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Entrepreneurship as *connecting*; some implications for theorising and practice

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Abstract

Purpose The purpose of this paper is to consider why entrepreneurship theorising has become fragmented and how we might resolve the research problem.

Design/methodology/approach We first examine how entrepreneurial constructs reflect only part of what we “mean” by the construct to argue that we use different social constructions. This explains *why* theories are fragmented. But we then ask *how* we might use and reconcile this diversity, pointing to the utility of the constructs as part of a complex whole. We discuss entrepreneurship as a complex adaptive system showing how connections and relatedness help explain the power of entrepreneurship to use and adapt to change.

Research Implications Our proposition of entrepreneurial endeavours as a complex adaptive system provides a fresh theoretical platform to examine aspects of entrepreneurship and improve theorising.

Practical Implications We argue that this idea of connecting can also be used at the level of practice; how the connections that entrepreneurs use may help to explain some of what goes on in entrepreneurial practice.

Keywords Social construction, entrepreneurship theory, ontology, epistemology, complexity theory, entrepreneurship as a complex adaptive system.

Originality/ value

Our contribution is a relatively novel way of connecting diverse theorising.

Paper type A conceptual paper

Entrepreneurship as *connecting*; some implications for theorising and practice

1. Introduction

The purpose of this paper is to address what we see as a problem in entrepreneurship scholarship, the growing fragmentation of theory and in understanding of practices. We argue that in our rapidly growing field the fundamental issue of what entrepreneurs actually do is becoming obscured by the fragmentation caused by the different theoretical and conceptual prisms through which it has been viewed (Ucbasaran *et al*, 2001). The beauty, simplicity and completeness of the white light of enterprise that is shone through a specific conceptual prism breaks down into its component colours. Pretty, even dazzling in their uniqueness, the rainbow of component colours takes on different qualities from its source. Thus we see clarity in some aspects, some attributes and some features of enterprise; but may lose sight of the beautiful whole. Moreover, scholarship tends to follow to the path that is illuminated by that light (Steyaert and Katz, 2004), but other perspectives are thrown into shadow such that we cannot see their complementary explanatory power. As Gartner (2001) explains each discipline has its own unique way of viewing entrepreneurship which remains relatively unaffected by the perspectives of other disciplines. Willmott (1993) argues that the mutual exclusivity of paradigm incommensurability is unhelpful in understanding theory development. We argue that it is difficult to fully appreciate the entrepreneurial phenomenon by looking at the epiphenomenon. There is also a risk of entrepreneurship becoming a pastiche that borrows its substance from other disciplines, a common denominator to be employed in theorising process (Hjorth, 2004).

This is not to claim that entrepreneurship is simple to understand, model or theorise. The sheer explanatory power of entrepreneurship as a force for renewal, development and personal achievement, combined with the diversity of ways of being entrepreneurial denies this possibility. Nor are we suggesting we jettison all the advances that have been made in the last two decades. Knowledge is always progressive and co-created in that we learn from and with others. Yet we also need to be critically aware of the strengths and weakness of our theory. We try to do this by first standing back from the detail of entrepreneurship research, to try to see the entrepreneurship wood rather than just the trees as abstracted, unconnected entitative realities. This not to deny that the detail we have is rich; Steyaert (2007) describes entrepreneurship as a conceptual attractor, implying that the richness of scope and explanatory reach lures in related concepts and ideas. Hjorth (2004) describes it as a travelling concept, showing how it can be applied in and to diverse activities; but he also points out the generative power of the concept. Hence, we first set out what we see as a primary problem, one which is paradoxically embedded in the strength of our entrepreneurial concept; the capacity and richness of entrepreneurship theory leads to risks of becoming tautological; a unit idea, an axiom that becomes both description and explanation.

We then argue this state of affairs has arisen because we have not always recognised that the concept is socially constructed and means different things to different people. Theoretically, the fragmentation has arisen because different disciplines have failed to

connect the component parts. As disconnected atomistic elements, they may be much less the whole. We look for underlying assumptions and find that whilst change enables entrepreneurship, it also provides both the milieu and outcomes for entrepreneurship. This leads us to argue that entrepreneurship, as writ large, can be seen to be a complex adaptive system. But when we examine the ramifications of this view, we see further explanatory links at the prevailing epistemological and ontological levels that draw our attention to interesting issues of scale and analysis. In turn, we discover that connecting, and disconnecting, not only helps explain our higher level theorising. But at the most basic, the ontology of how entrepreneurship exists, entrepreneurship in practice, is also about connecting. Accordingly we offer an alternative, but simpler perspective from which to view practice and thus to provide a different platform from which to theorise.

