LINKING RESOURCE ACQUISITION AND DEVELOPMENT PROCESSES TO RESOURCE-BASED ADVANTAGE: BRICOLAGE AND THE RESOURCE-BASED VIEW

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ABSTRACT

We investigate the relationship between bricolage – an approach to a firm's resource development – and the firm's strategic resource position as depicted by the resource-based view (RBV). The RBV is concerned with the resource characteristics of firms that lead to sustainable competitive advantage. Alternatively, bricolage is a process of resource use and development characterised by using resources at hand, recombining resources and making do. Based on a sample of approximately 700 nascent and 700 young firms we find that higher levels of bricolage behaviour tend to lead to more advantageous strategic resource positions.

INTRODUCTION

The resource-based view (RBV) of the firm represents one of the dominant traditions in the field of strategic management (Wernerfelt, 1984; Barney, 1991; Peteraf, 1993) but has received less attention in entrepreneurship (Chandler & Hanks, 1994; Alvarez & Barney, 2002). It focuses on the role of resources in determining strategic advantage of a firm (Eisenhardt & Martin, 2000). Yet traditional RBV literature has been less concerned with how these resources are acquired and developed. Along these lines, some recent attention has shifted to the development of dynamic capabilities (Helfat, 1997; Teece, Pisano, & Shuen, 1997; Winter, 2003) and its impact on firm outcomes.

Regardless, within RBV there remains an omission of a clear picture of resource development and management (Sirmon, Hitt, & Ireland, 2007). Moreover, RBV does not clearly align to the realities facing many new ventures – namely liabilities of newness and smallness (Stinchcombe, 1965; Aldrich & Auster, 1986), and in particular resource scarcity. Specifically, the theoretical assumptions about the nature of resources and resource environments offer little assistance for understanding how entrepreneurship may bring value to otherwise worthless resources and assist in growth of the firm despite resource scarcity (Baker & Nelson, 2005). Consequently, some recent research has drawn on the concept of bricolage (Levi-Strauss, 1967) – to create and co-evolve with their environment by evaluating resources for the creation of something using resources at hand, by "making do" and the recombination of resources for new purposes - as the theoretical underpinning to examine the resource development processes adopted by some entrepreneurs (Baker, Miner, & Eesley, 2003; Gonzales, 2003; Baker & Nelson, 2005; Cunha, 2005).

Our contribution is to study the link between bricolage –a process of resource use and development – and the RBV – a firm's strategic resource position. Specifically, we investigate the level of bricolage within a firm's resource development process and its resource advantage/disadvantage position. As such, the study intends to draw together two important resource orientated perspectives of young firms.

THE RBV AND ENTREPRENEURSHIP

Foundations of the RBV

The resource-based view (RBV) of the firm represents one of the dominant tradition in the field of strategic management (Peteraf, 1993; Barney, 2001). Resource-based thinking can arguably be

traced back to Penrose (1959). In her work examining the growth of firms, she highlighted the importance of firm resources and heterogeneity. More contemporary work (Wernerfelt, 1984; Barney, 1991) has focussed on the role of firm resources as sources of competitive advantage, and the sustainability of those advantages. Although several authors make a distinction between related concepts such as competencies (Prahalad & Hamel, 1990) and capabilties (Stalk, 1992) and resources (Wernerfelt, 1984), for the purposes of explaining firm heterogeneity we follow Barney (1995) and treat resources, competencies and capabilities interchangeably. Importantly, the research focuses on the characteristics of a firm's resources that lead to sustained competitive advantages. This research tradition is encapsulated in the now well know VRIO framework (Barney, 1991), later updated to VRIO (Barney, 1995; Barney, 2001):

- Value: Is the resource bundle valuable to the firm for exploiting opportunities in the market?
- Rare: Are the resources rare among competing firms?
- Inimitable: Are the resources hard (or expensive) for other firms to duplicate or substitute with other resources?
- Organisation: Is the firm able to exploit the potential of these resources and appropriate economic rents from the market opportunities?

Two extensions to the traditional RBV framework outlined above have been particularly influential in forming a contemporary view of RBV. The first is knowledge-based view of the firm (Kogut & Zander, 1992). This view argues that it is tacit and social knowledge embedded within a firm, and its path dependency, which are instrumental in forming the firm's competitive advantage and its inimitability by competitors. In this way, organisation knowledge holds a special place as a resource within RBV.

The second is the notion of dynamic capabilities (Teece et al., 1997). Although conceived in slightly different ways by different authors (Helfat, 1997; Eisenhardt & Martin, 2000; Winter, 2003), in essence dynamic capabilities are the ability of a firm to transform itself and in some way and develop new capabilities to match the moving requirements of the environment. As originally defined by Teece and colleagues, dynamic capbilities are "the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments" (p. 517).

The RBV and Entrepreneurship

Although the earliest heritage of the RBV can be associated with the field of entrepreneurship and the work of Penrose (1959), recently the RBV has attracted renewed interest within the domain of entrepreneurship. Some of this work is focussed on applying the concepts of RBV within an entrepreneurial or new firm setting. Important contributions include Chandler and Hanks (1994), Shraeder and Simon (1997) and Westhead, Wright and Ucbasaran (2001), Edelman, Brush and Manolova (2005) (Wiklund & Shepherd, 2003). This said, these represent very partial empirical exploration of RBV in an entrepreneurial context. as they as essentially More recently, Arthurs and Buzenitz (2006) have applied the concepts of dynamic capabilities within the empirical domain of entrepreneurship.

Recently a stream of theoretical research has emerged exploring the role of "entrepreneurial capabilities" as a critical resource for the RBV. Alvarez and Busenitz (2001) argue that entrepreneurial capabilities identified in the domain of entrepreneurship provide the basis for an RBV of entrepreneurial firms. Specifically, they focus on the ability to seek and recognise opportunities (i.e. opportunity recognition) and the ability to organise resources to generate heterogeneous outputs (i.e. opportunity exploitation) as central resources of an entrepreneurial firm. Further, they argue that these abilities have the potential to satisfy the VRIO characteristics of a sustainable competitive advantage.

Alvarez and Barney (2004) put forward an entrepreneurial knowledge-based arguments toward developing a theory of the entrepreneurial firm. They suggest that an entrepreneurial firm is suitable for exploiting opportunities when (i) another actor does not control the critical resources to exploit an opportunity, and (ii) knowledge of the opportunity is either tacit, or an isolating mechanism exists to protect explicit knowledge.

