Opportunity recognition in a hub-governed network – Insights from garage services

Abstract This paper examines opportunity recognition activities in a hub-governed service network. More precisely, the research questions are: *How do opportunities emerge in a hub network context?* and *What are the activities of different network actors concerning opportunity recognition?* We conducted a case study of a network of service entrepreneurs orchestrated by a hub firm, with the data consisting of 35 interviews. In this study we have explored the opportunity recognition from the perspective of both the hub firm and entrepreneurs. Firstly our analysis shows that there is a great deal of innovation potential in the grass roots of our case network. The challenge is that local improvements mostly stay local. Improving interaction might also help to identify and implement local adaptations and improvements so as to benefit the entire chain. We posit that the hub firm and network would benefit from empowering small firms' initiatives for renewal. Secondly, in terms of the effectuation literature we have extended the analysis into the context of small firms operating in a hub network context, where elements of both causation and effectuation are evident. Firms are experiencing opportunity recognition through the causation processes observed in the hub network, while also simultaneously engaging in opportunity development through effectuation processes.

Keywords

opportunity recognition, service development, hub-governed network, effectuation, entrepreneurship

Introduction

The entrepreneurship literature points out that small firms, even with limited resources, can create their own opportunities through logics referred to as *bricolage* (Baker & Nelson, 2005) and *effectuation* (Sarasvathy, 2001). These suggest that the opportunities are not identified from the market but from the existing means, i.e. resources. Although in both of these logics entrepreneurs start with their means, in bricolage the main idea is to "create something from nothing". The starting point of this logic is a penurious environment (Baker & Nelson, 2005). In effectuation logic, the means are also given, but the focus is less on resource scarcity. It is a way of thinking that serves entrepreneurs in the processes of opportunity identification and new venture creation and includes a set of decision-making principles expert entrepreneurs are observed to employ in situations of uncertainty (Sarasvathy, 2001).

Previously opportunity research has mainly focused on the individual entrepreneur or entrepreneurial firm. Although small businesses and entrepreneurs are affected by their larger counterparts in business networks, the literature is scarce on the question of how opportunities are created or recognized in networks where entrepreneurial efforts are distributed (Overholm 2015). The literature on networks is now quite extensive, and networks are a commonly understood phenomenon (Provan, Fish & Sydow, 2007; O´Donnell, Gilmore, Cummins & Carson, 2001). However, regarding entrepreneurial network research, there is still a paucity of knowledge on how and when networks are used, and for what purpose (Ng & Rieple, 2014.). Also, the majority of network research has focused on the general characteristics of organically evolved networks, and especially on examining their structure. Considerably less attention has been paid to issues of intentionally developed nets and their management, although a debate is growing about the

manageability of networks and research interest in what kind of managerial capabilities are needed in different types of network (Möller, Rajala & Svahn 2005, 1274; Paasi, Valkokari, Rantala, Hytönen, Nystén-Haarala, Huhtilainen, 2010; Dhanaraj & Parkhe 2006; Knight & Harland 2005). When a network is flat, a co-creation type of network, firms can be seen to co-create opportunities, whereas in a lead-organization or hub-governed network (Paasi et. al., 2010), the hub firm has a role in orchestrating knowledge mobility, ensuring that innovations are not leak to competitors, and thus also has an important role in the opportunity recognition and exploitation in a hub network environment. This is at least partly due to the resource and information advantages that the hub firm possesses relative to other network members (Dhanaraj & Parkhe, 2006).

In this study, the focus is on an intentionally created network, also referred to as "a net" in the literature in order to distinguish it from a more general network that has evolved naturally or reactively (Möller et. al., 2005; Svahn & Westerlund, 2007). We have conducted an in-depth case study of a hub-governed network consisting of the hub firm and small businesses (SMEs) that have adopted the garage service concept developed by the hub firm. In the case network, there are features typical of franchising, for example marketing services under the brand name created by the hub firm and joint business practices (Combs, Michael & Castrogiovanni, 2004). The central role of the hub firm is to combine different resources in the network and to orchestrate the network's actions. In order for the hub firm to reach the end users (car owners), the garage entrepreneurs (SMEs repairing and servicing vehicles) who operate in the customer interface, are in an essential position. We claim that hub networks are typically analysed from the perspective of the hub firm. Entrepreneurship and opportunity studies, on the other hand, have traditionally been focused on the individual entrepreneur or entrepreneurial firm (Perry, Chandler & Markova, 2012), where business development typically originates from existing resources, and is often carried on without formal processes (Baker & Nelson, 2005; Sarasvathy, 2001) In this study, we explore opportunity recognition from both entrepreneurial and hub firm perspectives. More precisely, the research questions are: *How do opportunities emerge in a hub network context?* and *What are the activities of different network actors concerning opportunity recognition activities?*

The rest of the paper is organized as follows: in the next section we outline the theoretical framework for this study, followed by the method employed and a description of this case. Then we present the findings by highlighting network development and design and activities of different actors related to opportunity recognition. The final section of this paper discusses the conclusions, contributions and implications of this study.