We do not adopt any sort of spurious objectivity in this paper. We are fans, admirers and enthusiasts of entrepreneurship and the agents, the entrepreneurs. We have a passion to know and to understand entrepreneurship. We are unashamedly partisan in our awe of the power of entrepreneurship to create new order, new and often better ways of doing things. We are inspired by what we know, or think we know, perhaps even in our ignorance, such that we want to know more and understand the aesthetic of entrepreneurship better. But we don't set it up on a pedestal to simply admire and polish. We want to exploit what we and others already know to explore, extend and expand to arrive at a fuller explanation.

Whilst we see entrepreneurship arising at different levels and in many different ways (Korsgaard and Anderson, 2011; Diochon and Anderson, 2011; Anderson, 2000a), there are some aspects that seem to shout for our attention; for example, the sheer versatility of entrepreneurship as it both embodies and articulates change. Entrepreneurship captures change, employs change and creates change as it forms new order, new organisations manifest as new business and new products from the vortex of change. But whilst change surrounds us constantly and continuously, its shapes, its patterns and formations are unknowable in advance (Anderson and Atkins, 2001). For most people, change challenges and threatens our routines and established practices. But for entrepreneurs this threat becomes a Schumpeterian opportunity. So change is clearly both the milieu and medium for entrepreneurship. Conceptually we can envisage this as a *grand socio-economic experiment*; across regions, nations, societies and cultures as the entrepreneurial arenas where individual entrepreneurs try out innovations. Those that work; those that fit the changes extant in tastes, demands or ambitions become successful and established; those, in fact the majority, that don't work are discarded. Aldrich and Martinez (2005:388) explain how the concept of "nascent entrepreneur" captures the flavour of the chaotic and disorderly process driving the creation of new firms. But as Anderson (2011) puts it, "innovation failures are experienced at firm level, whilst innovation successes impact at national level". This is rather more than the Darwinian population ecology of Richard Dawkins' blind watchmaker, nor of many monkeys haphazardly pounding on typewriters to eventually producing the works of Shakespeare. It is even more than Lamarckian evolution where the skills and abilities of the entrepreneurs as sentient, self reflective and cognisant beings capable of judgement (Anderson *et al*, 2009; Anderson and Jack, 2008) are used to adapt processes (Pyysiäinen *et al*, 2006). It is an evolutionary process that takes account of, even challenges (Anderson and Warren, 2011), and may modify changes in the shifting environment (Anderson *et al*, 2012) and the discourses that inform it (Dodd and Anderson, 2001).

This is how the entrepreneurial promise that tomorrow will be better than today is achieved. The micro of entrepreneurial endeavours becomes agglomerated into the macro of social and economic progress. But what beguiles us is that we cannot know the details of these micro processes. Each is different, unique and self organising (Aldrich and Martinez, 2001). We cannot stipulate any originating conditions, nor with any degree of certainty can we identify much other than some elements (Anderson *et al*, 2007) and a most general account of processes (Jack *et al*, 2004; Jack *et al*, 2008). If explanation of *how* is beyond us, we can attempt to explain *why* and we try to do so in our account of entrepreneurship as a complex adaptive system.

But our first research problem is the apparent fragmentation and disconnection inherent in entrepreneurial theorising. This may appear to be a definitional problem, in that a universal and uniting definition has proved elusive. Many scholars have pointed this out, for example Chell (2007) explains the nature of the entrepreneur and the entrepreneurial process have defied consensual definition, in part due to differing social, economic and political discourses around the terms 'enterprise' and 'entrepreneur'. Gartner (2001) noted how scholars held very different beliefs about the nature of entrepreneurship. Indeed, Hornaday (1992) asked, have scholars assigned so many different meanings to the word that we are now confused? But disciplinary divisions aside, Shane and Venkataraman (2000) argue that entrepreneurship is a broad label. To borrow Tranfield and Starkey's (1998) term, it has become a broad intellectual territory. But we argue that this definitional issue is symptomatic rather than causal. Entrepreneurship, as severally conceived and widely understood, is simply too broad to be constricted in a single, universal classification. Indeed Steyaert and Katz (2004) point out that entrepreneurship has become a model for innovative thinking, reorganising and for crafting the new; a 'handy disturber of order' (Hjorth, 2004); a panacea (Dodd and Anderson, 2001). Similarly, Styhre (2005) claims that the concept of entrepreneurship is thought to be capable of dealing with a variety of social and managerial problems. Thus the capacity of our shared concept means that it is impossible to arrive at one universal definition simply because it means different things to different people (Sexton and Bowman, 1984; Bennett, 2006). The breathtaking scope that reaches from individuals to economies, from individual satisfaction to job creation, from wealth creation to escaping poverty (Ssendi and Anderson, 2009), even to ways of thinking, all point to an extraordinary capacity. But this conceptual versatility is probably at the root of the fragmentation problem and is a manifestation of the multiple meanings attached, attributed and employed in entrepreneurial theorising and evangelising.

