested in the way that a selection of small firms based in rural areas prepare for their futures in a more digitally symbolised and interconnected world (M. Castells, 1996; Manuel Castells, 2005). The context for our investigation is a programme of university-business collaboration, mainly funded by European structural funds and related to a central government response to the market failure of telecommunications companies to provide adequate broadband technologies in rural areas that are more sparsely populated (with customers and competitors) than urban areas. The purpose of this collaboration is to provide stronger links between a university and local enterprises, and in this case with a focus on economic sustainability,

Within this context therefore, are a number of specific areas of interest, such as how the small enterprises are using or planning to use digital technologies, how this is changing their businesses, and what effects access to a wider range of knowledge and skills might have on the enterprise. These latter points have both evaluative and formative aspects; evaluative in terms of the ‘added value’ that faster broadband technologies might provide and formative in terms of how small enterprises can develop in the digital economy.

This working paper gives a brief report on work in progress in a small empirical study of small enterprises with regard to the responses to the digital economy. The paper investigates the extent to which a central concept in strategic shaping in the digital economy, the business model, is apparent in the thinking of the principals (leaders, owners etc.) of these enterprises. Our analysis of the way that these small enterprises are dealing with the environmental changes uses a central question of the ways in which they are anticipating the effects of the digital economy. For this purpose we extend previous work on innovation and emergence (Fuller et al., 2008; Fuller et al., 2011; Fuller, Warren, Thelwall, Alamdar, & Rae, 2010; Warren & Fuller, 2015) to consider the role of anticipation in entrepreneurial processes.

## Context

Even the most regionally remote of small businesses in the UK are engaged in the global economy, and this economy is mainly mediated through the internet. “The Internet” is used here as an umbrella term for online, interconnected relationships and transactions, including web sites, social media. Even when such technologies do not reach the individual small enterprise, they are used by their customers and competitors and this changes the landscape for the ‘unconnected’. The digital economy as Tapscott (1998) called it, is ubiquitous. The literature connecting ICT and small enterprises, rural firms and the issues of broadband access is not extensive and that which exists is well summarised by Townsend et al. (2013). The significance and shortcoming of internet access is certainly a policy issue at the present time with strong advocates for ubiquitous high speed internet connections for businesses in business organisations<sup>1</sup> and government (House of Lords, 2015). The assumption that high speed internet access is necessary for innovation and growth in businesses, as well as in the provision of public services is widely held (Salemink, Strijker, & Bosworth, forthcoming). The premise is a general form of anticipation that high speed internet access is a strong element of ‘the future’ of social, economic and cultural life and that not being fully ‘connected’ disadvantages firms and people.

The ecology surrounding any form of digital enterprise is complex, dominated by larger firms, highly volatile because of the ease and speed of new entrants and requiring high levels of ongoing investment in “being present” online. How then, does a small firm compete, when somewhat disconnected or with low levels of connectivity because of slow broadband speeds (Townsend et al., 2013), and frequently with low relative levels of skill in both online communication and in the technical management of online business? Our research set out to discover the ways in which the principals of the enterprises (owner managers/entrepreneurs etc.): were preparing for their digital futures, were considering their competitive position, were reconceptualising their enterprises and what kind of resources they were enlisting to achieve this. These questions, in simple terms are a way of accessing the anticipatory practices of the enterprises and to reveal the limitations, or perceived limitations, experienced by the firms.

## Methodology

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<sup>1</sup> See for example the 2013 report from the Institute of Directors stating that rural business leaders are dissatisfied with download speeds (60% mobile and 45% fixed line) <http://www.iod.com/Influencing/Press-Office/press-releases/new-iod-poll-faster-broadband> (accessed September 2015)

Our approach to this study is grounded in an emergence perspective (see for example (Fuller & Moran, 2000; Fuller & Warren, 2006a; Fuller et al., 2008; Benyamin B. Lichtenstein, 2014; Benyamin B. Lichtenstein, Dooley, & Lumpkin, 2006; Sawyer, 2005). This perspective takes the position that entrepreneurship and innovation are linked, such that entrepreneurial actions generate novelty (innovation); that such innovation is generated through the inter-relationships between actors and, while it may be planned to some extent, is largely unpredictable in its outcome because of the inter-subjectivity of the actors and the multiple interactions that take place. The perspective is informed by complexity and constructionism. The unit of analysis in this study is the business model, in particular the emergent business model. If an enterprise is responding to changes in its environment created by the digital economy, then how does the pattern of doing business (i.e. the business model) change? How does a new business model emerge from existing practices, modified by the influences of a digital economy?