Emerging entrepreneurial logics and opportunity recognition

When discussing opportunities it is important to remember, that entrepreneurship and innovation are often regarded as closely interlinked phenomena and concepts. When someone considers it possible to organize a product or a service activity with higher customer value and/or at lower costs, an entrepreneurial opportunity is recognized (Shane & Venkataraman, 2000). Innovation, in turn, has been defined as the development and implementation of new ideas by people, who over time engage in transactions with others within an institutional context. An invention or creative idea does not become an innovation until it is implemented or institutionalized (van de Ven, 1986) and thus all new ventures are not regarded as innovative (Landström, Åström & Harirchi, 2013). Innovation management, therefore, "*deals fundamentally with entrepreneurship, visioning the future and coping with uncertainty*" (Paasi et. al., 2010, 1058).

An opportunity consists of a set of ideas, beliefs and actions that enable the creation of goods and services in the absence of a current market for them (Venkataraman, 1997). Opportunities can be seen to arise from the changes in the environment in which an individual operates (George, Parida, Lahti & Wincent, 2014). In the literature, three views of entrepreneurial opportunity have been

presented: opportunity recognition, opportunity discovery and opportunity creation. The opportunity creation has to do with the creation of new markets, whereas opportunity discovery has to do with the exploration of existing and latent markets. The opportunity recognition, in turn, has to do with the exploitation of existing markets, when both sources of supply and demand exists and the opportunity for bringing them together has to recognized (Sarasvathy, Dew, Velamuri &Venkataraman, 2003;Grégoire, Barr & Shepherd, 2010).

Entrepreneurship has traditionally been defined as a rationally planned, risk-taking and linear process of opportunity recognition and exploitation (e.g., Shane & Venkataraman, 2000: Kraaijenbrink, 2008) also called causation (Sarasvathy, 2001). In recent years, new entrepreneurial logics of effectuation (Sarasvathy 2001) and bricolage (Baker & Nelson 2005) have emerged, adopting a more pragmatic view of entrepreneurship in explaining the logic and actions of entrepreneurial behaviour (Perry et. al., 2012; Fisher, 2012).

According to the causation model an entrepreneur decides on a predetermined goal and then selects between different means to achieve that goal. This may involve the development of a business plan which may be based on market research and detailed competitive analyses. Resources are then acquired in order to implement the plan. The logics of bricolage and effectuation suggest that, under certain conditions, entrepreneurs act differently in identifying and exploiting opportunities; they start with the means - who they are (identity), what they know (knowledge base) and whom they know (social networks) - choose action over analysis (Chesbrough, 2010) and decide between many possible effects that can be created with that set of means. The definition of bricolage by Baker and Nelson (2005, 333) presents well this idea: *"making do by applying combinations of the resources at hand to new problems and opportunities"*. This is achieved by: 1) utilizing existing resources as a source of entrepreneurial opportunity, 2) using action as mechanism for overcoming resource constraints, 3) engaging into community to catalyze venture emergence and growth, and 4) seeing resource constraints as a source of creativity. What entrepreneurs and managers can do, most importantly, is call people they know or meet and start negotiating a series of commitments. Thus, *"the opportunity does not determine who comes on board. Instead, those who come on board, and what they commit to the enterprise, together with other contingencies that occur along the way, determine what opportunity gets created"* (Sarasvathy & Dew, 2005, 543). Therefore, when using effectual logic, opportunities are co-created together with committed stakeholders (Read, Song & Smith, 2009). Causation and effectuation are not, however, mutually exclusive processes, but can occur simultaneously (Sarasvathy & Dew, 2005, 543; Fisher, 2012).

Network activities fostering opportunity recognition

Literature on networks is quite extensive, and there are multiple established network research approaches, including for example strategic networks (Möller et. al. 2005), industrial networks, innovation networks (Dhanaraj & Parkhe 2006) and entrepreneurial networks, the last of which fall into the categories of interorganisational networks and the entrepreneur's personal network (O´Donnell et al, 2001). There are also varying opinions on the extent to which networks are intentional or emergent, which has resulted in a debate about the manageability of networks. (Rampersad *et. al.* 2010, 793–794; Knight & Harland 2005.) In this study we define the network, in line with Halinen and Törnroos (2005, 1286) as "*a set of companies and potentially other organizations connected to each other for the purpose of doing business*", and apply the school of thought that a firm can intentionally develop and orchestrate its network relations. In the next table (Table 1) the different types of networks, actors in them an activities related to business opportunities within reviewed network literature are depicted and will be discussed in more detail.