This notion of meanings provides us with some conceptual purchase. We can, for example, see how an economic perspective carries with it particular views of the meaning of entrepreneurship. But this is not the same as the meaning of entrepreneurship that is understood and employed by a psychologist, or indeed of that of a sociologist. Thus how they understand, and how they theorise entrepreneurship has different points of departure. But, and this seems a significant but, their conceptual starting point is about the varied and different meanings they attribute, and prioritise for entrepreneurship. A similar argument about different meanings holds good for the melioristic views of politicians, or the everyday views of small business owners. In short, entrepreneurship as a concept has multiple meanings that are both contingent and contextual. This implies and identifies our concept as a social construction and accordingly nebulous and open to a range of definitions. Consequently, our theorising ought to be contingent and contextualised! Anderson *et al*, (2009) caution that the powerful socially constructed concept, as a bundling of different ideas, can become a thing-in-itself to which can be attributed qualities, characteristics and explanatory power. Nicholson and Anderson (2005) show how social constructions mediate

the frames of meaning within which actors orient their conduct. Anderson *et al* (2009) explain that these ideas and concepts are always socially constituted and do not arise independently of the socio-economic conditions in which they are formed. Hence context and contingency, and the meanings associated with context, as the basis for conceptual formations go some way to explaining fragmentation.

But in unpicking these social constructions there may be another explanatory layer revealed. As Berger and Luckman (1966) note, social constructions of reality are founded in intersubjective experiences. Fletcher (2006) insightfully points out whilst social constructivism is concerned with meaning making and sense making, it derives theoretically from the *relationality* between people, institutions, material objects, physical entities and language. It is this intersubjective aspect that puts the social in social construction and draws our attention to the relationality of how meanings are constructed. Meanings are derived from connections, in relating one thing to another we see how they influence each other.

Chell (2007) similarly describes how interaction shapes meanings. Seen in this way we can begin to discern how the concept of entrepreneurship deploys the idea of relatedness, a recursive dynamic of relationships. At theory level, fragmentation occurs because of a disconnection. For example, economic theories are disconnected from the everyday experiences of imperfect knowledge and seemingly irrational decisions. Employing a social constructionist lens has advantages in understanding and in shaping the process of concept formation because it highlights the need to understand, by linking, relating and connecting lived experiences in their social and cultural context (Berger and Luckman, 1966). In other words, it allows us to go beyond the immediate, to reach out and see context, contingency and, importantly, the socioeconomic setting (Anderson and Starnawska, 2008); in short - to connect.

Seen through this social constructionist lens, entrepreneurship is not a 'thing'; it is a way of being and thus demands an appropriate ontology. It is shaped by context; it is processual; it often exists at the boundaries, occupying a liminal space of "in betwixtness" (Anderson, 2005), is usually at the confluence of many factors, and projects into the future. An essence is that entrepreneurship works by making new connections. So rather than our previous view (Anderson *et al*, 2007; Jack *et al*, 2010) that entrepreneurship needed an ontology of *becoming* to capture, make sense of the future and past as events and process, we want to argue for a social ontology of relatedness. Because it is the connections to, and between, processes, people and places that become and explain entrepreneurship. In this way *becoming* is always connected, related and codetermined with others and with other things. Entrepreneurial *being* is indeed about *becoming*, but becoming is always coproduced. Moreover, this notion of connectedness may also have some use at a practical level in understanding what entrepreneurs actually do. They connect; sometimes technologies, sometimes ideas, sometimes places and products. More abstractly a typology of entrepreneurial interactions could form a basis of understanding of how they work; for example, entrepreneurial learning, networking, new product development, the role of culture and the local conditions for enterprise. Entrepreneurship, in this view is boundary spanning, and connecting, a phenomenon of relatedness.

Thus far we have tried to account for the diversity and variety in ways of conceptualising entrepreneurship. We have shown *why* multiple views exist, because people see different meanings in entrepreneurship. But we have not fully addressed the important issue *how* we might use this notion of relatedness in explaining and understanding entrepreneurship.