Other work has been interested in understanding the role of dynamic capabilities in entrepreneurial firms. Zhara, Sapienza and Davidsson (2006) provide a comprehensive review and agenda for research in this area.

To allow empirical testing of "entrepreneurial capabilities" within an RBV framework, scales for measuring these capabilities are required. Some progress has also been made in this direction. For example, Borch, Huse & Senneseth (1999) develop a scale for network capabilities. Wiklund and Shepard (2003) operationalise knowledge-based firm resources such as marketing expertise / customer service and technical expertise. Similarly, Madsen, Alsos, Borch, Ljunggren & Brastad (2006) develop scales to measure opportunity search and technology competence resources.

The above work has made progress towards testing some aspects the RBV in entrepreneurial settings. Yet, there remains scope for considerable more research in this domain. First, the impact of a much broader range of resource categories warrants investigation. Second, a much more comprehensive exploration of the contingent effects of industry and competitive contexts is possible. Finally, a more systematic investigation of the VRIO characteristics of resource positions, rather than just resource advantage, is needed.

BRICOLAGE

"Houston… We have a problem…."

Apollo 13 can be considered perhaps the most cited example of organizational bricolage (Cunha, Cunha, & Kamoche, 1999). When an explosion threatened the survival of the three astronauts onboard in space, the unplanned solution was found not according to any kind of contingency plans but to bricolage: materials available on the spaceship (e.g. plastic bags, duct tape, etc.). These were pieced together creatively, leading to an unorthodox but effective solution to the problems caused by the explosion (Rerup, 2001).

As previously noted, the term bricolage was developed by Levi-Strauss (1967) to suggest the creation of something new through involved actors in the process of recombination and transformation of existing resources (Venkataraman, 1997; Garud, Kumaraswamy, & Nayyar, 1998; Baker & Nelson, 2005) Levi- Strauss (1967) used terms "tools", skill "repertoires" and elements of myths as resources available to use.

Bricolage constructs were further refined in work by Baker and Nelson (2005) whereby they further defined it as a focus on using resources at hand rather than purchasing new resources, using existing resources for new purposes, recombining existing resources and making do to provide breakthrough solutions in firm creation.

Following is further clarification of these constructs.

Resources at Hand

In environments and conditions where resources are not readily available or difficult to access, processes often shift focus back on existing resources and their ability to be effective when applying it to specific venture ideas. Evaluating resources at hand was recognised in economic literature for its impact on economic functions at a national level and its application in developing countries (Harberger, 1959). Linked to this notion is Leibenstein's General X efficiency model whereby economic actors are motivated by cost minimisation (through using resources at hand efficiently) rather than traditional neoclassical economic theories of profit maximisation (effectiveness). More recent literature has shifted to firm level analysis and initial resource endowments (Shane & Stuart, 2002) evaluating the role of business planning and resource efficiency, with post start up success (Castrogiovianni, 1996).

Resources at Hand evaluates firm processes, structural mechanisms, forms and routines as resources to construct new ventures (Ciborra, 1996). Other research evaluated physical resources e.g available materials "such as wood and lorry gears" other "modest resources" and "embedded" individuals for the development of Danish wind turbines (Garud & Karnoe, 2003: 277), Human capital (Brüderl, Preisendorfer, & Ziegler, 1992), technical assets (Stuart, Hoang, & Hybels, 1999) and social captial and networks for building new ventures (Baker et al., 2003),

Recombination of Resources for Other Purposes

Linked with resource evaluation of form, fungability, classification and design often bricoleurs recombine resources. This may be applying resources for purposes that the resources may not be originally designed for or combining resources to create something new. Garud and Karnoe (2003) suggest "Many of the resources were reused, recombined and deployed by constellations of different

players". Inherent to this process is the role of the entrepreneur/venture team in using, manipulating and recombining existing resources to create the firm. It may be considered as the development of a "hands on" approach: experimenting, tinkering, reframing, and manipulating existing resources to create something new. Bricolage is a practical, experiential approach and may be thought of as a form of practical intelligence, in the sense that it manifests itself in how people organise and reorganise resources to adapt to market opportunities or environmental shifts (Wagner, 2000).

Another example: The "ingenious reconciliation of existing organizational mechanisms and form, picked by management according to the subjective plans and interpretations ('bricolage') (Ciborra, 1996: 104).

Making Do

As previously noted RBV involves structuring resource portfolio's into capabilities and leveraging those capabilities to create value. Unlike the majority of literature which implicitly suggests acquiring resources in venture creation process (Bhidé & Stevenson, 1999), Sirmon et al. (2007) suggest value creation can occur by recombining existing resources and capabilities or making changes to the resources available to the firm (Morrow, Sirmon, Hitt, & Holcomb, 2007).

Through the bricolage processes, several authors recognised that "making do" solutions may, in fact, prove to be of lower or inferior quality or technically inferior Garud and Karnoe (2003) or 'just good enough' Berchetti and Hulsink (2006). Lanzara (1999: 347) notes "bricolage is usually associated with second best solutions, maladaption, imperfection, inefficiency, incompleteness, slowness, but as a matter of fact in many design situations it is the only thing we can reasonably do when we are engaged in action."

Using two of the three constructs: making do and combining resources, bricoleurs do their best to create a solution which may have bugs and gaps, appear clunky and imperfect and contains within it elements that are unusable unwanted. The focus here is about enabling the firm to "get the job done" rather than "getting the job done well". This has important implications for market perception, and future success and growth of the firm. For example, Chandler and Hanks (1994) found firms that choose a high quality differentiation strategy had higher aggregate market share, sales, and cash flow growth when available resources supported this quality strategy.

To review, bricolage as evaluates existing resources and applying these resources to create something new. Three constructs further developed by Baker and Nelson (2005) include: using resources at hand, recombining existing resources and making do.

Research in bricolage elements has occurred at all levels of analysis including industry (Garud & Karnoe, 2003), national {James 1983}, firm (Baker & Nelson, 2005) and individual levels (Hmieleski & Corbett, 2006). Further more, theorists have evaluated bricolage in a variety of contexts including Australian primary school teachers (Dent & Hatton, 1996), prior musical recordings as materials for creating hip-hop music (Maira, 1999), genes and gene components (Duboule & Wilkins, 1998), twentieth-century American legal scholars (Hull, 1991) and the development of the wind turbine industry (Garud & Karnoe, 2003).

