Relationship building in effectual networking, social networking, and business networking. An empirical comparison of complementary approaches in entrepreneurial research.

Work in progress

INTRODUCTION

Calls for increased levels of 'realism' in entrepreneurship studies address both the tendency to consider successful entrepreneurs as heroic leaders tenaciously overcoming obstacles (Engel et al, 2017) and the common belief that the entrepreneur's role is to unearth opportunities that others do not see (Ramouglou and Tsang, 2016). The desire for a more insightful approach to the true dynamics of entrepreneurial processes is both long-standing and on-going. Hoang and Antoncic (2003), for example, concluded that more longitudinal and qualitative research is needed to acknowledge the true network-based development of entrepreneurs. More recently, Alvarez et al (2016) argued more generally that 'the hunger for theories of entrepreneurship is a reflection of the desire in the field of entrepreneurship to provide more meaningful, predictive, and relevant theories for researchers, teachers, entrepreneurs, and students' (p.3).

Network-influenced approaches to new venture development focus on understanding the dynamics of entrepreneurs' interactions with other actors rather than a deterministic and agentic process. Although coming from different research traditions, these approaches are complementary and enrich our understanding of real-world entrepreneurial processes. They require empirical validation, however, and this research compares three such network-based models of entrepreneurship using four in-depth case studies. The complementary nature of the approaches as well as their limitations are discussed in the analysis. Recent work by the IMP group is proposed as a way to develop greater understanding of the interactions by and with entrepreneurs and the development and ending of relationships.

NETWORK-FOCUSED MODELS OF ENTREPRENEURSHIP

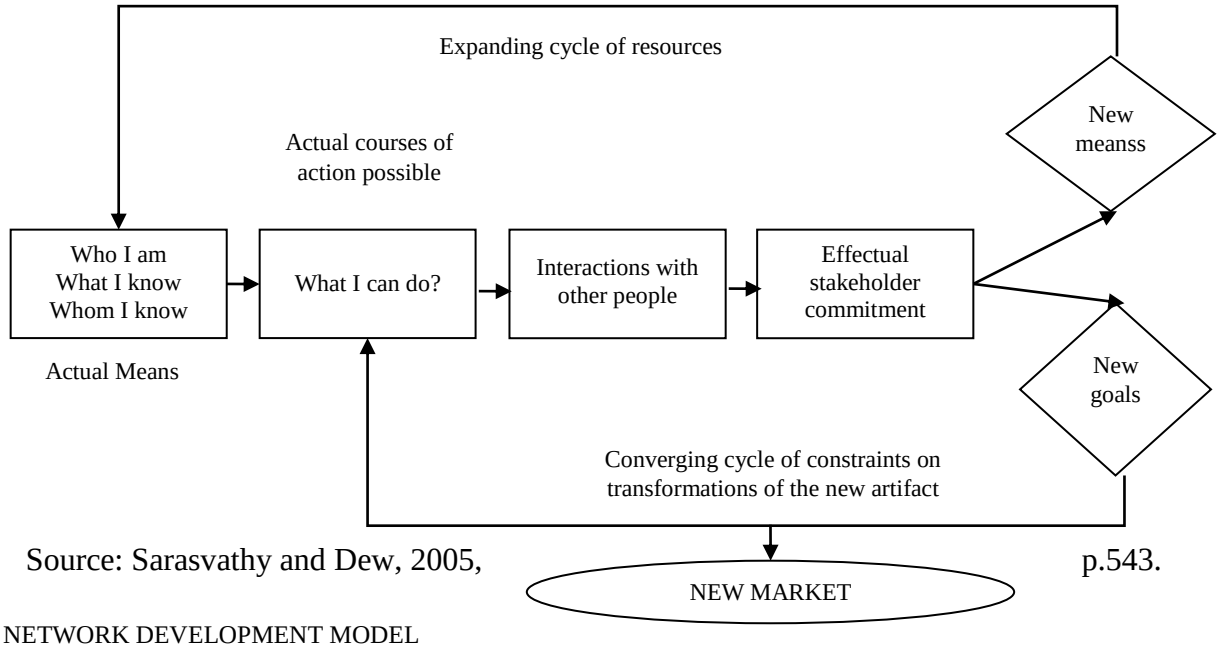
The study of entrepreneurship processes from a network perspective encompasses approaches that focus on the impact of networks on entrepreneurs and those that center on the influence of entrepreneurs on their networks (Hoang and Antoncic, 2003). The emphasis in such research tend to mirror the underlying focus of the researchers. Entrepreneurial scholars emphasize the role of the individual manager while social networking scholars consider the network context as the driver of change. By combining both approaches, business network analysis seeks to understand the role of the entrepreneur within a network (Slotte-Kock and Coviello, 2010). In parallel, initial experimental research work in the field of evolutionary economics that sought to develop a solid basis for understanding firm decisions in the field of entrepreneurship led to the emergence of an influential field of study called effectuation (Sarasvathy, 2001). The interaction of the entrepreneur with a network is a key element of this approach.