Table 1: Identified actors and activities related to business opportunities

Source	**Focus**	**Actors**	**Activities related to business opportunities**
Dhanaraj & Parkhe (2006)	Orchestrating innovation networks, process focus, hub firm perspective	Hub firm, other network members (organizations as knowledge creating resources), partners, peripheral actors versus orchestrators	Hub firms orchestrate network activities to ensure creation and extraction of value (enhancing innovation) without hierarchical authority by - managing knowledge mobility for value creation (socialization, creation of new combinations of existing resources, pulling together dispersed knowledge) - managing innovation appropriability (ensuring that innovations are not leaked to actors in competing networks, via, patents, copyrights, trademarks) - managing and network stability. Hub firm makes strategic choice of partners. No network actor is inert, but instead building relationships, partnering, looking opportunities for innovation
Knight & Harland (2005)	Managing supply networks, organizational roles in network management	Focal organization, consumers, suppliers	An actor i.e. focal organization in a network can be viewed as a collection of context specific and negotiated roles. - innovation facilitator (promote and facilitate product and process innovation) - co-ordinator (administrating inter-organizational activities and facilitating intra-network relations and practices) - supply policy maker and implementer (setting standards for purchasing practise and providing support) - advisor (provide formal and informal advice) - information broker (collating, analysing and disseminating information to various parties) - supply network structuring agent (monitor and influence the structure of exchange relationships)
Möller et. al. (2005)	Management of different types of strategic business nets	Strategic net and its hub firm	Net mobilization, net management and deep partnering (incremental innovation), network visioning and network orchestrating (radical innovation)
Paasi et. al. (2010)	Innovation management and networked innovation in sourcing (transaction) and co-creation networks	System integrator (SI), suppliers and subcontractors	Network orchestrating, knowledge exploitation, knowledge exploration, IP (intellectual property) management, contracting
O´Donnell, Gilmore, Cummins & Carson (2001)	Development of the network construct focusing either on interorganizational or entrepreneur's personal network.	In personal networks – individuals linked to each other informally. In interorganizational networks, organizations with formal links between them (entrepreneurs, suppliers, end-users)	Entrepreneurs develop their networking ability as a proactive business development tool to obtain resources. Entrepreneurs as the central node, engaging in joint venture with other organizations or new venture creation with other individuals.

Sarasvathy & Dew (2005)	New market creation as a process involving a new network of stakeholders, dynamic model of stakeholder interaction.	Entrepreneur, stakeholders (economic actors, other entrepreneurs, firms)	A new network is initiated through an effectual commitment setting in motion two concurrent cycles of expanding resources and converging constraints to create new market. Entrepreneurs as initiators using entrepreneurial expertise. Exploration of new possibilities (search, variation, risk taking, experimentation, play, flexibility, discovery). Transformation of existing realities into new alternatives through a growing chain of effectual commitments.
Vandekerchove & Dentchev (2005)	Stakeholder management and facilitation of discovery of opportunities	Entrepreneur, stakeholders that affect or are affected by the activities of the firm	Entrepreneur can facilitate opportunity discovery by network engineering i.e. identifying and engaging with stakeholders in a way that results in a strategically desirable network design by - 1) mapping current interactions with stakeholders (direct, indirect, not connected) - 2) mapping how stakeholders adopt a position concerning a certain issue (in control, accommodating, no position)

In the network management literature, the operational structure of networks is often described using different models according to who manages the network and how it is done (Paasi *et. al*. 2010.) In the typology created by Provan and Kenis (2006), three distinctive types of network governance are identified: 1) shared governance (the network collectively works to make both strategic and operational decisions about how it operates), 2) lead-organization or hub firm-governed (all organizations may share a common purpose, but there is a more powerful organization that has sufficient resources and legitimacy to play a lead role), 3) NAO governance (all activities and decisions are coordinated through one organization which is specifically created to oversee the network) (Provan, Fish, Sydow, 2007, 504).

At the centre of many networks are hub firms, which can be defined as firms possessing prominence and power gained through individual attributes and a central position in the network structure, and which use it to perform a leadership role (Dhanaraj & Parkhe 2006, 659). Dhanaraj and Parkhe (2006) have studied how these firms orchestrate innovation networks. Their framework is based on the notion that, from the perspective of a hub firm, value must be created from the network. By a strategic choice of partners, a hub firm can significantly change the network design (membership, structure, position). By managing the network activities (orchestrating), a hub firm can influence the innovation outcome of the network. They define orchestration as the set of deliberate, purposeful actions undertaken by the hub firm as it seeks to create and extract value from the network. They introduce three orchestration processes that a hub firm should perform. The first process is managing knowledge mobility, which is defined as the ease with which knowledge is acquired, shared and deployed within the network. The second task relates to capturing the profits generated by an innovation (managing innovation appropriability). The hub firm should ensure that value created is distributed equally, and try to prevent problems of opportunism in the network. The third task of orchestration is managing the dynamic network stability, allowing for the entry and exit of network members. They argue that all network players – hub, semi-peripheral, and peripheral – will actively pursue their own self-interests. No member is inert, responding passively to the hub firm's initiatives.