However, in more recent studies bricolage has been evaluated in terms of venture creation (Baker et al., 2003) and business growth. Further research has been conducted into bricolage in complex business environments including the use of bricolage in ICT (Ciborra, 2002; Ferneley & Bell, 2006; Ali & Bailur, 2007), the use of practical intelligence of entrepreneurs and technology and strategic entrepreneurship (Berchicci & Hulsink, 2006).

LINKING BRICOLAGE AND RESOURCE POSITION

We are interested in evaluating the different levels of bricolage and how it will affect the resource position of the firm. Drawing on the RBV VRIO framework (Barney, 1995; Barney, 2001) we consider several aspects of the firm's resource position, namely:

i. the overall level of resource advantage / disadvantage compared with competitors.
ii. the number of areas of strong resource advantage compared with competitors.
iii. the number of areas of strong resource disadvantage compared with competitors.
iv. The inimitability of the firm's key area of advantage
v. The ease of overcoming the firm's key area of disadvantage

As noted above, bricolage is concerned with the method or approach a firm takes to its resource development process. Sirmon et al. (2007) defines three processes as part of a firm's resource management:

Structuring the resource portfolio. This includes acquiring (purchasing) resources, developing resources internally (accumulating) and divesting (shedding or selling) resources.

i. Bundling resources to build capabilities. Three modes include stabalizing existing capabilities (making minor improvements), enriching by extending current capabilities and pioneering new capabilities.
ii. Leveraging those capabilities to exploit market opportunities. This includes mobilizing capabilities, coordinating capabilities and deploying capability configurations.

Bricolage is concerned with both the structuring and bundling process. With respect to structuring, the tendency to 'use resources at hand' and 'make do' will favour accumulating (or developing resource internally) rather than acquiring (purchasing) resources. Further, 'recombining resources' and 'making do' describe particular modes by which a firm bundles their resources. By recombining resources in novel, unintended ways, firms will enrich their resources (extend current capabilities) and in some cases pioneer new capabilities. However, 'making do' will mean that the firm's bundling efforts are more focussed on overcoming limitations rather than seeking advantage.

We expect high levels of bricolage to have two, counteracting influences with respect to the overall level of advantage / disadvantage across the broad range of resources of the firm. First, the tendency to 'make do' will mean some resource areas of the firm won't be developed to the fullest extent possible. However, counter to this, we argue that firms engaging in higher levels of bricolage behaviours will tend to be able to overcome disadvantages more quickly. They will be better at overcoming obstacles and working around barriers to progress. Since young firms are more commonly faced with disadvantages associated with liabilities of newness and smallness (Aldrich & Auster, 1986), we expect this second influence to be more influential. Hence we hypothesise:

H1: Emerging and young firms that engage in higher levels of bricolage will tend to have a better overall level of resource advantage.

Moreover, firms engaging in higher levels of bricolage behaviours will tend to recombine existing resources to address a problem or opportunity. As argued above, we expect firms engaging in higher levels of bricolage behaviours will tend to be able to overcome disadvantages more quickly. However, because of the tendency to 'make do', we expect bricolage will have an asymmetric influence on a firm's resource development to address disadvantages versus building advantages. Bricolage is more concerned with problem solving and as such overcoming disadvantage by matching competing firms. Furthermore, the tendency to 'make do' will limit the firm's search for optimal resource combinations that may lead to resource advantages. However, this same tendency will not act to limit a firm's areas of disadvantage. Hence we expect,

H2: Emerging and young firms that engage in higher levels of bricolage will tend to have fewer areas of strong resource advantage.

H3: Emerging and young firms that engage in higher levels of bricolage will tend to have fewer areas of strong resource disadvantage.

Inherent in this process recombine existing resources to address a problem or opportunity is the role of the entrepreneur and applying elements of improvisation and creativity (Weick, 2002; Hmieleski & Corbett, 2006). At times this will lead to resource advantages. In these cases, owing to the idiosyncratic nature of this process, bricoleurs may develop resource advantages that are difficult to copy (Ciborra, 2002). Thus,

H4: The strongest area of resource advantage for emerging and young firms that engage in higher levels of bricolage will tend to be more difficult for other firms to imitate.

Along similar lines, recombining resources in creative ways will sometimes enable firms to more easily overcome difficult to copy advantages of other firms by substitution with an alternative resource bundle. Hence we expect,

H5: Emerging and young firms that engage in higher levels of bricolage will tend to be able to overcome key areas of disadvantages more easily and quickly.

METHOD

Overall we employ a large-scale survey design and test our hypotheses using regression techniques.

Sample and Data Collection

The main sample

After comprehensive questionnaire development work, a version of the survey instrument was pre-tested on a convenience sample of 71 nascent and young businesses in Nov.-Dec., 2006. After analysis, re-design, programming and internal testing a full scale pilot test with computer aided telephone interviewing (CATI) using a random digit dialling (RDD) procedure was commissioned to TNS and undertaken in April-May, 2007. This pilot test included contact with some 1,810 Australian households for a yield of 78 nascent- or young firm founders who also completed the full interview. After further testing and re-design the large scale screening for eligible cases started in early July 2007 and continued into April, 2008.

In the main study, a total of 28,383 adults (with equal male/female representation) in the randomly selected households completed a screening interview. In order to qualify for inclusion as NF or YF spokesperson the respondent first had to answer affirmatively to at least one of the following questions:

1. Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?
2. Are you, alone or with others, currently trying to start a new business or a new venture for your employer, an effort that is part of your normal work?
3. Are you, alone or with others currently the owner of a business you help manage, including self-employment or selling any goods or services to others?

Both categories of respondents also had to confirm that they were (or intended to be) owners or part owners of the (emerging) firm. Further, for the NF category they had to confirm they had undertaken some concrete 'start-up behaviour' such as looking for equipment or a location, organizing a start-up team, working on a business plan, etc., within the last 12 months. Otherwise, or else they were deemed under qualified. Conversely, if they confirmed that the firm's revenues had exceeded expenses for six of the last 12 months they were deemed over qualified (and instead tested for eligibility in the YF category). Finally, the preliminary YF cases were retained if they confirmed that they started "trading in the market doing the type of business you are currently doing" in 2004 or later.