EFFECTUATION MODEL

Effectuation is the process of interaction between the entrepreneur and the social context in which the entrepreneurial project is taking shape. Both the entrepreneur and the network co-evolve with their environment and, as a result, the entrepreneurs redefine regularly who they are, what and whom they know and what they can do (Figure 1). It is through interaction that the entrepreneurs access new means that, in turn, generate new resources and may define new goals that transform the initial set of activities undertaken. The market that will emerge eventually is shaped by what stakeholders are willing to commit and by the converging goals

of those involved in the interaction. Only those relationships that are willing to share the risk of the venture are involved in effectual partnerships that will shape the final market boundaries.
Rather than having calculated a target return on investment, however, firms who are involved in effectuating will only commit an amount that represents their 'affordable loss'. The effectual entrepreneur is not taking risks but is focusing on what is controllable. Similarly, he or she is not selecting among alternative partners but is transforming what is available into new alternatives by soliciting commitments.

Figure 1: Dynamic model of the effectual network



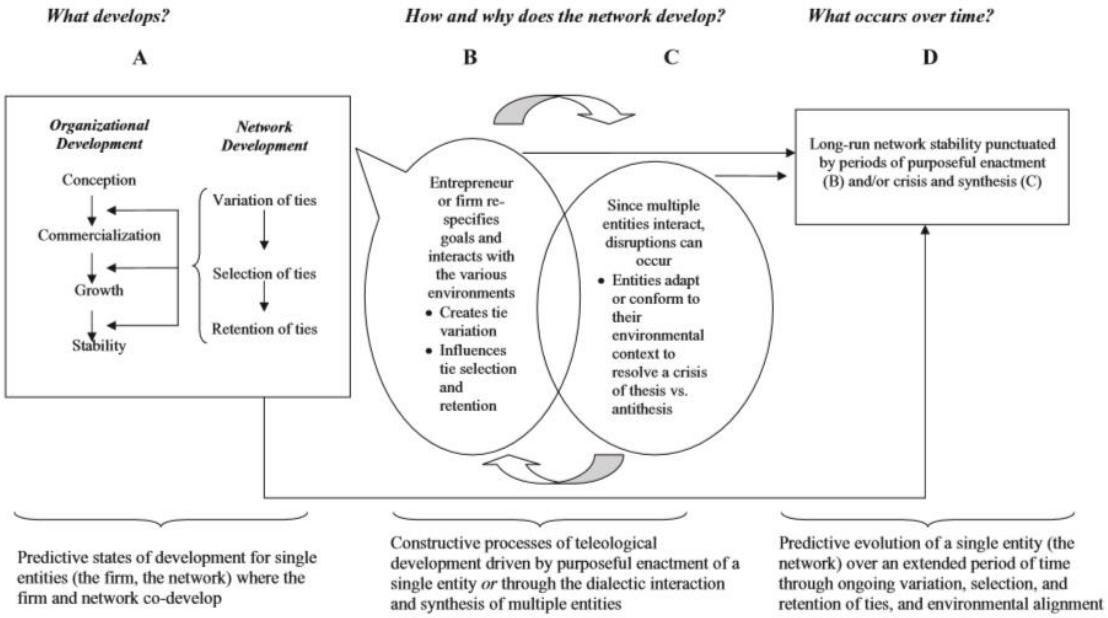
Source: Sarasvathy and Dew, 2005, p.543.

NETWORK DEVELOPMENT MODEL

The network development model (Slotte-Kock and Coviello, 2010) seeks to reconcile a social networking view of entrepreneurship that emphasizes life cycle and evolutionary influences with the business network perspective that focuses on the actions of actors within their dyads and their networks. The former is a macro view that is predictive I nature and the latter is a micro view that is considered teleological and dialectic. By combining both approaches, it is hoped that the pitfalls of each will be avoided. In essence, the first approach underestimates the potential for innovation and the second overemphasizes variety and fails to account for the periods of relative stability that emerge in networks.