The innovation networks orchestrated by the hub firm can also, according to the way in which knowledge and intellectual property (IP) are explored and exploited in the network, be

categorized into sourcing (transaction) and co-creation types of network. Transaction networks are characterized by a transaction of an earlier innovation outcome (knowledge exploitation), whereas co-creation networks are characterized by the co-creation of new knowledge and intellectual property (knowledge exploration (Paasi et. al. 2010). One form of transaction network can be created by franchising. In franchising, one firm (the hub) sells to another firm the right to market goods or services under its brand name and using its business practices. Characteristics that distinguish franchising from strategic alliances are: 1) franchising typically occurs in businesses where there is a notable service component that must be performed near customers thus service-providing outlets must be replicated and dispersed geographically, 2) franchise contracts typically reflect a unique allocation of responsibilities, decision rights, and profits between a centralized principal (the hub) and decentralized agents (entrepreneurs). The franchiser sets and enforces chain-wide standards for performance, selects franchisees, approves outlet locations, manages brand image, and coordinates activities such as purchasing where economies of scale are available. (Combs et. al. 2004, 907-908; Watson & Stanworth, 2006.)

When looking at the hub model from the perspective of the entrepreneurship literature, it proves to be problematic. In order for the hub model, which assumes dyadic stakeholder relationships, to be successful in opportunity recognition, the hub firm should have exhaustive information about stakeholder expectations and organizational possibilities in order to take optimal decisions. Concerning both innovation and supply networks the hub firm is in a position where it can manage the network structure and exchange relationships. Also in the context of supply networks the hub firm is supposed to facilitate innovation, act as information broker by taking care of effective communication and information flows in the network and facilitate network relations (Knight & Harland 2005). Networks can be defined as being composed of ties linking nodes to social systems (see O'Donnell et al, 2001). The nodes can be individuals, groups, organizations and the ties designate the interactions. According to Vandekerckhove and Dentchev (2005), opportunity recognition may be facilitated by network engineering, which means identifying and engaging with specific stakeholders of the firm to achieve a strategically desirable network design. Authors point out that deliberate interaction between the nodes is important in fostering opportunity recognition. (Vandekerckhove & Dentchev, 2005).

Networks are not static, but change over time in relation to the value they create and the problems that they aim at solving (Halinen & Törnroos, 2005, 1285-1289.) The actors forming business networks integrate and apply resources through interaction (Lusch & Vargo, 2006; Lusch, Vargo & Tanniru, 2010). The network strategies for influencing stakeholders are based on two network characteristics: density and centrality. *"Network density is used to denote the environment's interconnectedness, and is a measure of the relative number of ties in the network that link actors together"*. Network centrality, in turn, *"refers to an individual actor's power in a network deriving from their position relative to others"*. *"A high-density network has an efficient communication structure between stakeholders and produces shared behavioural expectations. A high centrality of a firm within a network gives it a prominent position since it is able to influence information flows"* (Vandekerchove & Dentchev, 2005, 224). According to Vandekerchove and Dentchev (2005), the way a firm relates to stakeholder relationships influences whether or not opportunities are discovered. According to their approach, network opportunities can be found when new relationships are created, because they increase the density of the network. In terms of centrality, opportunities arise, when the entrepreneur/integrator a) engages closely with indirect stakeholders, and b) engages stakeholders in a multi-stakeholder dialogue (Vandekerchove & Dentchev, 2005, 225).

Data and methods

In this paper, we have conducted a case study in a network of service companies orchestrated by a hub firm which employs approximately 100 people. The hub firm - from now on referred to as Auto Ltd - is an importer of automotive spare parts, and the garage entrepreneurs are its customers and the main distribution channel of the imported products. The Finnish company, Auto Ltd, is part of a larger group and also a part of an international procurement network which utilises global suppliers of automotive spare parts. Auto Ltd owns a total of 25 wholesale units in four geographical areas, serving the garage entrepreneurs nationwide across Finland. The network studied consists of a specific group of garages: small businesses (SMEs) that have adopted the service concept developed by Auto Ltd. As in franchising, the entrepreneurs in our case network operate under the same umbrella brand which is managed by Auto Ltd. There are also chain wide standards for performance, and entrepreneurs are expected to purchase some of the spare parts through Auto Ltd. A significant difference from franchising is, however, that there is only a partnership contract between the parties. The garage entrepreneurs are independent actors who can make strategic decisions about whether they wish to operate their business by belonging to the chain or not or actually purchasing the spare parts through Auto Ltd. There are around 250 of these entrepreneurs. The structure of the network, the main material flows and the information flows concerning the service concept are presented in Figure 1.

This study focuses on the interface between the wholesale units and entrepreneurs, as well as on the role of independent entrepreneurs in facilitating opportunity recognition activities in the service network. The present study is applied as a case study in order to perform a detailed data analysis and produce an understanding of the case context. Case study research can be described as empirical research, in which diverse information acquired by different methods is used to study present events or human behaviour in a given environment (Yin 2009). Business networks, in turn, can be described as being embedded in different spatial, social, technological and market structures, which makes each network to an extent unique and context-specific.