In the random sample, this process yielded 977 Nascent Firms (3.4%) and 1,011 Young Firms (3.6%). These were directed to the full length interview (40-60 minutes) either directly following the screener or later by appointment. The full length interviews were completed by 594 NF and 514 YF cases (representing response rates of 60.8% and 50.8% of eligible cases identified in the screener) that are used in our analyses

The high potential over sample

Traditionally, finding nascent firms in sufficient quantities has been a daunting challenge. To identify 'high potential' businesses at an early stage for the purpose of comparing their characteristics with 'regular' start-ups is a very challenging task Aldrich (1999). As previously mentioned, there is no agreed-upon definition of 'high potential businesses Allen and Sterns (2004). Second, by any meaningful definition they are rare, so obtaining a sizeable sample of them is even more difficult than is sampling 'regular' start-ups at an early stage (before they appear in any registers) (Reynolds, 1997; Wong, Ho, & Autio, 2005). A random sample of start-ups will, of course, include a proportion of HP start-ups; however, when a sufficiently demanding HP definition is employed that proportion is likely to be small Reynolds and Miller (1992). Obtaining a large enough random sample of such entities may therefore be impossible or prohibitive in terms of costs. On the other hand, if they are identified through a single type of source (e.g., business incubators; business angel networks) the sample would almost certainly be biased compared to the theoretical category the study intends to investigate. Third, no single criterion (e.g., founders' track record; booming industry; being highly innovative) can with satisfactory accuracy determine whether or not a start-up has 'high potential' Gundry and Welsch (2001). Fourth, there is no natural dividing line between HP and non-Hp businesses; in order to delineate such groups an arbitrary cut-off has to be introduced in what is truly a continuous distribution

of varying potential. Hence, there is no 'right' or 'perfect' way to obtain a group of HP start-ups. No matter how it is done, a proportion of those defined as HPs will fail or show rather pedestrian development while some start-ups not defined as HPs will become successful and significant business entities. However, early definition of a group of HPs that eventually turn out to be markedly over represented among high performers should be possible.

Recognising some of the challenges with this cohort, we sought to identify a diverse sample of high potential nascent firms. A variety of techniques were also employed to develop a multi level dataset of sources to develop leads and firm details. This dataset was generated from a variety of websites including major stakeholders including the Federal and State Governments, Australian Chamber of Commerce, University Commercialisation Offices, Patent and Trademark Attorneys, Government Awards and Industry Awards in Entrepreneurship and Innovation, Industry lead associations, Venture Capital Association, innovation directories including Australian Technology Showcase, Business and Entrepreneurs Magazines including BRW and Anthill. The use of many different sources serves to minimise any particular bias in the sample.

In total, over 480 industry, association, government and award sources were generated in this process. Of these, 74 discrete sources generated high potentials that fulfilled the criteria. The 'suspected' HP cases were subjected to an expanded, multiple customised screening based on prior literature using a combination of criteria relating to:

1. *Human capital* (education, management experience, and start-up experience)
2. A*spirations* (growth orientation)
3. *Technological sophistication and novelty* (innovation; IP protection); and being in a 'growth friendly' *industry*

A compensatory scoring system was developed such that no particular characteristic was necessary for high potential status whereas a predefined total score had to be reached across the dimensions. . Cases that reached this pre-defined total score were included in the study and subjected to the full length interview. The criteria for distinguishing between NF and YF were the same as in the random sample.

In the oversample, 1116 firms were contacted as high potential cases. 331 cases agreed to participate in the screener, with 279 firms (134 nascents, and 140 young firms) successfully passing the high potential criteria. 222 Firms (108 Nascents and 113 Young firms) completed the full interview.

Resource Advantages Scales

Hence, we sought to develop scales for measuring resource advantages (and disadvantages) and their VRIO characteristics for a broad-based cohort of entrepreneurial firms. Where possible scales were developed from pre-existing scales. These initial scales were tested and refined based on two pre-tests. The first was an on-line convenience sample of 38 respondents. The second pre-test was a telephone interview with a random sample of 31 Nascent firms and 47 Young firms (< 3 years in operation). The final scales were tested and further refined based on the full data set described above.

The first block of the scales related to the firm's level of resource advantages and disadvantages. Respondents were asked the degree to which each resource category represented an advantage or disadvantage relative to other businesses in their industry on a 5 point response scale: Major Disadvantage, Slight Disadvantage, No Advantage or Disadvantage, Slight Advantage and Major Advantage.

Items were developed as follows. Network capabilities (3 items) were adapted from (Madsen et al., 2006 Ljunggren & Brastad, 2006). Knowledge resources of marketing expertise / customer service (3 items) and technical expertise (3 items) were adapted from Wiklund and Shepard (2003). Flexibility (2 items), costs (4 items) were adapted from JIBS B97. New scales were developed for industry knowledge / alertness (3 items) and product / service uniquness (3 items).

The second block asked the respondent to nominate the most important resource advantage (and disadvantage) of the firm. For the advantage, they were then asked four questions to determine how easy it would be for other firms to imitate and/or substitute this resource on a 5 point likert scale. For the firm's key disadvantage, they were asked corresponding questions related to overcoming this disadvantage.

The two blocks of scales were initially analysed using both exploratory and confirmatory factor analysis to examine the factor structure and reliability analysis to check the internal reliability of each scale. As a result, two items were eliminated from the final scales – one for marketing expertise and the other from product/service uniqueness.

The factor structure and reliabilities of the final scales are reported in Tables 1 and 2.

Based on these scales, we operationalise the dependent variables for our tests of the five hypotheses as follows:

- H1: mean of the seven resource advantages / disadvantages areas
- H2: number of resource areas in which the firm is in the top quartile of firms. Since the response scale is a resource advantage / disadvantage scale compared with competitors, we could have used the absolute scale value. However, mean responses were in the range 4.? – 4.? across the seven resource areas. This clearly represents an overconfidence bias of respondents. Hence, we chose to use the scores relative to other respondents.
- H3: number of resource areas in which the firm is in the bottom quartile of firms.
- H4: key advantage inimitability scale
- H5: key disadvantage inimitability scale

Bricolage Scale

Bricolage constructs were developed following standard protocols for scale development (Brown, Davidsson & Wiklund, 2001; DeVellis, 2003). In order to assure face and content validity we made sure the items were designed to tap each element of the Baker and Nelson (2005, p. 333) definition of bricolage as "making do by applying combinations of the resources at hand to new problems and opportunities."In order to reflect the behavioural nature of the phenomenon a response scale was developed where 1 means "never" and 5 means "always".From a large list of items we then reduced the number of items through a variety of processes, including review by other scholars familiar with the entrepreneurship and bricolage literatures and by two rounds of pilot testing. we settled on a measure consisting of nine items.