The network development model inserts a 'constructive process' within two more predictive parts of the development of an entrepreneurial network (Figure 2). The central part combines both the 'purposeful enactment' of a single actor with the interaction and synthesis of multiple actors. Through this dual process, network actors overcome conflicting goals or implementation strategies. Both the teleological development of a single actor (B) and the dialectic interaction and synthesis of multiple actors (C) are thus constructive, as opposed to predictive, processes. By highlighting the interaction of both processes, the model contributes to our understanding of 'how and why things happen' in the network, rather than simply considering the question of 'what happens' which is typical of the life cycle perspective. In the final phase of the model, however, network development has become more stable and a life cycle perspective can again be appropriate to understand long-term dynamics. During phases described as 'organizing episodes', the cycle of B and C will be repeated and alter the network configuration in an evolutionary way.

Figure 2: Network development

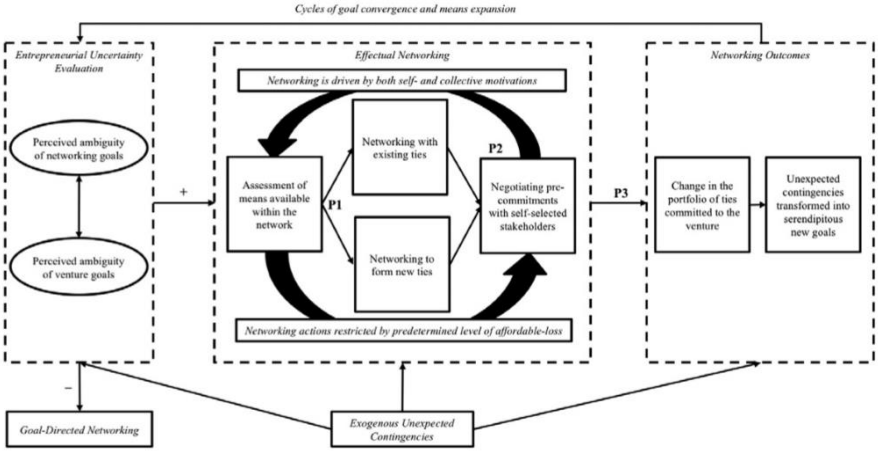


Source: Slotte-Kock and Coviello, 2010, p.543.

ENTREPRENEURIAL NETWORKING UNDER UNCERTAINTY

Engel et al. (2017) consider uncertainty to be a critical boundary condition of entrepreneurial networking. Levering the insights of effectuation, they argue that entrepreneurs do not only use the network to achieve goals but that they also use it to define what these goals are (Figure 3). In phase two of their model, entrepreneurs are engaging in networking as a way to reduce ambiguity in both venture and network goals by mobilizing existing and new ties to address the question of 'what can we do together'. A more stable group of self-selecting stakeholders willing to commit to the venture emerges over time under the constraint of affordable loss and driven by self and collective motivations, including 'intelligent altruism' 'Sarasvathy and Drew, 2008). The authors consider that effectual networking explains a lot of 'unintended discovery' (Dew, 2009) as the entrepreneur seeks to reduce uncertainty through network diversification and thus maximizes the possibility of positive contingencies.

Figure 3: Dynamic process model of entrepreneurial networking under uncertainty



Source: Engel et al, 2017, p.42.

METHODOLOGY

A multiple-case research design was adopted for the empirical work to address the issues of multiple constructs (Eisenhardt, 1989). The objective of choosing the case sites was to have both replication logic (Yin, 2003) and remarkable 'entrepreneurial stories' (Eisenhardt and Graebner, 2007). The four start-ups chosen (Table 1) are representative of the policy efforts undertaken to develop both high-tech and science-based start-ups in France. Two of the entrepreneurial firms studied (EF1 and EF2) have grown rapidly since their creation, one (EF3) has been acquired and one (EF4) has closed.

Table 1: Main characteristics of Entrepreural firms (EF)

EF1	B2B provider of a recycling service to suppliers of a consumer good in the electronics market. Nine years after its founding, the firm has 70 employees and operates in 4 countries. It is positioned as a 'socially responsible firm' both because of its core business and also because part of the recycling process is carried out by organizations employing workers who are disadvantaged for physical, intellectual or circumstantial reasons. The firm raised capital in 2010 and 2013.
EF2	B2B2C agency that provides applications and consultancies services for firms wishing to communicate with their customers via social networks. Finance was raised in 2011 and 2012 to expand, in particular into Asia. Five years after its creation, the firm has 130 employees in one European and three Asian countries.
EF3	Two researchers in physics/chemistry working in a state-funded scientific laboratory developed a new technology for creating microcapsules. A state body for commercializing public research put them in contact with a laboratory looking for such a process but it was a small scale venture. Other contacts with larger firms did not give rise to successful applications as the technology was not advanced enough to meet their requirements. After contacts with the vaccination sector and eight years after its creation, the firm and its technology were integrated into the research lab of a major pharmaceutical firm.
EF4	A new application of an existing technology was developed in a university department that improved performance of measuring equipment in the agricultural sector. Initial contact with the professional body of one branch led to the development of a prototype with joint funding from the French state body for innovation and the regional council. However, when an exclusivity agreement was signed with a manufacturer for entry into a new branch, the adapted technology was not considered superior. Publicity from the professional body led to a small number of sales but directly accessing the small number of potential buyers in the original branch was seen as too costly and the firm closed five years after it was founded.