2. Complexity and recognising entrepreneurship as an adaptive system

We have argued that on one hand, existing entrepreneurship theory has great power to explain how things change and how this change is manifest in enterprise. But on the other hand, we have grumbled that our theories are characterised by fragmentation; that by examining entrepreneurial components in isolation from each other, we lose sight of the magnificent wholeness of entrepreneurship. Fuller and Moran (2001; 49) argue that it is increasingly clear that the whole cannot be understood through atomization, by analysing down to the smallest component part. They also suggest this discourse of holism and anti-reductionism is not strongly articulated in entrepreneurship and small business research. This seems to suggest that the cognitive component parts, what we understand as significant elements, our constructs, of entrepreneurship are important, not only in themselves, but as atomistic parts of some greater whole. The whole is substantively different from the totality of the parts from which it is composed. Nonetheless, the literature also shows us that the cognitive elements of our entrepreneurial theories play out a significant role in explaining some part of the entrepreneurial process. Here we are thinking of our constructs, for example - entrepreneurial intentions. The problem is that we simply don't know how much, or how that part contributes to the whole. We can readily understand how an entrepreneurial orientation may create an attitude that is positive about new firm formation and one that values innovation. But, we don't know how this aspect actually addresses entrepreneurial actions, far less new firm foundation. Our concepts are fragments of the whole and may be poorly conceptually connected to each other and to that entrepreneurial whole. Consequently we argue that entrepreneurship might be better understood as a complex adaptive system. Fuller and Moran (2001) explain the central concept of complexity is that interactions between parts of open systems create novel, unpredictable patterns. Whilst the history of the system is relevant in understanding its dynamic, the isolation of individual parts of the system (in analysis) does not reveal the casual mechanisms in the system. Complexity, in this sense, thus means more than simply being complicated, it infers an explanatory dynamism, an interconnected whole.

Entrepreneurship is, of course, complicated, as all our attempts to grasp the nature and meanings show; but complexity means that the elements in the system are dynamically interconnected. Plsek (1997:2) describes a Complex Adaptive System as "a system of individual agents, who have the freedom to act in ways that are not always totally predictable and whose actions are interconnected such that one agent's actions change the context for other agents". Notice how well this describes what we know about entrepreneurship; note how well it describes the autonomy and the lack of predictability of entrepreneurial action; see too, how well it captures both structure and agency. Indeed, Fuller *et al* (2008) demonstrate how the Schumpeterian notion of creative destruction is highly resonant with complexity theory – a study of order-breaking and order creating processes. In earlier work (Jack and Anderson, 2002; Jack *et al*, 2008; Anderson *et al*, 2010), we have emphasised how entrepreneurial agents actions are shaped, but not determined, by social structures (Drakopoulou Dodd and Anderson, 2007), yet in turn shape and modify the institutions that we can call structure. This is of course, Giddens' structuration theory which overcomes problems of the methodological individualism that pervades the early entrepreneurial literature that overly privileged agents (Anderson and Starnawaska, 2007). Yet it also accords due explanatory weight to how structures (political, economic and social institutions) shape enterprise (Harbi and Anderson, 2010). Thus entrepreneurship is dynamic in bringing together, *connecting*, interrelated and complicated elements of both self and circumstance (Anderson, 2000). Bruyat and Julien (2001) call this the dialogic of self and project, but come to a similar conclusion about entrepreneurship as coevolution.

As Fuller and Moran, (2001) explain, complexity theory is a study of changing patterns of order, self-organization or constrained diversity. Complexity arises from chaos theory (Gleick, 1989) which first identified how order can be found in disorder (chaos). Chaos theory, in this sense, describes a mathematical concept that delineates how within different systems, patterns appear but in a random fashion. It is especially useful for grasping non linearity and how small differences in original conditions can have major effects (the butterfly effect described by Lorenz, 1963). In this view, order creation results from nonlinear dynamics set in motion by coevolutionary interaction among heterogeneous agents (McKelvey, 2004). Interestingly, the theory can be applied to many non-linear systems, from biological to weather patterns, but it was first systematically noted in the fluctuations of cotton prices by Mandelbrot (Gleick 1989). McKelvey (2004) follows Bygrave (1989) and Bygrave and Hofer's (1991) early arguments about how well complexity theory describes entrepreneurship. Steyaert (2007) suggests that chaos theory and complexity science explains ways of creating order and reflects how entrepreneurship is seen as creating emergence through order creation and self-emergence. Indeed, McKelvey (2004) characterises complexity as continual adaption, perpetual novelty and dispersed interaction; precisely the situation we admiringly ascribe to entrepreneurship.

Seeing entrepreneurship in this systems view goes some way to understanding how the micro actions of individual entrepreneurs, combine and coordinate change. Moreover, there is a sound fit with what we see as the significant advances in how we understand entrepreneurship. For us, these advances are the recognition that entrepreneurship is not purely an economic, individualised act, but one that is embedded in, and draws from society (Drakopoulou Dodd and Anderson, 2007; Anderson and Smith, 2007); and the appreciation that entrepreneurship is a process (Gartner, 1998; Anderson and Miller, 2003; Jack *et al*, 2008;) that changes over time (Jack *et al*, 2008). Indeed as Gleick (1989) points out, for some physicists, chaos is a science of process rather than a state, of becoming rather than being. Thus this adaptive systems approach chimes well with our conceptual advances. But it adds to what we already know, by highlighting that this becoming is not only processual and embedded but always with others- connected. Moreover, complexity acknowledges the fuzzy boundaries of entrepreneurship, but importantly helps to explain why our variables , or even our constructs do not, in themselves, explain entrepreneurship very well.