The “Business Model” is a description of the main set of relational interactions that creates and captures (appropriates) economic value. (Teece, 2010; Zott, Amit, & Massa, 2011). The concept of a business model is more aligned to networked value creation than a simple value chain or value creation by the individual firm. The business model “mediates between technological development and economic value creation” (Chesbrough & Rosenbloom, 2002, p 532). For the individual enterprise business models are a way of distinguishing competitive strategies, i.e. the formation and operationalization of a business model is relatively strategic. It is also a site of innovation; i.e. by innovating the business model (Chesbrough, 2010) or reshaping the structure through which value is added in a particular market context. Arguably business model innovation is different from product or process innovation, requiring a different strategic orientation (Bock, Opsahl, George, & Gann, 2012). Business Models can be used as a framework for analysis of a particular enterprise and also as a construct for design. Used for joint purposes, a business model framework can be used to structure a strategic conversation by managers about the structure, capabilities and strategies of a particular business.

The premise of a business model approach is that value can be quantified and that the quality of one particular structural form or model over another can be assessed. Used as a design device, a further premise is the possibility to identify alternative possible structures and to align necessary resources to achieve the desired design. From the entrepreneurship perspective, this teleological premise does not sit comfortably with the more bricolage oriented theories of entrepreneurship, such as effectuation (Sarasvathy, 2001). A bridging concept in this respect is that of emergence (the emergent business model). The innovation of a business model in a smaller enterprise has been shown to be largely process oriented, emerging over time and in constant adjustment as conditions, technological capability and stakeholder responses change, see for example: (Fuller et al., 2008; Lehoux, Daudelin, Williams-Jones, Denis, & Longo, 2014).

An analysis of business model innovation is consistent with the effects of the internet and the speed and density of communications. The concept of The Business Model has been much amplified by its relation to e-business (Amit & Zott, 2001; A. Osterwalder & Pigneur, 2004). Innovations in communication and technology enable changes in patterns of business activities and can change the extent and location of value being created and value gained (appropriated or captured). It is an empirical question therefore, rather than a theoretical question, whether the business models of rural small firms (to select a particular type of firm) have been influenced by the digital economy and in what ways. Online technologies are complex. Engaging with online activities is time-consuming. Larger corporations employ technical teams to operationalise online business and invest heavily in technologies and digital resources. More strategically, online economies are dominated by a few large-scale firms who have created new spaces and systemic economic ecologies that enable small scale enterprise: small firms acting as retailers, service providers, software developers and fulfilment services, to name but a few. Engaging in such economic ecologies is likely to require changes to (and innovations in) the business models of the firms concerned.

It is also the case that applications of new technologies, such as 3-D printing, genomics, robotics and software services, create opportunities for new business models, and the effects of those changes is unpredictable. The causal connectedness of technologies, connections and practices is complex – meaning a) the effects are difficult to understand or anticipate consequences and b) the connectedness generates novelty at a faster rate than can be perceived by those outside the immediate site of the innovation. All of the above aspects of the digital economy have a tendency to increase uncertainty, increase rates of change and decrease the longevity of a particular business model, requiring ever greater agility and anticipatory capacity.

Before turning to the empirical aspects of the question of effect on small enterprises, let us give some critical consideration what underlies the business model idea. Primarily a business model is designed or produced to carry out or achieve the purpose of its host enterprise. A second aspect relates to value creation: What is the nature of the value pursued by the enterprise. In a corporate plc, ‘value’ is primarily economic; frequently manifest as high salaries for senior executives, a competitive return on shareholder investment and relative

growth in equity value. In smaller enterprises, what is taken to be valuable may be less clear-cut or a mix to complex of value types; social, personal, economic, familial etc. Two further aspects that underpin the notion of a business model relate to dynamics. Firstly, what motivates or triggers changes to the business model and secondly the set of processes by which business models form, evolve and reproduce.

Furthermore, in the same way that a singular enterprise cannot be understood simply in terms of its own characteristics, but only with reference to the context in which it exists (industry, market etc.), (M. H. Morris, Shirokova, & Shatalov, 2013) so a business model can only be made sense of as part of a wider ecology of interdependencies. For example, if the main motivation of the actors in a particular business is mainly a social purpose (Yunus et al., 2010) (such as a social enterprise), but the business model is part of an economic ecology, then its survival will depend on generating economic value. Thus what underlies the business model is perhaps a more explicit sense of interdependencies than is embedded in the concept of an enterprise.

The absence of explicit multiple values in the language of business models is a shortcoming if used to analyse, explain or design the organising patterns of a small enterprise, given the personal nature of small enterprises. The language tends to dehumanise enterprises. Human endeavours in the world of business models are taken as entirely instrumental with no difference between what is automated, what is undertaken locally by people and what is provided by other assets. The question of what might comprise a 'business model' for designing a small enterprise and how value and values are inscribed within this design or set of practices is open to further research. The evidence that business models are changed through process and practices rather than by design informs such research.