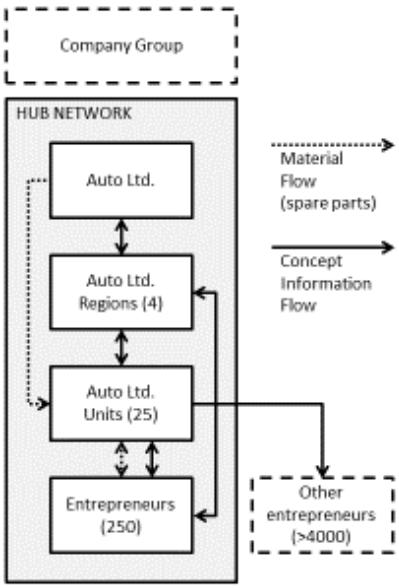


Figure 1 The structure of the network with material and information flows

Business networks are, therefore, also such complex research objects that a single-case study is often the only option (Halinen & Törnroos, 2005). Therefore, the focus in a case study is often on understanding the dynamics present within a single setting (Eisenhardt, 1989, 534.)

Our data collection methods consisted of group discussions and thematic interviews. In the thematic interviews, we have also utilized the critical incident technique (CIT) (Butterfield, Borgen, Amundson & Maglio, 2010). In the CIT part of the interview, the interviewee was asked to tell the story of the organization from his/her own point of view. The interviewee was able to define critical incidents, which could either be incidents fostering business development or posing challenges to innovation and business development. Utilizing CIT allowed us to collect information regarding the history of both entrepreneurs and Auto Ltd. Thus, we were able to form a concise picture of the internal development of both garage firms and the hub firm, and the development of the network (Table 2). Thematic interviews were based on following issues: 1) background of the interviewee, 2) products, services, customers and competitors, 3) operating in a network and the competence requirements this poses for companies, and 4) factors enhancing networked operation, challenges and outlook on the future of the industry. The interviewees were asked to address these themes from their own perspective. Even though there were issues guiding the interview, we allowed the interviewees free reign to express their views and, by asking them open-ended questions, possibly to raise new issues too (Yin, 2009). This allowed us also to gather naturally occurring data (Silverman, 2006).

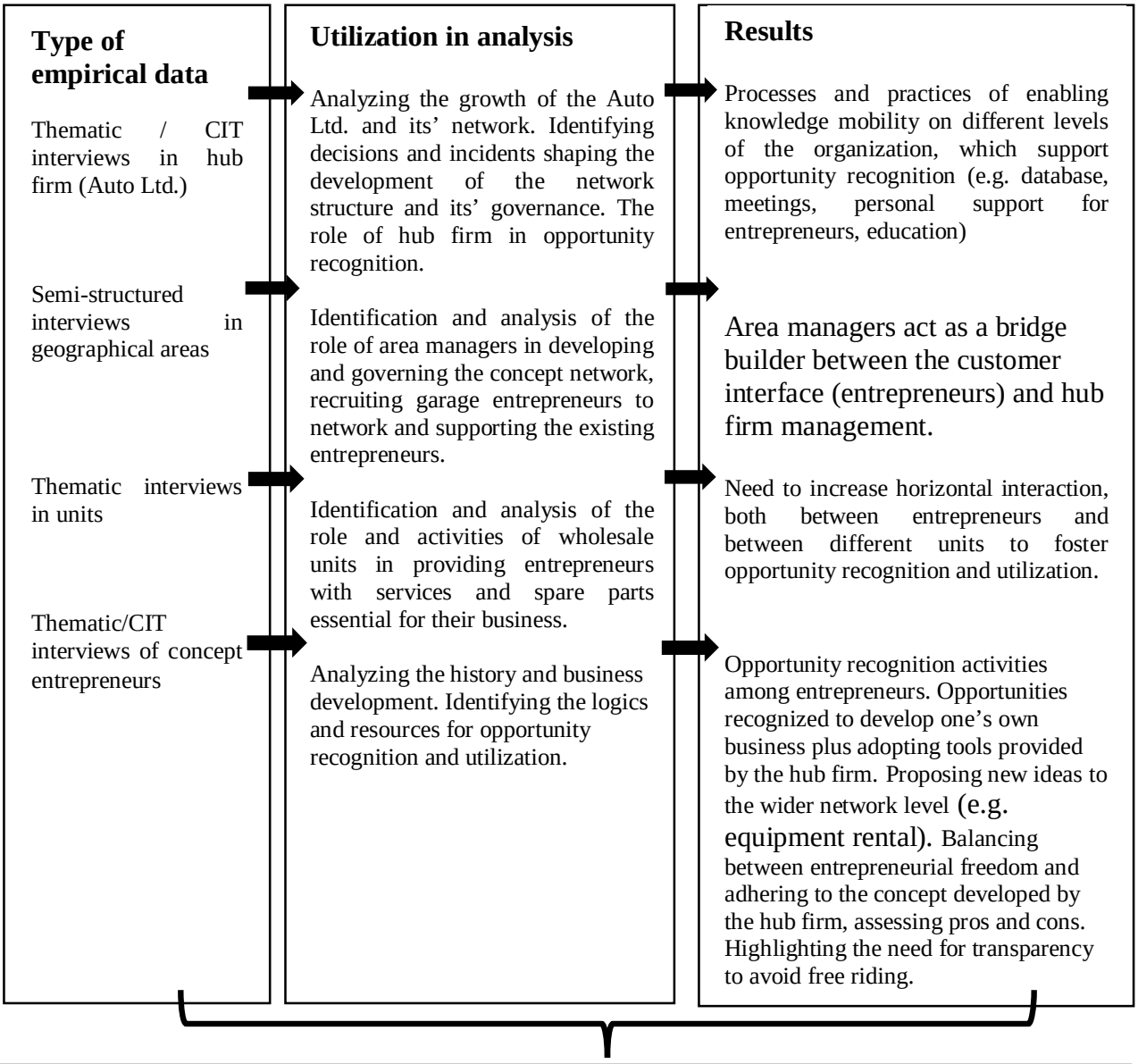
In this study, we have concentrated on three regions of the case network. We have interviewed five owner entrepreneurs, and one employed garage manager, and have also conducted interviews at all levels of the Auto Ltd. organization (Table 2). The interviews were conducted between September 2012 and June 2013. The total number of interviews was 35, six of which were group discussions. The length of the interview varied from one to one and half hours. To increase the reliability of the research, the interviews were recorded and transcribed, and there were two researchers present at each interview.