Clearly a major benefit in seeing entrepreneurship as a complex system lies in the showing how entrepreneurship creates order from the disorder that is wrought from constant change. Useful as this is in helping to understand entrepreneurship, there are some further interesting ramifications. Complexity is post positivistic because it rejects the idea that universal laws govern actions and outcomes. It acknowledges the lack of predictability as different components in the system interact to produce change. But as we will explain, post positivism has further implications.

Crotty (1998) discusses post positivism in the light of the uncertainty principle in sub atomic physics. Although we are probably not very concerned with sub atomic particles, the shift from the confidence of positivism in post Newtonian physics is enlightening. Not least because so much of what we do in entrepreneurship research tries to mimic the apparent certainties of physics- the physics envy that Bygrave (1989) describes (Bill's first PhD was in physics, his second was in entrepreneurship). Crotty explains how Heisenberg developed the uncertainty principle; that it was impossible to determine both the position and momentum of a sub atomic particle. Crotty argues that this branch of physics consequently

shifted away from “laws” and become more about subjective perceptions. But Neils Bohr, who shared many of Heisenberg’s views, pointed out that this problem was not so much about measuring position and velocity but about how these particles “exist”. What is significant and relevant here is that these physicists have seen two very different aspects of the problem- the epistemological and the ontological. Heisenberg indeterminacy is interested in *measuring* and shows the limits of the ways in which we can know what we know, an epistemological problem. Contrastingly, Bohr sees the problem as ontological, the *nature of being* of the phenomenon under scrutiny.

This distinction between the epistemology and ontology of a research problem reflects some of our concerns about entrepreneurship research. The fragmentation we discussed earlier is an ontological problem in that ontology is concerned with the nature of being, what it is that exists. Clearly different disciplines and different discourses apply different understandings, ontologies, about the nature of enterprise- the “what is” issue. So it is unsurprising that different ontologies produce different research results. Nonetheless to develop and combine our theorising, we may need to make our ontological stances more transparent and explain the nature of what we are trying to measure.

The epistemological issue is about *how* we can know, a theory of knowledge, with implications for our methodologies and methods. Our attempt to show complex adaptive systems as an explanation is an epistemological effort, as indeed is social constructivism. Importantly for entrepreneurship theorising; a sound, well explained and transparent epistemology is essential for making the complexity of entrepreneurship intelligible. The point we want to make here is that not only what we are measuring but also how we measure it; raises different potentially conflicting epistemological and ontological issues. Capra (1997:5) explains this as follows, "when this approach (*system*) is applied another implication of this view of reality as an inseparable network of relationships concerns the traditional concept of scientific objectivity. In the Cartesian paradigm scientific descriptions are believed to be objective—that is, independent of the human observer and the process of knowing. The new paradigm implies that epistemology—understanding of the process of knowing—has to be included explicitly in the description of natural phenomena." Capra continues, "In short, what we call a tree depends on our perceptions. It depends, as we say in science, on our methods of observation and measurement. In the words of Heisenberg: 'What we observe is not nature itself, but nature exposed to our method of questioning.' Thus a system thinking involves a shift from objective to “epistemic” science, to a framework in which epistemology—“the method of questioning”—becomes an integral part of scientific theories." So yet another aspect of connectedness appears. Not only are our entrepreneurial concepts intersubjectively connected as our discussion on relationality shows, but and significantly, our epistemology, our knowledge building process is inevitably connected to what we understand as the nature of connections that comprise our entrepreneurial reality.

3. Conclusions

We have covered a great deal of theoretical ground in this paper. By critically reviewing our own attempts to understand the complex nature of entrepreneurship and combining these with the insights of others, we have made a case for connecting. We argued that theory fragmentation has arisen because of two related reasons; first that the meanings of what constitutes entrepreneurship vary considerably. This we claimed was a result of the capacity of the entrepreneurial concept. We tried to demonstrate that this related to the variety of meanings associated and attributed to the concept. Consequently we have to acknowledge

the social constructions of entrepreneurship. Yet whilst the social constructions of entrepreneurship explains diversity because of the different meanings, roles and assumptions associated with different uses, it offers no easy way to connect explanatory theories. We asserted that for theorising, we should recognise how our conceptual formations are both contingent and contextual and vary according to our initial premise. Consequently we should specify what meaning we were employing and how it relates, connects, to other meanings.

Yet this only provided a partial account of connecting- it only addressed the *why* question. We also recognised how much the contingency of the explanatory power of our constructs was actually related to how they were relational! We argued that our constructs were dynamic and intersubjective, that the relationships between them were connected such that they influence each other. Drawing from the harder science of physics, we attempted to address the *how* question, how we might use this. We showed how an overview of entrepreneurship could recognise this intersubjectivity and relatedness by seeing the entirety of the entrepreneurial effort as a complex adaptive system. This view explains how things are connected and how the relationship can determine the outcome. This we argued reflected much of what we know and admire about the adaptability, versatility and creativeness of entrepreneurial efforts.