Control variables

We have three groups of control variables. The first group aims to capture the overall level of resources – time and money - that have been invested in the venture. Specific variables include amount of money invested in the business (log), number of hours per week the owners are working, number of current employees, time since the first business activity commenced, and (for nascent firms) the proportion of gestation activities considered relevant to the business that have been completed.

The second group of control variables aims to capture some of the heterogeneity concerning the ability the firm has to acquire and develop resources. We include three measures of the human capital of the start-up team: education (number of owners with a university degree); business start-up experience (exact measure); management experience (number of years). We also included three indicators of the technology capabilities of the firm: whether the venture is perceived as high tech (dummy); whether the technology for the venture existed five years ago; whether R&D is considered a major part of the business.

The third group of variables account for various characteristics. These include: team (versus solo dummy); spouse team (dummy); number of owners; whether it is a home-based business (dummy); service (versus product dummy).

Table 1: Factor Structure for Resource Advantages Scale

Construct Grouping	Survey Item†	Factors*							Corrected item-total Correlation
		1	2	3	4	5	6	7	
Marketing	A: Expertise in marketing						0.87		0.84
	B: Innovative marketers						0.87		0.85
	C: Ability to provide excellent customer service (dropped)								
Expertise	D: Technical expertise		0.46			0.69			0.71
	E: Expertise regarding product/service development					0.67			0.64
	F: Competence which is difficult to copy					0.75			0.68
Cost	G: Purchase prices (dropped)								
	H: Labour costs	0.77							0.62
	I: Operating costs	0.91							0.84
	J: Overhead costs	0.86							0.78
Flexibility	K: Freedom for managers to make and implement fast decisions							0.81	0.78
	L: Flexibility to react fast to new trends							0.81	0.79
Knowledge	M: Knowledge of latest industry trends		0.79						0.77
	N: Knowlede of latest technological trends		0.83						0.78
	O: Knowledge of what the leading customers are asking for		0.57						0.58
Networks	P: Ability to use the firm's networks to influence the firm's environment			0.79					0.74
	Q: Ability to use the firm's networks to access useful knowledge			0.79					0.77
	R: Ability to use personal networks for business purposes			0.77					0.67
Uniqueness	S: Product/service uniqueness				0.87				0.79
	T: Superior product/service quality				0.66				0.59
	U: Distinctive product/service features				0.81				0.76
	Eigenvalue	6.11	2.20	1.51	1.24	1.10	0.97	0.86	
	Cronbach α	0.82	0.78	0.80	0.79	0.70	0.83	0.67	
	% Cumulative Variance Explained	32.18	43.76	51.73	58.26	64.07	69.19	73.70	

Note: † Question Asked: Could you now compare your business to other businesses in your industry. I will read a list of business capabilities and resources. For each one, please state if it represents an advantage, disadvantage or no real? All responses were coded on a 5-point Scale from 1=Strongly Disagree, 3=Neither Agree nor Disagree, to 5=Strongly Agree. * Factors with an absolute value greater than 0.4 were considered significant.

Table 2: Factor Results for Robustness of Key Advantage and Disadvantage

Construct Grouping	Survey Item†	Factor*		Corrected item-total Correlation
		1	2	
Advantage	A: It would be rather easy for other businesses to copy this advantage§	0.77		0.52
	B: It would take other businesses a long time to copy this advantage	0.77		0.55
	C: It would be very costly for other businesses to copy this advantage	0.68		0.44
	way§	0.69		0.44
Disadvantage	A: It will be rather easy for us to overcome this disadvantage§		0.77	0.53
	B: It will take us a long time to overcome this disadvantage		0.74	0.49
	C: It will be very costly for us to overcome this disadvantage		0.68	0.43
	way§		0.67	0.41
	Eigenvalue	2.18	2.01	
	Cronbach α	0.70	0.681	
	% Cumulative Variance Explained	27.21	52.34	

Note: † Advantage Question Asked: Considering the advantage you have just identified, would you agree, disagree or neither agree nor disagree with the following statements? Disadvantage Question Asked: Considering the disadvantage you have just identified, would you agree, disagree or neither agree nor disagree with the following statements? All responses were coded on a 5-point Scale from 1=Strongly Disagree, 3=Neither Agree nor Disagree, to 5=Strongly Agree. § Reverse Coded Question. * Factors with an absolute value greater than 0.15 were considered significant.