Data on each firm was gathered from secondary sources in preparation for a phase of interviews. The average interview phase for the four companies lasted 7.25 hours and included interviews with the key informant and with other people who were identified as relevant during the first interview. The interviews were semi-structured and used the critical incident technique to uncover what the interviewees considered as key events in the development of the firm, as well as the circumstances that preceded these events and the outcome of changes that were initiated as a result. Within-case analysis and cross-case comparisons were conducted to achieve analytical generalization.

RESULTS AND DISCUSSION

The alternative templates approach (Langley, 1999) was used to fit data from each of the four case studies to the constituent elements and processes proposed by the three models of entrepreneurship: effectuation, network development and entrepreneurial networking under uncertainty (Table 2). Matching data to theoretical criteria is a means to evaluate the evidence that a theory is relevant for explaining the emergence or the failure of a particular venture (Fisher, 2012).

Table 2: Case studies and process models of entrepreneurship

	EF1	EF2	EF3	EF4
Effectuation model				
New means ⇨ New goals	✓✓	✓✓✓	✓	✓
Expansion of resources ⇨ converging cycle of artifact	✓✓	✓✓✓	✓	(-)
New markets emerge	✓	✓	(-)	(-)
Network development model				
Part A: EF emerging within network				
Builds effective ties in emerging network	+/x	x/+	x	x
Part B: EF dynamics within networks				
Adapted ties effectively in network development	+	++	x	x
Part C: Network dynamics influence EF				
Disruption in network	+	(-)	(-)	(-)
Adaptations to resolve crisis	+	(-)	(-)	(-)
Part B ⇔ Part C				
EF influences network	+	++	(-)	(-)
Network influences EF	+/x	+/x	x	x
Part D				
Long run network stability	(-)	(-)	✓	✓
Purposeful enactment disrupting network	✓	✓	(-)	(-)
Crisis disrupting network	(-)	(-)	(-)	(-)
Model of entrepreneurial networking under uncertainty				
Phase 1: Evaluation of entrepreneurial uncertainty				
Ambiguity of networking goals	✓✓	✓✓	✓	✓✓
Ambiguity of venture goals	✓	✓	✓✓	✓
Goal-oriented networking	✓✓	✓	✓	✓
Phase 2: Effectual networking				
Networking with existing ties	+/x	++	+	x
Networking with new ties	++	++	(-)	(-)
Negotiating pre-commitments with self-selected stakeholders				
- Driven by self and collective motivations	+/x	++	+	x
- Restricted by predetermined level of affordable loss	+/x	+	x	x
Phase 3: Networking outcome				
Change in portfolio of ties committed to new venture	++	++	+	(-)
Unexpected contingencies transformed into serendipitous new goals	+	++	(-)	(-)
Cycle of goal convergence and means expansion	✓✓	✓✓	(-)	(-)

✓ : present in case study to some degree, very present (✓✓) or very significant (✓✓✓)
+ : positive impact on process studied
x : negative impact on process studied
(-) : not present in case study

The effectuation model of entrepreneurship sees new markets emerging as the outcome of a process of expanding resources and gradually coming to a consensus with partners about what features and benefits the new venture will offer and under what terms. This iterative process involves on-going reevaluation of what the goals of the venture are and what means are needed to achieve them. For EF1 and EF2, this process was successful, while EF3 and EF4 did not emerge from the process as firms with successful products or services in a new market. For both EF1 and EF2, the 'artefact' that emerged as the final market was significantly different to what was expected initially. Both were able to react quickly to changes in the environment as they had only engaged a relatively low level of investment undertaken when thee changes occured. There were significant differences, however, in the manner in which pre-commitments were generated over time from partners and in the number of cycles of the process that were needed before converging constraints allowed each firm to settle on a new set of goals.