It seems reasonable to assume that for the entrepreneur or business owner or principal, a business model is a tool for them to use as an instrument of agency, such that the key personal aspects, so important to small enterprises, stand outside this design device but are inherent in the process of constructing the model. The overall process of shaping and reshaping practices in a small business is human agency, and human agents can use the 'tool' of a business model. A research question in relation to this is how the concept of business model is 'used', if at all, by the entrepreneur. It is a similar question to asking how a 'business plan' is used by the entrepreneur. Lehoux et al (2014) suggest that one use of a business model by entrepreneurs is to explain to stakeholders the value creation logic of the forming enterprise. In that sense it is prospective and provisional, and not unlike a business plan, it is a device that provides a capacity to make explicit the anticipation of future value.

We suggest that the central point of 'value creation' – a well-used phrase in entrepreneurship literature, is certainly important. A key analytical question is what is taken as being valuable (to the entrepreneur), and hence what shapes the business model, within its wider context. This question has at least two purposes, first, with respect to the enterprise itself, is to attempt to make explicit what is valuable to the enterprise and to set a design criteria for the business model. Many assumptions about purpose and the sustainability of the enterprise may be challenged in the process. The second set of criteria or analytical questions about value is to establish a much wider sense of value within which this particular model operates and to ascertain which actors in this ecology benefit from this value. This type of analysis takes a more critical perspective with a concern for power, value appropriation and sustainability. Thus with regard to 'value'; we need to understand what is valuable to the enterprise, what is valuable to the significant set of stakeholders in the 'ecology', how value is created with respect to this multiple set of values and finally how the enterprise is sustained by appropriating and capitalising value from the process, relative to other actors in the ecology.

### **Business model as an anticipatory system**

Given our 'emergence' approach, and the unit of analysis being (broadly) business models, we introduce into the study the anticipatory aspects of the process of business model dynamics. We consider anticipation to be important to users of theory because of the complexity and unpredictable dynamics of the environment. Anticipation does not mean accurate prediction, nor does it mean 'long term' forecasting. Rosen (1985), theorised that natural, living, self-reproducing systems are anticipatory. "Each system contains an internal predictive model of itself and of its environment, which allows it to change state at an instant in accord with the model's predictions pertaining to a later instant" (p341). This very concise, parsimonious theory presents the idea of an anticipatory system and its models as an abstract concept. It says something of the relationship between the 'living thing' and its environment. In social science terms explanations of the workings of such a system are much more likely to be put in terms of inter-subjectivity, dispositions and critiques of power, to mention but a few. However, although explanations may be found through interpretative methodologies, the idea that sense is made of the environment, and that sensing triggers actions and consequences, some of which are a matter of forethought, seems consistent with the basic process of monitoring and adapting behaviour in relation to beliefs and perceptions of the environment. Our main argument is not whether accurate predictions can be made, nor whether highly dynamic environments require more complex forms of

anticipation. Our position is simply that anticipation, as a process, is prior to emergence (of some novel form of behaviour), and has causal effect on that emergence.

We thus consider the role of anticipation in entrepreneurial actions from which emerges 'innovation'; meaning some novel form of performance via, for example, new combinations (Schumpeter, 1934). In our studies of emergence in entrepreneurial contexts the entrepreneurs' "capacity of seeing things in a way which afterwards proves to be true, even if it cannot be established at the moment" (Schumpeter, 1934, p85) is not quite how foresight is done by entrepreneurs, but we would accept that a futures orientation and the anticipation of possibilities is consistent with how entrepreneurs practise innovation and produce emergent novelty.

Rather than a simple cognitive explanation for foresight, we suggest that the modes of anticipatory coupling of the actors need to be understood. Fuller and Warren (2006b; 2008) identify that foresight is situated practise by entrepreneurs as a combination of processes, guided by a sense of producing both regularity and value, for example as a 'business model' which, when formed, is relatively stable and creates exchangeable value. They draw attention to combinations of intersubjective processes relating to (1) Experimenting, (2) Reflexive Identity formation, (3) Organising and (4) Sensing (responses to perceived environmental change) (Fuller, Argyle, & Moran, 2004; Fuller et al., 2008). The processes are inter-connected and if one is missing, emergence of novelty is unlikely to occur because of their inter-dependence. These processes are part of the anticipatory coupling between the enterprise and its environment, mediated by intersubjective interpretation of the actors in the enterprise and of course, the other actors with whom they inter-act.