Such a system view is post-positivistic; and as such it drew our attention to the ontological and epistemological implications for our theorising. How something as conceptually rich as entrepreneurship exists is closely connected to what we “select” to see. The nature of entrepreneurship is not an ontological given, but is itself, bound up in our theorising context. So fragmentation also occurs at the ontological level and has epistemological consequences. In essence what we see and seek to explain depends on how we know what we are examining. This, of course, is not an error, but a reflection of the meanings and meanings-in-use. To resolve the issue what we need to do is to both show and justify this connection between our epistemologies and our ontologies.

We have argued at a fairly abstract level, but the idea of connectedness may have implications at a practical level and point the way to some future research. We wonder if the idea of connecting might help explain what entrepreneurs actually do? Previously we have looked at rural small businesses and been surprised at their versatility (Anderson *et al*, 2010) and ability to adapt in what seemed constrained circumstances (Anderson and McAuley, 1999; Zontanos and Anderson, 2004; Irvine and Anderson, 2006). Our central findings suggested an unexpected robustness and sustainability for these businesses. But we had also noted how well they were connected to their local environment. Customers were close, they used their local context to great advantage as strong links were forged across the local context. This makes us wonder of these connections might help form an explanation for their robustness.

A similar point of interest may lie in other work where we explored ICT and entrepreneurship. ICT is obviously a form of connection, but we found that the nature of the link, how they connected, provided some explanatory power. For example in Irvine and Anderson (2008) we saw that links across sectors raised the market profile of the business; In Harbi *et al* (2009) and Harbi *et al* (2011) we established that the types of connections helped explain success in ICT development. Recently, we (Hardwick *et al*, 2011) looked at networking and ICT, another form of connecting and found that different types of trust arose from virtual networking compared to face to face connections. Anderson *et al* (forthcoming) considered how learning cooperation in joint ventures led to success.

Although it was not our original research objective, each of these papers reflects *how* connections influence enterprises. So taken with our first practical aspect of *what* connections exist, there may be some fresh practical explanatory insights to be generated by examining the nature and extent of connections for small firms.

References

- Aldrich, H. E. Martinez, M. A. (2005), "Entrepreneurship as Social Construction: A Multilevel Evolutionary Approach", in Z.J. Acs, D.B. Audretsch (eds.), *Handbook of Entrepreneurship Research*, International Handbook Series on Entrepreneurship pp.387-427
- Aldrich, H. E. Martinez, M. A. (2001) "Many are called, but few are chosen: an evolutionary perspective for the study of entrepreneurship", *Entrepreneurship Theory and Practice*, Vol.25 No. 4, pp. 41–56.
- Aldrich, H. E. (1999), "*Organizations Evolving*", Newbury Park, CA: Sage.
- Anderson, A.R. (2000), "The protean entrepreneur: the entrepreneurial process as fitting self and circumstance", *Journal of Enterprising Culture*, Vol.8 No.3, pp 201–234.
- Anderson, A. R. (2000a), "Paradox in the periphery: an entrepreneurial reconstruction?" *Entrepreneurship and Regional Development*, Vol.12 No. 2, pp.91-109.
- Anderson, A.R. (2005), "Enacted metaphor; the theatricality of the entrepreneurial process" *International Small Business Journal*, Vol. 23 No.6, pp. 585–603
- Anderson, A.R., (2011), "The university's role in developing Chinese entrepreneurship", *Journal of Chinese Entrepreneurship*, Vol.3 No.3, pp. 175-184
- Anderson, A.R., Atkins, M., (2001), "Business strategies for entrepreneurial small firms" *Strategic Change*, vol. 10 No.6, pp. 311-324
- Anderson, A. R. Osseichuk Russell, E., Illingworth, (2011), "Rural small businesses in turbulent times Impacts of the economic downturn", *International Journal of Entrepreneurship and Innovation*, Vol.11 No. 1, pp. 45-56
- Anderson, A.R., Drakopoulou Dodd, S., Jack, S.L. (2009), "Aggressors; Winners; Victims and Outsiders, European Schools' Social Construction of the Entrepreneur", *International Small Business Journal*, Vol.27 No.1, pp. 126-136
- Anderson, A. R., Dodd, S. D. Jack, S.L., (2010), "Network practices and entrepreneurial growth". *Scandinavian Journal of Management*, Vol.26 No. 2, pp. 121–133
- Anderson, A.R., Harbi, S.E., Amamou, M. (2012), "Innovation culture and the economic performance of Tunisian ICT firms", *International Journal of Technoentrepreneurship*, in press and forthcoming
- Anderson, A.R., Jack, S.L. (2008), "Role typologies for enterprising education; the professional artisan", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 2, pp. 259-273
- Anderson, A.R., Park, J., and Jack, S.L., (2007), "Entrepreneurial social capital: Conceptualizing social capital in new high-tech firms". *International Small Business Journal* Vol. 25 No.3, pp. 243–267.
- Anderson, A.R., Miller, C.J. (2003), "Class matters: human and social capital in the entrepreneurial process". *Journal of Socio-Economics*, Vol. 32 No. 1, pp. 17–36.
- Anderson, A.R., Warren, L., (2011), "The entrepreneur as hero and jester; enacting the entrepreneurial discourse", *International Small Business Journal*, in press, forthcoming as doi:10.1177/0266242611416417
- Anderson, A.R., Benavides-Espinosa M., Mohedano-Suances, A. (forthcoming), "Innovation in services through learning in a joint venture", *Services Industry Journal*, Vol. 31 No. 12, forthcoming