The network development model of development offers potential insight into the reasons for the success of the first two firms. These firms are more successful in the initial stage of the model at building effective ties. This may be linked to the fast growth of the underlying markets but, in both case, the entrepreneurs identified competitors who were not as successful at building successful businesses. Both firms did react rapidly in the early stage of network development to adapt ties to changes in the network and EF1's reactivity was able to overcome a crises with an upstream partner by diversifying its supply chain. Both EF1 and EF2 engaged in activities of purposeful enactment that disrupted the existing network and allowed them to position themselves with the new configuration. EF3 and EF4 were not able to influence the network to the same degree and did not position themselves successfully.

The model of entrepreneurial networking under uncertainty focuses on the role that is played by interacting with existing and new ties to clarify what means are available and with whom the new venture can address opportunities through pre-commitments. These interactions are driven by both collective and self-interest and constrained by a pre-determined level of affordable risk. In the case of EF3, a single customer's self interest in the venture to be sufficiently significant to take the risk to purchase the firm outright rather than continue to support its emergence as a supplier to other firms. For EF1, a number of cyles of clarification of commitments from stakeholders were needed to clarify the exact nature of the recycling activity that would be undertaken. Its core purpose, however, did not change, reflecting a high level of goal-directed networking as the firm's founders firm convictions served to reduce the initial ambiguity of the venture goals, as opposed to the network goals that remained ambiguous and in need of a number of cycles to clarify how to proceed. For EF2, the first iteration of the network the founders wished to create failed rapidly, but the experience also reduced the ambiguity of the venture goals. As it offered a platform-based advertising solution to a diverse range of firms, it was in a position to offer repeated experimentations at a low level of potential loss, thus engaging rapidly in a number of cycles of effectual networking. For EF4, the need to develop a costly prototype led the firm to enter into an exclusive arrangement that reduced its ability to form new ties. When the partnership failed to generate future commitment to a more permanent goal for the new venture, it was no longer able to finance more cycles of effectual networking.

Each of the three models of the entrepreneurial process can thus add to our understanding of the success or failure of the start-ups under investigation. The market opportunity perceived

by each firm at the start of its existence did not, in the end, offer the start-up a sustainable position. Firms were required to adjust their goals, as suggested by the effectuation model and to expand their resources through interactions to generate stakeholder commitment. Some successfully did so, while others did not and the networking development and effectual networking under uncertainty models are more useful in explaining why this may be the case. The latter model highlights the need to use existing and new ties in the network to clarify what collective and individual goals are most likely to generate the necessary pre-commitments. When the firm's ability to mobile new ties is limited, as was the case for EF4, for example, this dynamic is no longer feasible and the progress of the firm is limited to goal-directed networking with a limited number of partners. This model, however, is not concerned with the overlap between goal-directed networking and networking that is conducted to remove uncertainty through interaction. The network development model is richer in this respect as it explicitly addresses the influence of the network on the firm and the influence of the firm on the network. In the first part of the model, however, organizational development and network development are seen as progressing through life-style phases to generate the network whose dynamics are examined in parts 2 and 3 of the model. As was the case with EF1, it is possible that the early phases of development of a start-up, particularly in the area of new technologies, are very unpredictable and subject to network influences from even before the new venture is created. It is clear in both the effectuation model and the effectual networking model, on the other hand, that the nature of the new venture will be the subject of a number of cycles of transformations, as will its perception of the market. The effectuation model clarifies the role of interaction with others in this process and the effectual networking model offers insight into how such interactions operate to reduce uncertainty about the venture and the network, as well as giving new ventures access to new means through the commitments of existing and new ties within the network.

A combination of the three models of entrepreneurial networking thus offer a far greater level of understanding of the dynamics of the development of new firms. The application of the three models to the four in-depth case studies helps clarify which parts of the entrepreneurial stories are more useful to explain relative success and failure.

CONCLUSION AND FURTHER RESEARCH

Recent work on new ventures built on the IMP perspective has the potential to enhance future empirical work to enrich process models of entrepreneurial development. McGrath et al. (2017) propose that start-ups develop specific capabilities related to network development strategies and that these occur over three phases: in relationships, through relationships and in the network. It is suggested that the strategies adopted by the start-ups studied may be either emergent or deliberate (O'Toole and McGrath, 2018). Emergent strategies may be considered comparable to ''effectual networking'' in the three models studies above while deliberate strategies are comparable to what the other models term purposeful enactment or goal-oriented networking. For both strategies, however, O'Toole and McGrath (2018) have identified nine patterns based on interactions between actor bonds, resource ties and activity links and these patterns have been further classified as either emergent or deliberate. These distinctions potentially enhance the analysis of purposeful enactment and effectual networking from the three models of entrepreneurship studied in this research.

The IMP analytical framework has the potential to address the limitations of the network-influenced entrepreneurship models examined in this research. Further empirical research to apply the network capability model to entrepreneurial case studies is recommended.

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