Very briefly, these four processes relate to the following domains: (1) *Experimenting*: trial and error, "let's see if it works" attitude, is the creative process of assemblage, requiring considerable competence (Barney, 1991; Nicholls-Nixon, Cooper, & Woo, 2000). (2) The *Identity work*: of the entrepreneur and the business is a powerful stabiliser (Down, 2006; Fletcher, 2003; Warren, 2004) and, as Flores and Grey (2000) suggest, a motive force. (3) *Organising*: is the everyday allocation and use of resources and the connections between them in patterns so as to be able to replicate and reproduce useful activities; (4) *Sensing*: is, in short, the coupling with the environment mediated through many connections and senses, without which actions may not lead to increased fitness of the enterprise in its environment, which one case study entrepreneur referred to as "enforced agility" (Fuller et al., 2008, p7). Through these combined actions emergence occurs in material forms, including routines, narratives, artefacts, images.

We do not consider that these processes offer a complete description of anticipatory coupling or the ontology of an enterprises' anticipatory system. For example, often an entrepreneur has a 'vision' or particular models of the world which informs this 'coupling' but many other mechanisms or influences may be at work in producing the emergent properties. It will take further research to understand and explain anticipatory coupling, including the analysis of the data gathered in this particular study, some of which is presented below. However, we can offer further explanation of the importance and role of anticipation.

An emergent business model, developed interactively within a changing environment, is unstable. If it fails to create or deliver value, it will not be supported or sustained within that ecology. The persistence of emergent material forms, (Sawyer calls these 'Emergents' (Sawyer, 2005)), is not assured. Indeed, in general we consider them unstable and ephemeral (after Sawyer). We observe that the entrepreneurial teams involved in bringing about a new business model (or similar) are highly concerned with its value; its value to them as profit generating and its value to others (e.g. as benefits to customers). Value: created, captured, destroyed, or missed is a central idea to the explanation of the stabilisation or sustainability of ephemeral and emergent 'business models', though still only part of the explanation as to how emergence of such models occurs. If a business model is perceived as likely to produce value for its stakeholders at a future date, these stakeholders will tend to accept the legitimacy of its continuation, making attendant judgements about risk. A collective anticipation of value by the actors concerned stabilises this emergent form. Fuller and Warren (2011) suggest that the dynamics of emergence in the volatile environment of creative industries require anticipations of multiple forms of value amongst the actors.

The question arises as to how a nexus of anticipations are formed or are manifest. We suggest that value is anticipated through the interactions between the actors and mediated by the materiality of the ephemeral emergent. Thus even short-lived emergents can be causal or have effect on the behaviour and beliefs of the actors, i.e. they have ontological status; they are meaningful. Thus in observing the creation of a new business model we have observed a set of interactions which produce in communicable forms a set of expectations about some future state. This imagined future state will include a range of assumptions by each actor, for example about their performances, obligations and rewards. Thus the future as a state of being and knowing is causal; it has effect on the present through these interactions. The process of constructing, evaluating and enacting a business model is, at least in part, guided and motivated by its expected relationship with the future, i.e. the process of anticipation. Such a process and interpretation is not by one

person or one firm, but a nexus of interpretations. The anticipatory processes engaged in the production of an emergent business model are intersubjective.

Seligman et al (Seligman, Railton, Baumeister, & Sripanda, 2013) report that “a wide range of evidence suggests that prospection, the representation of possible futures, is a central organizing feature of perception, cognition, affect, memory, motivation, and action” (p119). We suggest that our observations of entrepreneurial contexts indicate that such prospection affects emergence, but that to create a sustained emergent, some way of co-ordinating the prospections of the actors involved is necessary. This might be done simply through a shared idea of economic value that a proposed business model might create. However, given the experience of most innovations, the path to a final relatively stable form is long with many twists and turns. It is far more than a rational view and teleology of economic value that attends emergence in this context. According to Seligman et al (2013, p 126) generating simulations of the future can be conscious, but it is typically an implicit process— not requiring conscious initiation or monitoring, often not accessible to introspection, and apparently occurring spontaneously and continuously. Indeed, even when individuals engage in conscious prospection, their intuitive sense of the value of alternatives may be underwritten by unconscious simulation (Railton, 2014).

Appadurai adds an anthropological argument to the significance of the future as acting on the present, which focusses firmly on “three notable human preoccupations that shape the future as cultural fact, that is, as a form of difference. These are imagination, anticipation and aspiration” (Appadurai, 2013, p286). He also reminds us that the future is “not just a technical or neutral space, but is *shot through* with affect and sensation” (p287). He also discusses the ethics of thinking, feeling and acting in relation to [future] possibilities (increased horizons of hope) and [future] probability (where he refers to amoral behaviour, profits from catastrophe and corruption).