- Anderson, A.R., Starnawska, M.,(2008), "Research practices in entrepreneurship; problems of definition, description and meaning", *International Journal of Entrepreneurship and Innovation*, Vol. 9, No. 4 pp. 221-230
- Anderson, A.R., Smith, R., (2007), "The moral space in entrepreneurship;" *Entrepreneurship and Regional Development*, Vol.19 No. 6, pp. 479-497
- Anderson, A.R. and McAuley, A. (1999), "Marketing landscapes: the social context", *Qualitative Market Research: An International Journal*, Vol. 2 No. 3, pp. 176-188.
- Bennett, R. (2006), "Business lecturers' perception of the nature of entrepreneurship", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 12 No 3, pp. 165–188.
- Bruyat. C., and Julien, P-A. (2001), "Defining the field of research in entrepreneurship". *Journal of Business Venturing*, Vol. 16 No.2, pp. 165-180.
- Bygrave, W. D, Hofer, C.W., (1991), "Theorizing about entrepreneurship. *Entrepreneurship: Theory and Practice*" Vol. 16 No. 2, pp. 13-22.
- Bygrave, Berger, P., and Luckman, T. (1966), "*The Social Construction of Knowledge*", Penguin Books, London.
- W.D., (1989), "The entrepreneurship paradigm (II): Chaos and catastrophe among quantum leaps", *Entrepreneurship Theory and Practice*, Vol. 14 No.2, pp. 7-30
- Capra, F. (1996), "*The Web of Life: A New Scientific Understanding of Living Systems*". Anchor Books, New York.
- Chell E. (2007), "Social enterprise and entrepreneurship: towards a convergent theory of the entrepreneurial process". *International Small Business Journal*, Vol. 25 No 1, pp. 5–26.
- Cilliers, P. (1998), "*Complexity and Postmodernism: Understanding Complex Systems*". London: Routledge.
- Crotty, M. (1998), "*The foundations of social research: Meaning and perspective in the research process*". London: Sage.
- Diochon, M., Anderson, A.R., (2011), "Ambivalence and ambiguity in social enterprise; narratives about values in reconciling purpose and practices", *International Entrepreneurship and Management Journal*, Vol.7 No.1, pp. 93-109
- Drakopoulou Dodd S., Anderson A. R. (2001), "Understanding the enterprise culture: Paradigm, paradox and policy", *The International Journal of Entrepreneurship and Innovation*, Vol. 2 No. 1, 13-26
- Drakopoulou Dodd S., Anderson A. R. (2007), "Mumpsimus and the mything of the individualistic entrepreneur", *International Small Business Journal*, Vol. 25 No. 4, pp. 341–360
- Fletcher, D., (2006), "Entrepreneurial processes and the social construction of opportunity", *Entrepreneurship and Regional Development*, Vol. 18 No. 5, pp. 421-440
- Fuller, T., Moran, P., (2001), "Small enterprises as complex adaptive systems: a methodological question?" *Entrepreneurship and Regional Development*, Vol. 13 No.1, pp. 47-63
- Fuller, T., Warren, L. and Argyle, P. (2008), "Sustaining entrepreneurial business: A complexity perspective on processes that produce emergent practice". *International Entrepreneurship and Management Journal*, Vol. 4 No. 1, pp. 1-17.
- Gartner, W.B. (1988), "Who is an entrepreneur? Is the wrong question, *American Journal of Small Business*, Vol. 12 No. 4, pp. 11–31.
- Gartner, W. B. (2001), "Is there an elephant in entrepreneurship? Blind assumptions in theory development". *Entrepreneurship Theory and Practice*, Vol. 25 No. 4, pp. 27–40.
- Gleick J, (1989), "*Chaos; making a new science*," Abacus: London
- Harbi, S. Anderson, A.R. (2010), "Institutions and the shaping of different forms of entrepreneurship". *The Journal of Socio-Economics*, vol. 39 No. 3, pp.436-444.
- Hardwick, J. Anderson, A.R., Cruickshank, D., (forthcoming) "Trust formation processes in innovative collaborations; networking as knowledge building practices", *European Journal of Innovation Management*,