Table 2: Characteristics of the interviews and participants.

Title	Network level	Number of interviews	Type of interview
Concept entrepreneur (owner manager)	hub network	5	thematic/CIT
Concept entrepreneur (employed manager)	hub network	1	thematic/CIT
Concept entrepreneur / potential concept entrepreneur	hub network	8	semi-structured interview by telephone
Director, Purchase/IT/Logistics	group	3	2 thematic, 1 group discussion
Director, Development	group	3	thematic, 2 group discussions
Managing director	hub firm	5	CIT, thematic, 3 group discussions
Area Manager	regions 2 & 3	2	thematic
Unit Manager	unit 2 & 3	2	thematic
Manager, Wholesaling	unit 1 & 2 & 3	3	thematic
Field Manager	unit 1	1	thematic
Merchant	unit 1	2	thematic

Data analysis was guided by a theoretical background introduced earlier in this article. The research questions that we focus on are: How do opportunities emerge in a hub network context? and: What are the activities of different network actors concerning opportunity recognition? The data structure and analysis is depicted in the Figure 2.

The analysis began by each researcher reading the transcribed data to get an overall picture of the empirical material. As a part of this familiarization exercise (Olesen, Droes, Hatton, Chico & Schatzman, 2002), the initial ideas and discoveries were discussed between researchers in meetings to decide the next step in the analysis process. To form an understanding of the development,



Existing theoretical knowledge forming a preconception for the study: Entrepreneurship literature focusing on opportunities, Entrepreneurial logics literature, Network structure, management and orchestration literature
Research questions: *How do opportunities emerge in a hub network context? What is the role of different network actors concerning opportunity recognition activities?*
Continuing observation and reflection during research process and researcher triangulation during data analysis and reporting. The group discussions in the focal company provided a platform for validating the reliability of findings.

Figure 2 Data structure and analysis

structure and governance in the network from the Auto Ltd perspective the interview data collected from the different levels of Auto Ltd. was analysed first. After that the interview data collected from the entrepreneurs was analysed. There are two types of data collected from the interviewees. Some of the entrepreneurs were interviewed by phone and others face-to-face. The interviews conducted by phone wee more structured and focused on the experiences of belonging in the hub network. The face-to-face interviewees were more in-depth and during these interviews the history of the company and critical incidents defining the development of the business were discussed in addition to experiences of being a member of the hub network developed by Auto Ltd. This first stage analysis enabled the mapping out the activities of different network actors.

At the second stage, the data was read again focusing on ideas, descriptions and challenges explaining a) opportunity recognition practices and examples in an entrepreneur network, and b) processes, practices and examples, through which the Auto Ltd. enables knowledge mobility fostering opportunity recognition. The process was the same, in that the data was analysed independently by all researchers and subsequently a shared view was reached by discussing and going through the preliminary results together.

During the analysis process, the goal was to raise the interviewees´ comments, whilst also respecting the integrity of those comments during the process of abstraction and generalization reflecting the patterns seen in the data (Olesen et. al., 2002). This was done by coding the text to segments allocated to categories and then proceeding to further analysis and checking. This is a process of conceptualizing, as the empirical phenomenon can be viewed in terms of categories, thus increasing the abstraction level (Coffey & Atkinson, 1996).

Case Findings

Background to the current network design and activities

When looking at the history of the entrepreneurs, in half of the firms the focus has been on a garage business from the beginning (E, F, A). In one firm, the focus was first on car sales (C) and in two firms a filling station business (B, D), before broadening out into the garage business. Later, the other firm focused purely on garage operations. Two family businesses were established already in the 1970's, and we interviewed the representatives of the second generation (B, D). Two of the entrepreneurs are the founders (C, F), and one has bought a bankrupt garage business (A). One garage was established by a public owner (E). What all the entrepreneurs interviewed had in common was that the initiative to join in the hub network has come from Auto Ltd. Two of these entrepreneurs are members of another chain too, outside the automotive industry, and one belongs to another chain within the automotive industry. Four of them employed five to ten people and two employers had several garages employing altogether over ten people (Table 3.)