The above perspectives lead to a conclusion that anticipation, as a set of relationships with the future, has a causal role in the creation of emergence in entrepreneurial contexts. These contexts are taken as being volatile and complex – with many interacting actors, multiple systems, multiple levels and multiple values. The causal power of anticipation comes from the motivation it generates amongst the actors to fulfil an absence, to address disharmony, to create, capture value or consume value. The interpretation by actors is ‘*shot through*’ with emotional and sensational experiences and actions and, in some way, guided by particular ethics. If as researchers, we wish to understand more clearly the practises of emergence in complex environment, these ontological properties are salient and worthy of description.

In summary, anticipation and emergence inform our methodology. They direct our gaze as researchers on the process of constructing a response to the digital economy by small enterprises. Empirically we are interested in the use of the notion of a business model, either explicitly by the firms as a design / narrative device or implicitly as a helpful unit of analysis. We are also interested in the perceived and anticipated effects of the digital economy and the internet on the particular businesses and take an interest in the particular geographical effects and access to high speed broadband in this respect.

## **Method and findings**

To gather empirical data about forty small enterprises were contacted through various networks and co-nomination processes. The context for this recruitment was as part of the university-enterprise collaboration programme. Of these twelve were selected for further contact. The criteria for selection was that they were SMEs (as defined by EU) and that, through conversations with the principals of the enterprise, they might benefit from engaging further in internet and digital aspects of their business. The data set is a non-representative selection and no claims to statistical representation are made. As elaborated above, the methodological research concerns manifestations of anticipatory processes, .i.e., an intensive method, rather than extensive (Sayer, 1992, p243), after Harré (1979).

The initial research contact with the firms involved discussion with their principals (owners or chief executives). The artefact of a conceptual ‘business model’ was taken as a guide for a conversation with the principals about their enterprise and the relationship with ‘the digital’ in that context. Each interview lasted between one and two hours. A set of descriptions from Osterwalder et al (2010) was used (Appendix 2), along with the concepts of value creation and value capture (or appropriation). The guiding questions are shown in Appendix 1. The twelve initial interviews were followed up in two ways. In some cases, further discussions took place with regard to specific aspects of the business model and in other cases university staff with relevant expertise provided direct guidance to the enterprises. Of the twelve firms, nine continued with some further engagement after the initial interview. This paper, which is more methodologically focussed, draws on interviews with three of the enterprises, profiled in Table 1. Data from the other cases is still work in progress at the time of writing; these three are treated as ‘pilots’ herein. Key points from the discussions with

the principals of the enterprises are listed in the table in relation to ‘the digital economy’ and ‘business model innovation’.

Type of enterprise	Size: Employees	Focus of discussions on digital economy	Business model innovations
Ent A: Trade and wholesale specialist equipment mainly B2B  Strategy of always ‘trying new things (“If its thinkable we try it”)	28	<ul style="list-style-type: none"> <li>• Dominance of Amazon/Google that encouraged transaction (price) based customer relationships</li> <li>• Use of (over 40) product micro sites for representing OEMs</li> <li>• Importance of Branding</li> <li>• Use of online to drive phone-in enquiries (keeping control of customer conversation)</li> <li>• Current partnership with online small scale retailers/order fulfilment as distribution channel</li> </ul>	<ul style="list-style-type: none"> <li>• Greater focus on service value and less on ‘box shifting’</li> <li>• Development of circa 100 videos to add service element online (Online asset creation)</li> <li>• 3D printing of easily lost/broken components</li> <li>• Building their own-brand</li> </ul>
Ent B: Own products for niche consumer market. Designed locally, manufactured internationally, distributed mainly in Europe to retailers, though expanding coverage and e-retail of own products.	10	<ul style="list-style-type: none"> <li>• Dominance of Amazon</li> <li>• Keeping control of the customer relationship</li> <li>• Channel conflict between wholesale and direct e-retail</li> <li>• Fine tuning pricing for online retail</li> </ul>	<ul style="list-style-type: none"> <li>• Use of 3D printing for prototypes</li> <li>• Creation of online environment for adding value to product use</li> <li>• Sales forecasting</li> <li>• Distribution logistics</li> </ul>
Ent C: Arts and Heritage visitor centre with semi-rural location. Footfall essential to business. Offers multiple space-based local services (café, gift shop, meeting rooms, events, library), promotes historic significance of region to tourists. Range of partners and about 75 volunteers	6 plus 75 volunteers	<ul style="list-style-type: none"> <li>• Opportunities for use of online resources for efficiency, responsiveness and service, e.g. booking systems, promotion of events to email lists of selected types of client.</li> <li>• Challenge of setting up systems because of general lack of technology skills amongst the active volunteers</li> <li>• Knowledge of most appropriate approach to develop useful systems for the enterprise.</li> </ul>	<ul style="list-style-type: none"> <li>• Development as a global presence as representation of and gateway into the local regional culture, heritage etc., i.e. greater focus on tourism alongside the current ‘local’ services.</li> <li>• Establishment of technological resources on which to base further developments</li> </ul>

**Table 1 Profile of pilot firms**

### Reflections on the interviews

The principals of the businesses had not used the concept of a business model as a guiding device, at least not explicitly. It is the case that the popular form of business model description covers common aspects of everyday business practice. Therefore although not explicitly experienced in the use of business models the principals were able to relate easily and readily to the format as presented in Appendix 2. There was no clear sense of business model innovation as their focus for innovation, i.e. this approach was, understandably, not part of their language.