Table 3: Regression Results for Nascent Firms

	Overall Resource Advantage			Inimitability of Key Advantage			Difficulty to Overcome Key Disadvantage			Number of Strong Advantages			Number of Strong Disadvantages		
Variables	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**
Bricolage	**0.201**	**0.035**	**0.000**	**0.173**	**0.064**	**0.007**	-0.112	0.060	0.062	**0.501**	**0.081**	**0.000**	**-0.518**	**0.108**	**0.000**
Control variables															
(Constant)	3.060	0.159	0.000	-1.435	0.292	0.000	-0.132	0.272	0.627	-1.025	0.369	0.006	4.282	0.490	0.000
Time since First Business Activity	-0.002	0.004	0.588	**0.021**	**0.007**	**0.005**	0.011	0.007	0.125	0.003	0.009	0.713	0.011	0.012	0.399
Log Amount Invested	0.008	0.017	0.648	-0.012	0.032	0.697	-0.035	0.030	0.236	0.001	0.041	0.971	-0.029	0.054	0.588
Hours / week: Owners	0.000	0.001	0.428	0.001	0.001	0.457	-0.001	0.001	0.421	0.001	0.001	0.552	-0.002	0.002	0.277
Number of Current Employees	0.023	0.065	0.727	0.032	0.119	0.789	-0.028	0.111	0.799	-0.068	0.150	0.653	-0.187	0.200	0.350
Prop. Relevant Gestation Activit. Compltd.	0.059	0.127	0.642	**0.734**	**0.233**	**0.002**	**0.491**	**0.218**	**0.024**	0.107	0.295	0.717	0.127	0.392	0.746
Team (vs Solo Dummy)	0.015	0.058	0.791	0.015	0.106	0.889	0.053	0.099	0.595	0.072	0.134	0.594	0.040	0.178	0.821
SpouseTeam	**-0.126**	**0.064**	**0.048**	-0.041	0.117	0.728	-0.111	0.109	0.309	-0.229	0.148	0.122	0.290	0.196	0.140
Ownership Team Size (Number of Owners)	-0.002	0.002	0.361	0.006	0.004	0.077	0.003	0.003	0.373	-0.002	0.004	0.661	0.007	0.006	0.215
Home Business (Dummy)	-0.026	0.047	0.582	-0.213	0.086	0.013	0.020	0.080	0.801	-0.011	0.109	0.916	0.001	0.144	0.995
Services (vs Product Dummy)	0.005	0.044	0.916	0.031	0.081	0.698	-0.100	0.075	0.182	-0.014	0.102	0.888	-0.095	0.136	0.483
Human Capital - Education (Degree)	-0.058	0.044	0.187	0.141	0.080	0.080	0.068	0.075	0.363	**-0.282**	**0.102**	**0.006**	0.129	0.135	0.341
Human Capital - Business Experience	0.071	0.054	0.192	**0.197**	**0.100**	**0.049**	0.045	0.093	0.628	0.026	0.126	0.834	-0.307	0.168	0.068
Human Capital - Management Experience	**0.108**	**0.053**	**0.045**	0.020	0.098	0.843	0.100	0.092	0.277	0.186	0.124	0.136	**-0.327**	**0.165**	**0.048**
Venture High Tech (Dummy)	**0.134**	**0.047**	**0.005**	0.122	0.087	0.163	-0.104	0.081	0.198	**0.515**	**0.110**	**0.000**	**-0.297**	**0.146**	**0.042**
Technology Exists < 5 Years (Dummy)	-0.064	0.047	0.174	0.117	0.086	0.175	**0.168**	**0.080**	**0.037**	**-0.271**	**0.109**	**0.013**	0.095	0.145	0.513
Substantial R&D (Dummy)	0.042	0.045	0.350	0.067	0.083	0.422	-0.001	0.077	0.992	0.158	0.105	0.132	-0.020	0.139	0.886
Model Statistics															
R sqaured	0.112			0.129			0.035			0.129			0.084		
F	5.24			6.17			1.51			6.20			3.82		
p-value F	0.000			0.000			0.083			0.000			0.000		
Change R squared	0.041			0.009			0.005			0.046			0.030		
Change F	32.95			7.22			3.49			37.82			22.94		
p-value Change F	0.000			0.007			0.062			0.000			0.000		

Table 4: Regression Results for Young Firms

	Overall Resource Advantage			Inimitability of Key Advantage			Difficulty to Overcome Key Disadvantage			Number of Strong Advantages			Number of Strong Disadvantages		
Variables	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**	**Coeffic.**	**Std. Err.**	**p-value**
Bricolage	**0.187**	**0.032**	**0.000**	**0.141**	**0.065**	**0.031**	**-0.219**	**0.063**	**0.001**	**0.690**	**0.107**	**0.000**	**-0.444**	**0.105**	**0.000**
Control variables															
(Constant)	2.837	0.149	0.000	-0.870	0.300	0.004	**0.634**	**0.293**	**0.031**	-1.618	0.493	0.001	4.493	0.486	0.000
Time since First Business Activity	0.000	0.006	0.997	-0.002	0.012	0.851	**0.029**	**0.012**	**0.016**	0.006	0.020	0.751	0.006	0.020	0.778
Log Amount Invested	**0.040**	**0.015**	**0.007**	0.033	0.030	0.267	0.035	0.029	0.219	**0.124**	**0.048**	**0.010**	**-0.105**	**0.048**	**0.028**
Hours / week: Owners	**0.002**	**0.001**	**0.007**	0.001	0.001	0.377	-0.002	0.001	0.095	**0.004**	**0.002**	**0.043**	-0.003	0.002	0.132
Number of Current Employees	0.038	0.047	0.420	-0.060	0.095	0.529	**0.244**	**0.093**	**0.009**	0.055	0.157	0.725	-0.222	0.155	0.151
Team (vs Solo Dummy)	**-0.143**	**0.069**	**0.040**	-0.021	0.140	0.878	0.254	0.136	0.063	**-0.539**	**0.230**	**0.019**	0.352	0.226	0.120
SpouseTeam	0.003	0.066	0.969	-0.087	0.134	0.517	-0.068	0.130	0.603	0.079	0.220	0.719	0.056	0.217	0.795
Ownership Team Size (Number of Owners)	0.001	0.004	0.773	0.003	0.007	0.672	-0.005	0.007	0.445	-0.004	0.012	0.763	-0.009	0.012	0.425
Home Business (Dummy)	-0.054	0.047	0.253	**-0.296**	**0.096**	**0.002**	-0.095	0.093	0.309	-0.221	0.157	0.160	0.100	0.155	0.521
Services (vs Product Dummy)	-0.008	0.045	0.856	-0.090	0.091	0.323	0.070	0.088	0.427	-0.195	0.149	0.191	-0.202	0.147	0.169
Human Capital - Education (Degree)	-0.006	0.043	0.886	0.159	0.086	0.065	-0.077	0.084	0.358	-0.090	0.141	0.524	-0.047	0.139	0.736
Human Capital - Business Experience	0.063	0.054	0.239	0.169	0.109	0.121	**-0.218**	**0.106**	**0.040**	0.264	0.178	0.139	-0.183	0.176	0.297
Human Capital - Management Experience	**0.157**	**0.051**	**0.002**	0.164	0.103	0.112	-0.042	0.101	0.677	**0.576**	**0.169**	**0.001**	**-0.413**	**0.167**	**0.014**
Venture High Tech (Dummy)	**0.113**	**0.049**	**0.022**	0.166	0.100	0.096	-0.080	0.097	0.410	**0.542**	**0.164**	**0.001**	-0.199	0.161	0.218
Technology Exists < 5 Years (Dummy)	0.090	0.051	0.079	**0.290**	**0.104**	**0.005**	0.172	0.101	0.089	0.183	0.170	0.281	**-0.377**	**0.168**	**0.025**
Substantial R&D (Dummy)	-0.060	0.048	0.207	0.066	0.097	0.493	0.042	0.094	0.654	-0.010	0.159	0.949	0.263	0.156	0.093
Model Statistics															
R sqaured	0.161			0.129			0.084			0.180			0.106		
F	7.88			6.08			2.70			9.03			4.86		
p-value F	0.000			0.000			0.000			0.000			0.000		
Change R squared	0.043			0.006			0.017			0.052			0.024		
Change F	33.86			4.68			12.01			41.87			17.84		
p-value Change F	0.000			0.031			0.001			0.000			0.000		

RESULTS

To test each of the five the hypotheses, hierarchical linear regression was used. In the first step the control variables weer introduced into the model, and in the second step our variable of interest, Bricolage, was introduced. Results are displayed in Tables 3 and 4 for nascent and young firms respectively.