- Hjorth, D., (2004), "Creating space for play/invention – concepts of space and organizational entrepreneurship", *Entrepreneurship and Regional Development*, Vol. 16, No.5, pp. 413-432
- Hornaday, J. (1992), "Thinking about entrepreneurship: A fuzzy set approach." *Journal of Small Business Management*, Vol.30 No. 4, pp. 12-23.
- Irvine, W., Anderson, A.R., (2004), "Small tourist firms in rural areas: agility, vulnerability and survival in the face of crisis", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 10 No. 4, pp. 229-246.
- Jack, S. L., Drakopoulou Dodd, S., and Anderson, A. R. (2008), "Change and the development of entrepreneurial networks over time: a processual perspective", *Entrepreneurship and Regional Development*, Vol. 20 No. 2, pp 125–159.
- Jack, S. L., Drakopoulou Dodd, S., and Anderson, A. R. (2004), "Social structures and entrepreneurial networks: the strength of strong ties", *The International Journal of Entrepreneurship and Innovation*, Vol. 5, No. 2 pp. 107-120
- Jack, S.L., Moulton, S., Anderson, A. R., and Drakopoulou Dodd, S. (2010), "An entrepreneurial network evolving: patterns of change". *International Small Business Journal*, Vol.28 No.4, pp. 315-337.
- Jack, S.L., Anderson, A.R., (2002), "The effects of embeddedness on the entrepreneurial process." *Journal of Business Venturing*, Vol. 17 No. 5, pp. 467–487.
- Korsgaard, S., Anderson, A.R., (2011), "Enacting entrepreneurship as social value creation", , *International Small Business Journal*, Vol. 29 No. 2, pp. 135-151
- Lorenz, E.N., (1963), "Deterministic non-periodic flow", *Journal of the Atmospheric Sciences*, Vol.20, pp. 130-141.
- McKelvey, B.,(2004), "Toward a complexity science of entrepreneurship". *Journal of Business Venturing*, Vol.19 No.3, pp. 313–341.
- Nicholson, L., Anderson, A. (2005), "News and nuances of the entrepreneurial myth and metaphor: linguistic games in entrepreneurial sense-making and sense-giving", *Entrepreneurship: Theory and Practice*, Vol. 29 No.2, pp.153-73
- Perren, L., Jennings, P.L. (2005), "Government Discourses on Entrepreneurship: Issues of Legitimization, Subjugation, and Power", *Entrepreneurship Theory and Practice*, Vol.29 No.2, pp. 173–184.
- Plsek, P.E., (1995), "Some emerging principles for managers of complex adaptive systems," www.directedcreativity.com/pages/ComplexityWP.html, accessed November 20, 2011
- Pyysiäinen, J., Anderson, A. R, McElwee, G., Vesala, K. (2006), "Developing the entrepreneurial skills of farmers: some myths explored", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 12 No. 1, pp. 21-39.
- Sexton, D., Bowman, N. (1984), 'Entrepreneurship education: suggestions for increasing effectiveness', *Journal of Small Business Management*, Vol. 22 No 2, pp 18–25.
- Shane, S., Venkataraman, S.,(2000), "The Promise of Entrepreneurship as a Field of Research" *The Academy of Management Review*, Vol. 25 No. 1, pp. 217-226
- Steyaert, C., Katz, J., (2004) "Reclaiming the space of entrepreneurship in society: geographical, discursive and social dimensions", *Entrepreneurship and Regional Development*, Vol. 16 No.3, pp. 179-196
- Steyaert, C. (2007), "Entrepreneurship as a conceptual attractor? A review of process theories in 20 years of entrepreneurship studies". *Entrepreneurship and Regional Development*, Vol. 19 No. 6, pp. 453-477.
- Ssendi, L., Anderson, A.R. (2009), "Tanzanian microenterprises and microfinance: the role and impact for poor rural women", *Journal of Entrepreneurship*, Vol. 18 No 1, pp. 1-19
- Styhre, A. (2005), "Ideology and the subjectification of the entrepreneurial self", *International Journal of Management Concepts and Philosophy*, Vol. 1 No 2, pp 168–173.
- Tranfield, D., Starkey, K. (1998), "The Nature, Social Organization and Promotion of Management Research: Towards Policy", *British Journal of Management*, Vol. 9 No.4 pp. 341-353.

- Ucbasaran, D., Westhead, P. and Wright, M. (2001), "The focus of entrepreneurial research: contextual and process issues", *Entrepreneurship Theory and Practice*, Vol. 25 No. 4, pp. 57-80
- Willmott, H. (1993), "Breaking the paradigm mentality", *Organization Studies*, Vol. 14 No. 5, pp. 681-719.
- Zontanos, G., Anderson, A.R. (2004). "Relationships, marketing and small business: an exploration of links in theory and practice". *Qualitative Market Research: An International Journal*, Vol. 7 No. 3. pp. 228-236.

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