The areas of their business that they identified as a focus for innovation were linked to the use of communication and internet technologies. This is unsurprising because these issues were the premise of

particular intervention; i.e., that is why the enterprises were engaged with the programme of research and support. The enterprises were self-selected. The types of innovation they were pursuing were consistent with their understanding of themselves as existing in a wider market/sector context, not based specifically on business model design.

Two of the three example enterprises had well-developed e-business, with a significant proportion of sales being generated from online business. For these enterprises, the technology majors, such as Amazon (marketplace) and Google (search / click through /analytics) were dominant in the discussions about e-business. The sense of the possibility of innovation in this context was very operational in its focus, i.e. a co-evolutionary perspective of remaining competitive in a continuously changing environment: pricing patterns, competitive products and Amazon's and Google's listing algorithms. The main issue for these businesses was keeping a strong relationship with their customers. Hence tactics to move the customer closer, e.g. from (say) Amazon's marketplace to a direct relationship (e.g. via phone-in enquiries), were prevalent.

However, at the same time in all three cases were more visionary perspectives. These were less well articulated. In this respect, the principals had a good idea, if not completely specific, about what they wanted and hoped for. They were able to articulate strong notions of what they would like their business to become with respect to the digital economy.

For Enterprise A, the focus was on 'service and brand'; the value creation coming from greater service to customers and the value capture from a trusted brand. This was in effect building on the identity of the existing business. It was simple in conception, even if implementation was an everyday challenge.

For Enterprise B, the innovations were pragmatic, but implicit was a growth strategy that maintained the core identity, target market and product ideas of the business and extended these geographically and virtually.

For Enterprise C, the focus was more difficult, because the enterprise itself was diverse, with the core aspects of 'the building' and 'the volunteers/trustees'. In the context of a digital economy, digital manifestations of either of these core resources (virtual presence and automation and online information) were the opposite to present identity of the enterprise. In C, therefore a re-establishment of identity was forming, guided by its sense of value provided and its anchor point in a particular location. The principles, understandably, were not able to articulate a new business model at such an early stage of consideration. Their uppermost concerns were key skills and current services being enhanced by digital processes, and the establishment of a technology platform on which to develop.

What then can we establish, from this brief synopsis, with regard to the anticipatory capacity and anticipatory process inherent in the enterprises' relationships with their futures? Superficially at least the business model, or indeed business plan, in practice does not appear to be a mechanism for anticipation. The principals were not sketching out multiple business models with alternative value creating and value capturing mechanisms. Or at least, their discourse on the futures of their enterprise was not grounded in this conception.

In each case the existing business model was at the centre of their anticipatory practices. The 'business model' being the everyday practices and the meaning of these to the principals. The business model in this sense is an interpretation of their practices and their relationships with their 'ecology' of inter-connected actors, rather than an abstract notion. Given the content of the discussions in the interviews, they appeared most sensitive to their important relationships. They continuously assessed the dynamic of these relationship and formulated patterns or modes to maintain power in those relationships, for example by creating and narrating greater value or service. From the admittedly limited evidence at this stage, it is possible to hypothesise that the areas of relational dynamics and power-related practices are the locus of their 'anticipation' of their future businesses. These are consistent with the underlying concept of the 'business model' as an expression of the flows of inter-relationships and the core 'value proposition' that generates value through those flows. However, they are not quite the same things, i.e. anticipating relational dynamics and anticipating power imbalances provide a much clearer explanation of what needs to be managed, than descriptions of flows and propositions.