Table 3: Characteristics of the entrepreneurs and identified examples of opportunity recognition in different contexts

Entr.	Number of employees	Area	Other network membership(s)	Recognized opportunities in different contexts		
				Own firm	Hub network	Other Network(s)
A	5-10	2	Filling station chain	X	X	X
B	5-10	1	-	X	X	-
C	5-10	3	Microcar retailer	X	X	X
D	5-10	2	Filling station chain	X	X	X
E	> 10	3	-	X	-	-
F	> 10	1	-	X	-	-

As Dhanaraj and Parkhe (2006) have stated, all network actors actively pursue their own self-interests, and thus no member is inert and passively responding to the initiatives proposed by Auto Ltd. This means that, first and foremost, the entrepreneurs have adopted the Auto Ltd´s service concept after assessing the pros and cons regarding the service concept and the network: what joining in gives and, on the other hand, what one has to give up if and when one joins in (see also Watson & Stanworth, 2006). Most of the entrepreneurs mentioned that the good reputation of the case network was an important reason for joining and staying in the network (see Dhanaraj & Parkhe 2006). Independence is highly valued among entrepreneurs (see Vandekerckhove & Dentchev, 2005). But, they are also prepared to relinquish some of that independence if the benefits reaped from it are substantial enough:

> *"Belonging to a well-known chain increases the trustworthiness and reliability of the garage in the eyes of the customer, I think. And apparently customers have experienced this chain to be very reliable. There is always support available concerning local marketing activities (chain offers support) in addition to nationwide marketing and, thus, also quick changes in marketing and advertising activities are possible."* (Entrepreneur A)

> *"We were controlled by this filling station chain we belonged to, for how long? Over twenty years. And, after concentrating on the garage business, we were satisfied to be masters of our own fate. And we thought that we might stay that way. But, things began to change, however, and we recognized an increased need for training and also noticed the benefits that could be realized by belonging to a garage chain. We did not, however, take the initiative ourselves, but it was a representative of a garage chain who approached us."* (Entrepreneur B)

> *"You can only keep up with the competition with extensive training and keeping track of what's happening. If you fall behind, soon you won't dare to touch those cars. It's a sort of a fortune, that cars are so complicated that even the most skilled do-it-yourself repairers raise their hands up and bring their car to the garage."*(Entrepreneur C)

The development of Auto Ltd is a story of growth and organizational restructuring. Auto Ltd has traditionally focused on importing automotive spare parts and representing certain product brands exclusively. The customer base has traditionally consisted of both wholesalers and retailers of automotive spare parts. The strategic decision to position the firm's business more towards end-users was made in 2001 and reflected a global trend in the spare parts import business. The global change was that exclusive representation of brands was diminishing and that distribution of automotive spare parts was increasingly carried out by distribution firms. The building of the organization of Auto Ltd reflects causal logic: after defining the goals, one sets out to find the necessary resources for reaching the goal (see Sarasvathy, 2001). In acquiring the resources needed, there have been clear internal rules, norms and targets as steering mechanisms to drive the development of the network (see Provan et. al. 2007), as reflected in this interview quote from Auto Ltd management:

> *"When conducting this change of strategy, we started with mathematical calculations. The aim was to reach adequate geographical coverage with our own distribution. In the initial phase, the aim was to have a presence in certain big city centres "*(amount based on calculations).

The shift resulted in restructuring of the organization and strengthening the direction from the group level, thus changing the role of Auto Ltd actors. Marketing operations, IT and administrative operations were centralized in order to eliminate overlaps. The changes aided in clarifying the roles

of importing and sales organizations. Auto Ltd has now nearly reached the geographical coverage they strategically aimed for, and their market share has increased, that is, they have an extensive network of concept entrepreneurs. The current network design is depicted in Figure 3.

Concerning entrepreneur network building, besides structural geographical analysis, there is also evidence of effectual logic that is using existing connections and knowledge. Most unit sales personnel have long experience and knowledge of the local customer base, garage entrepreneurs, and personal networks are important in the search for new potential entrepreneurs. Because Auto Ltd has a lot of visibility, for example, through advertising in different media, some entrepreneurs have contacted their local unit and expressed an interest to join the hub network.