Clearly overall high levels of bricolage are generally a good thing for the resource position of both nascent and young firms. Findings with respect to the five hypotheses are:

- H1: Findings support the hypothesis that emerging ($p<0.001$) and young firms ($p<0.001$) that engage in higher levels of bricolage will tend to have a better overall level of resource advantage / disadvantage averaged across all important resource areas of the firm.
- H2: Findings reject the hypothesis that emerging and young firms that engage in higher levels of bricolage will tend to have fewer areas of strong resource advantage. In fact, the results suggest that the reverse is likely to be true ($p<0.001$) for both emerging and young firms.
- H3: Findings support the hypothesis that emerging ($p<0.001$) and young firms ($p<0.001$) that engage in higher levels of bricolage will tend to have fewer areas of strong resource disadvantage.
- H4: Findings support the hypothesis that the most important area of resource advantage for emerging ($p<0.01$) and young firms ($p<0.05$) that engage in higher levels of bricolage will tend to be more difficult for other firms to imitate.
- H5: Findings support the hypothesis that young firms ($p<0.001$) that engage in higher levels of bricolage will tend to be able to overcome key areas of disadvantages more easily and quickly. The findings are a little inconclusive ($p=0.062$) the direction of the observed effect suggests a weak influence also exists for nascent firms.

CONCLUSION

At the time of writing, the data has been collected and preliminary analyses conducted. Initial (very tentative) results indicate that higher levels of bricolage behaviour are associated with fewer disadvatages as hypothesised. Bricolage behaviour also has a positive effect on the inimitability of a firm's key resource advantage.

The paper will provide an important theoretical link between the processes of resource development and resource-based advantages of young and nascent firms. It represents a step towards a more complete resource-orientated perspective that reflects the realities facing emerging and young firms.

REFERENCES

Aldrich, H. E. (1999) *Organizations Evolving*. Newbury Park, CA: Sage Publications.

Aldrich, H. E., & Auster, E. R. (1986) Even dwarfs started small: Liabilities of age and size and their strategic implications. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behavior* (Vol. 8, pp. 165-198). Greenwich, CT: JAI Press.

Ali, M., & Bailur, S. (2007) *The Challenge of "Sustainability" in ICT4D- is Bricolage the Answer?* Proceedings of the 9th International Conference on Social Implications of Computers in Developing Countries, San Paolo, Brazil.

Allen, K., & Stearns, T. M. (2004) Technology In W. Gartner, K. Shaver, N. M. Carter & P. Reynolds (Eds.), *Handbook of Entrepreneurial Dynamics: The Process of Business Creation*. Thousand Oaks, CA: Sage.

Alvarez, S. A., & Barney, J. B. (2002) Resourced-based theory and the entrepreneurial firm. In M. A. Hitt, R. D. Ireland, S. M. Camp & D. L. Sexton (Eds.), *Strategic entrepreneurship: Creating a new mindset* (pp. 89-105). Oxford: Blackwell Publishers.

Alvarez, S. A., & Barney, J. B. (2004) Organizing Rent Generation and Appropriation: Toward a Theory of the Entrepreneurial Firm. *Journal of Business Venturing* **19**(5): 621.

Alvarez, S. A., & Busenitz, L. W. (2001) The entrepreneurship of resource-based theory. *Journal of Management* **27**(6): 755.

Arthurs, J. D., & Busenitz, L. W. (2006) Dynamic capabilities and venture performance: The effects of venture capitalists. *Journal of Business Venturing* **21**(2): 195-215.

Baker, T., Miner, A. S., & Eesley, D. T. (2003) Improvising Firms: Bricolage, Account Giving and Improvisational Competencies in the Founding Process. *Research Policy* **32**(2): 255-276.

Baker, T., & Nelson, R. E. (2005) Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage. *Administrative Science Quarterly* **50**(3): 329.

Barney, J. (1991) Firm resources and sustained competitive advantage. *Journal of Management* **17**(1): 99-120.

Barney, J. B. (1995) Looking inside for competitive advantage. *Academy of Management Executive* **9**(4): 49-61.

Barney, J. B. (2001) Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management* **27**(6): 643-650.

Berchicci, L., & Hulsink, W. (2006) *Of Bikes and Men: Innovation patterns and strategic entrepreneurship in the human-powered vehicle sector.* Strategic Entrepreneurship: the role of networking Vrije Universiteit Amsterdam.

Bhidé, A., & Stevenson, H. (1999) Attracting Stakeholders. In W. S. a. H. Stevenson (Ed.), *The Entrepreneurial Venture* (2nd ed.). Boston, Massachusetts: Harvard Business School Publications.

Brown, T. E., Davidsson, P., & Wiklund, J. (2001) An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity-based firm behavior. *Strategic Management Journal* **22**(10): 953.

Brüderl, J., Preisendorfer, P., & Ziegler, R. (1992) Survival Chances of Newly Founded Business Organizations. *American Sociological Review* **57**(2): 227-242.

Castrogiovianni, G. J. (1996) Pre-start-up planning and the survival of new small firms. *Journal of Management* **22**(6): 801-823.

Chandler, G. N., & Hanks, S. H. (1994) Market attractiveness, resource-based capabilities, venture strategies, and venture performance. *Journal of Business Venturing* **9**: 331-349.

Ciborra, C. (2002) *The Labyrinths of Information: Challenging the Wisdom of Systems*. Oxford: Oxford University Press.

Ciborra, C. U. (1996) The platform organization: Recombining strategies, structures and surprises. *Organization Science* **7**(2): 103-118.

Cunha, M. P., Cunha, J. V., & Kamoche, K. (1999) Organizational improvisation: what, when, how and why. *International Journal of Management Reviews* **1**(3): 299-341.