Enterprise	Focus of anticipation on relational dynamics	Focus of anticipation on formulating new patterns or practices.
A	Monitoring and attempting to influence the behaviour of key customer types, OEM suppliers and small scale online retailers.	Experimentation “If its thinkable we try it”
B	Attempts to establish better understanding of temporal dynamics in their business model, i.e., to speed up and make more efficient transactions. Longer term development on extending the connection with their customers and increasing the depth of experience as part of the value proposition	Continuously sourcing external ideas about e-retailing, e.g. peer exchange group Modifying specialised family roles (it’s a family business) in different areas to keep focus on changing environment
C	Concern on the use and capability of essential volunteer network – who were also clients, Maintaining clarity of ‘purpose’ to encourage philanthropic giving (i.e. constructing meaning) Reconceiving identity from a ‘virtual’ perspective.	Focus on efficiency (streamlining) for greater service (in regards to technology).  Constant search for new services and new clients

**Table 2 Examples of focus in anticipatory practices**

## Conclusions

This research is of course “work in progress” at this stage. Empirically, we are concerned with the way that small enterprises in a rural area are dealing with the growing digital economy while being somewhat disadvantaged by a lack of connectivity and perhaps a lack of density of available skills and local exemplars. Conceptually we are using this changing environment to understand the ways in which local enterprises anticipate the effects of such changes and how they respond i.e., how their process of *being enterprising* constitutes an anticipatory system.

We infer from the analysis of the cases included in the paper that the changes to the business model linked with a greater use of technology were emergent and dynamic. Innovation in these business models emerge from ‘what works’ through trial and error experimentation rather a clear blueprint or design of a (different) business model. The enterprises understand themselves as being embedded in a system of relationships and understand their role as providing (and exchanging value). The nature of that value is inherent in the network of relationships. One set of networks for one enterprise will generate entirely different forms of value than the network of another enterprise. Of course, some of that value is appropriated as economic value. We have not elaborated on value types in this paper, but rather kept the focus on what is being anticipated by the leaders or principals of the enterprises concerned. Their dependency on value being created and appropriated through networks of relationships was their key concern.

Their anticipatory focus was on the conditions that framed their current practices. As these conditions changed, they were able, conceptually at least, to practice or perform in different ways. Giddens suggests that in the social sciences, boundary conditions include a basic set of knowledge about the circumstances of the agent and their actions (Giddens, 1979, p243). The practical response of these small enterprises to anticipated changes in their relationships, or the premises of those relationships, was to explore ways in which changes to boundary conditions enabled them to practice in different ways. Boundary conditions is a general term for the background circumstances, such as the current operating environment with its constraints and enablers, and might include those internal to the enterprise, such as habits, practices, skills, knowledge etc., and external influences including powerful stakeholders, market lock-in and technological capacity (including access speeds)<sup>2</sup>. The anticipatory process used by the enterprises appears to involve actively testing and expanding boundary conditions, experimenting with practices within these and reshaping the enterprise and its core identity as modified practices become established. Within this small study, we see a glimpse of the particular significant boundary conditions that were of chief concern to the principals and which guided their anticipatory focus.

The continued study of the data will further clarify the anticipatory processes and what anticipation is inherent in the practices of the actors. Also worthy of further investigation is the degree to which the stretching of

<sup>2</sup> Giddens refers to ‘laws’ (Cf physical laws) as boundary conditions, we adopt a wider meaning in the context of open social systems.

boundary conditions, as a mode of anticipation, has an affective influence on the enterprise principals or owners. By affective, we mean the domain of senses, feelings and emotions, Cf. Appadurai (2013). The cognitive, analytical knowledge-oriented, visionary aspect to of anticipation can to some extent be captured in descriptions of business models, but the excitement, expectation, and ‘fun’ , or indeed fear and anxiety of anticipation may be important in explaining behaviour and choices..

Further related with both the cognitive and affective aspects of anticipation is the question of value. It is quite evident that economic value is important to the enterprises included in this analysis, and to most if not all others. However, a range of other forms of value and values also exist within the context of the business model. With owner managed firms such value often relates to the personality of the owner. In the case of enterprise **A** the sense of personal success seemed evident in the discussions. In enterprise **B**, family values were highly evident, and in enterprise **C**, the quality of life of local citizens and volunteers was important. As Fuller and Warren have suggested in previous research (Fuller et al., 2011; Warren & Fuller, 2015), anticipation of value has causal effect. In particular, when a business model is emergent, and unstable, the anticipation of value by the nexus of stakeholders produces stabilising conditions such that the emergent forms of practice persist, even if modified through experience. Part of the entrepreneur’s leadership role is producing narratives of value for the stakeholders in order to establish or maintain stability.

Reflecting on the above analysis, the enterprises are concerned with the boundary conditions that influence their value-creating relationships. Their anticipatory focus is on the ways that such changes may manifest and how they have influence over this. The enterprises seek increases in value and so when anticipated conditions appear to produce or promise value, they shape and stabilise new practices in relation to these conditions. This may result in a new business model.

Anticipation, we tentatively suggest, mediates between knowledge and action. The *anticipation of value* is a filter or evaluative construct to guide the interpretation of knowledge and to design, perform and evaluate actions and their effects. Multiple aspects of this process influence what emerges from changes in boundary conditions and what stabilises and persists to be recognisable as an entity or phenomenon (in this study, a business model.). These aspects include the nature of the value sought, the actual knowledge available, the resources and capacity to act and the sensations (affect) generated. The judgments enacted through the anticipatory mediation are guided by values. These aspects are not simply from one perspective (i.e. the enterprise or its leaders), but a complex of anticipations by multiple actors, modified reflexively through interactions. The mediation between knowledge and action as anticipation, and the connections between knowledge and action as an anticipatory system can be further studied. We will continue to probe the use of the dynamics related to business model (re)construction as an empirical source, which should lead to a better understanding of business model dynamics and the nature of anticipation.

### **Value in use**

What does the above tentative analysis offer to practice or policy? We suggest that the main purpose of the analysis is methodological – helping to understand what should be considered, analysed, given empirical form etc. in order to explain, in this case, the effects of a growing digital economy on the behaviour and sustainability of small enterprises? We conclude that the anticipation of changes in boundary conditions, which includes attempts to change boundary conditions, and the narration to other stakeholders of anticipated value arising from modified practices are important entrepreneurial practices. The more precise nature of the mediating quality of anticipation between knowledge and action in entrepreneurial contexts, including the rural enterprise in a digital economy, is open to further research based on these methodological principles. We suggest that analysis of the process of business model innovation will reveal inherent dominant values and dimensions of responsibility. Assistance in identifying the changing boundary conditions and the experimentations in business model re-design would be of benefit to these enterprises as they do not have all the knowledge they require to do that.

### **Summary**

This paper utilises an ‘anticipatory’ perspectives to the analysis of the actual and potential influences of the technologies, markets and work practices of the digital economy on small rural enterprises. This preliminary analysis suggest that the exploratory testing and expanding of practices beyond current boundary conditions is an important mode of anticipation and provides a focus for entrepreneurial action to maintain the sustainability and development of these enterprises. It is also clear from the evidence provided that the small enterprises are disadvantaged relative to larger ones, and to those located with a greater intensity of technological resources and knowledge. Increasing this density, through collaborative and infrastructure means is likely to help the enterprises.

## Appendix 1. Guiding questions for discursive interviews

### Strategic Broadband Questions

Talk us through your Business Model – Where is broadband critical in this? How does it make a difference to your business performance?

The key areas of the business to consider: from Osterwalder et al (2010):

- Key partners
- Key activities
- Key resources
- Value propositions
- Customer relationships
- Channels
- Segments
- Costs
- Revenue streams

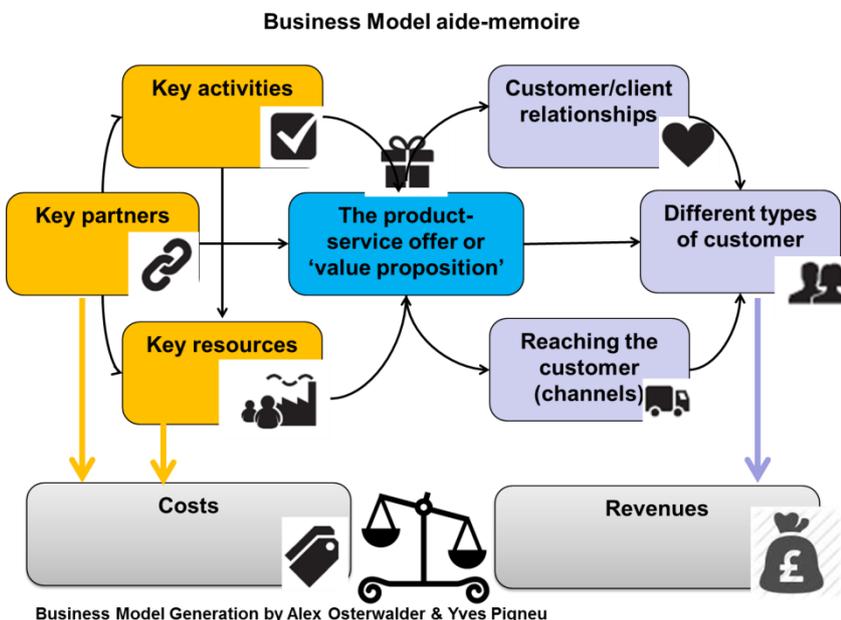
Where are the key challenges within the business model? And could technology provide advantages (or is it creating the challenges if others can have better internet access than you?)

What innovations have you carried recently – did it rely on the Internet?

What are your next ambitions/ideas/projects? Are there any barriers to pursuing these?

Other sources of funding and opportunities for innovative projects and partnerships?  
(e.g. KTP, European partnership projects, student placements)

## Appendix 2. Business Model Platform



(Alexander Osterwalder et al., 2010)

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