Cunha, M. P. e. (2005) Bricolage in Organizations, *FEUNL Working Paper Series* (Vol. wp474): Universidade Nova de Lisboa, Faculdade de Economia

Dent, J. N., & Hatton, E. (1996) Education and Poverty: An Australian primary school case study. *Australian Journal of Education.* **40**(1): 46-64.

Duboule, D., & Wilkins, A. S. (1998) The evolution of 'bricolage'. *Trends Genet* **14**: 54-59.

Edelman, L. F., Brush, C. G., & Manolova, T. (2005) Co-alignment in the resource–performance relationship: strategy as mediator. *Journal of Business Venturing* **20**(3): 359-383.

Eisenhardt, K. M., & Martin, J. A. (2000) Dynamic capabilities: what are they? *Strategic Management Journal* **21**(10-11): 1105-1121.

Ferneley, E., & Bell, F. (2006) Using Bricolage to Integrate Business and Information Technology Innovation in SMEs. *Technovation* **26**(2): 232-241.

Garud, R., & Karnoe, P. (2003) Bricolage versus breakthrough: distributed and embedded agency in technology entrepreneurship. *Research Policy* **32**(2): 277–300.

Garud, R., Kumaraswamy, A., & Nayyar, P. (1998) Real options or fool's gold: perspective makes the difference. *Academy of Management Review* **3**(2): 212–214.

Gonzales, L. (2003) *Deep survival: who lives, who dies, and why. True stories of miraculous endurance and sudden death*. New York: W.W. Norton.

Gundry, L. K., & Welsch, H. P. (2001) The ambitious entrepreneur: High growth strategies of women-owned enterprises. *Journal of Business Venturing* **16**(5): 453-470.

Harberger, A. C. (1959) Using the Resources at Hand More Effectively. *The American Economic Review* **49**(2): 134-146.

Helfat, C. E. (1997) Know-how and asset complementarity and dynamic capability accumulation: The case of R&D. *Strategic Management Journal* **18**(5): 339-360.

Hmieleski, K. M., & Corbett, A. C. (2006) Proclivity for Improvisation as a Predictor of Entrepreneurial Intentions. *Journal of Small Business Management* **44**(1): 45-63.

Hull, N. E. H. (1991) Networks and bricolage: A prolegomenon to a history of 20th-century American academic jurisprudence. *American Journal of Legal History* **35**: 307–322.

Kogut, B., & Zander, U. (1992) Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science* **3**(3): 383-397.

Lanzara, G. F. (1999) Between transient constructs and persistant structures: Designing systems in action. *Journal of Strategic Information Systems* **8**(4): 331-349.

Levi-Strauss, C. (1967) *The Savage Mind* Chicago: University of Chicago Press.

Madsen, E. L., Alsos, G. A., Borch, O. J., Ljunggren, E., & Brastad, B. (2006) Developing entrepreneurial orientation - The role of dynamic capabilities and intangible resources, *RENT XX: Research in entrepreneurship and small businesses*. Brussels, Belgium.

Maira, S. (1999) Identity dub: The paradoxes of an Indian American youth subculture (New York mix). *Cultural Anthropology* **14**(1): 29-60.

Morrow, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007) Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic Management Journal* **28**(3): 271-283

Penrose, E. (1959) *The Theory of the Growth of the Firm*. Oxford: Oxford University Press.

Peteraf, M. A. (1993) The cornerstones of competitive advantage: A resource-based. *Strategic Management Journal* **14**(3): 179.

Prahalad, C. K., & Hamel, G. (1990) The core Competence of the Corporation. *Harvard Business Review* **68**(3): 79 - 91.

Rerup, C. (2001) 'Houston, we have a problem': Anticipation and improvisation as sources of organizational resilience. *Comportamento Organizacional e Gestao* **7**: 27-44.

Reynolds, P. D. (1997) Who Starts New Firms? Preliminary Explorations of Firms-in-Gestation. *Small Business Economics* **9**(5): 449-462.

Reynolds, P. D., & Miller, B. (1992) New firm gestation: conception, birth and implications for research. *Journal of Business Venturing* **7**(5): 405-417.

Shane, S., & Stuart, T. (2002) Organizational Endowments and the Performance of University Start-ups. *Management Science* **48**(1): 154-170.

Shrader, R. C., & Simon, M. (1997) Corporate vs. independent new ventures: Resource, strategy and performance differences. *Journal of Business Venturing* **12**: 47-66.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007) Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review* **32**(1): 273-292.

Stalk, G. (1992) Time-based competition and beyond: Competing on capabilities. *Strategy & Leadership* **20**(5): 27-29.

Stinchcombe, A. L. (1965) Social structure and organizations. In J. D. March (Ed.), *Handbook of Organizations* (pp. 142-193). Chicago, IL: Rand McNally.

Stuart, T. E., Hoang, H., & Hybels, R. C. (1999) Interorganizational endorsements and the performance of entrepreneurial ventures. *Administrative Science Quarterly* **44**: 315-349.

Teece, D. J., Pisano, G., & Shuen, A. (1997) Dynamic capabilities and strategic management. *Strategic Management Journal* **18**(7): 509-533.

Venkataraman, S. (1997) The distinctive domain of entrepreneurship research: An editor's perspective. In J. A. Katz (Ed.), *Advances in Entrepreneurship, Firm Emergence, and Growth: Contemporary Theories in Entrepreneurship Research* (pp. 119-138). Greenwich, CT: JAI Press.

Wagner, R. K. (2000) Practical intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 380-395). New York: Cambridge University Press.

Weick, K. E. (2002) The aesthetic of imperfection in orchestras and organizations. In K. N. Kamoche, M. P. Cunha & J. V. Cunha (Eds.), *Organizational Improvisation* (pp. 166-184). London: Routledge.

Wernerfelt, B. (1984) A resource based view of the firm. *Strategic Management Journal* **5**(2): 171-180.

Westhead, P., Wright, M., & Ucbasaran, D. (2001) The internationalization of new and small firms. *Journal of Business Venturing* **16**(4): 333-358.

Wiklund, J., & Shepherd, D. (2003) Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal* **24**(13): 1307.

Winter, S. G. (2003) Understanding Dynamic Capabilities. *Strategic Management Journal* **24**: 991-995.

Wong, P. W., Ho, Y. P., & Autio, E. (2005) Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics* **24**(3): 335-350.

Zahra, S. A., Sapienza, H. J., & Davidsson, P. (2006) Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda. *Journal of Management Studies* **43**(4): 917-955.