Our case can be categorized as a transaction network, where the service concept and related IP are created and owned by the hub-firm (Auto Ltd) (see Paasi *et. al*., 2010). The value system is well defined and relatively stable. When looking at the network structure, the network has clear boundaries, because it is based on contracts. All of the entrepreneurs also have an extensive firm level network separate from the hub network, consisting of, for example, stakeholders and co-operators from other industries and sub-contractors. Also, entrepreneurs play a crucially important role in the service hub network that is serving end users by using Auto Ltd products and ensuring end user satisfaction and through that also ensuring the success of Auto Ltd. The service concept gives quite strict guidelines which the concept entrepreneurs have to adhere to whilst belonging to the garage chain. On the other hand, they are free to develop their own business and expand their business to new areas and to new service concepts. The service offered

	Description	**Actors and activities**
Network structure	- Auto Ltd + SME network (250). - Auto Ltd is part of a group having two other business divisions. Connected to large international supplier network. - Complex internal organization. Auto Ltd. operates in national level. Geographically divided to four regions and 25 units.. - Clear hub network boundaries based on contracts.	Hub firm - Group level – IT, marketing, import, product support, financial administration - Auto Ltd – network and service concept management, logistics, education - Auto Ltd region – unit management, concept sales and support - Auto Ltd unit – handling of product orders and distribution, warehousing, concept sales, B2B customer relations - Entrepreneurs – serving end users, using Auto Ltd products
Network development	- Intentionally created internal distribution organization based on strategic decision, market analysis and internal norms as steering mechanisms - Auto Ltd organization created mainly through acquisitions. Changing focus from consumers to garage entrepreneurs - Hub network building and service concept launch after internal distribution network coverage was on required level - Network expansion potential almost reached	- Group level – Starting the network creation process at the strategic level and creating the service concept. In later stages strengthening of group direction by centralizing administration - Auto Ltd – creation and developing of garage service concept, network and logistics - Auto Ltd region & unit –, acquiring new network members, handling the distribution - Entrepreneurs – commit to chain ideology & brand
Network governance	- Hub-firm governed (Auto Ltd)	- Auto Ltd coordinates network activities, decisions, reporting and development - Internal vertical reporting procedures - possibility of removing a concept entrepreneur from the network if not implementing chain strategy

Opportunity recognition	- Group – offering network level databases and electronic ordering system with feedback possibility. Accumulated statistical data knowledge base used in development. - Auto Ltd – organizing different level (area, unit, field) manager meetings. In addition, brand day –meetings (2/year) with modified programme for different actors (entrepreneurs & personnel, unit personnel) are organized. Free training is organized for entrepreneurs (3 days/year) and there are different modules available. Auto Ltd has developed and utilizes formal analysing procedures for internal and external data. - Auto Ltd region – area managers support units with transformation from serving private customers to serving concept garage entrepreneurs by offering their support (understanding and knowledge about customer processes and mentoring entrepreneurs). Training meetings for field managers. - Auto Ltd units – organizes meetings with entrepreneurs locally. Field managers visit the entrepreneurs, regular interaction. There are also regular telephone contacts with their own entrepreneur base by merchants. Hub network building (recognition of potential entrepreneurs) through existing connections. - Entrepreneurs – expand their resources through training and marketing concept and materials offered by Auto Ltd. Identifying and engaging with stakeholders is a way to develop and expand their own business, for example by attending the brand days and meeting other entrepreneurs. The entrepreneurs seek to develop their personal networks, and have identified opportunities through them, for example engaging in new business (selling micro cars) or engaging into partnership with other entrepreneurs (for example recognizing a specialist to do windscreen replacements). A possibility to exchange expertise between entrepreneurs regarding special knowledge about certain car brand has been recognized.

Figure 3 Network design and opportunity recognition activities

to them by Auto Ltd, especially spare parts logistics and, for example, support in marketing and advertising, gives entrepreneurs more time to develop their business together with their stakeholders.

> *"You could say that traditional spare parts merchants are history. We should move on to supporting the everyday activities and customer flow in garages efficiently. We should have a happy and balanced garage entrepreneur at the other end, one that trusts us and believes in us. Our processes should enable the repairers to concentrate on their expertise. It takes time, but we are moving in the right direction".* (Managing director, Auto Ltd.)

The next figure (Figure 3) concludes the analysis of both network design and activities of opportunity recognition. After discussing the network design and its' effects on opportunity recognition, we will now move on to describing the opportunity recognition activities in more detail in next chapter.

Opportunity recognition activities in the service concept network

Although there is a built-in idea in the concept of partnership between entrepreneurs and Auto Ltd, there was variation in the degree of co-operation. From the perspective of Auto Ltd, the preferred situation was a strategic partnership with a commitment to using its spare parts logistics services. In practice, the entrepreneurs wanted to maintain the freedom of choice of also using other partners. Looking at the network communication, it seemed to be mainly dyadic. For example, entrepreneurs were mainly interacting with the local units, which report to regional managers. The horizontal interaction was minimal, both between entrepreneurs and between different units:

> *"In my opinion, local unit managers do not keep in touch that much, except during manager days… I would prefer them to interact more and discuss about having this kind of problem, how have you solved it?... Then we have brand-day meetings for concept entrepreneurs twice a year, but it is challenging to get entrepreneurs to participate. We have speculated that perhaps they should be regional instead of national"*. (Regional manager, Auto Ltd)

Network management literature states that the hub firm is supposed to orchestrate the network, for example through the process of managing knowledge mobility (Dhanaraj & Parkhe 2006), facilitating network relations, providing formal and informal support etc. (Knight & Harland 2005). In this network, the interconnectedness is low. Therefore, the network would clearly benefit from improving horizontal knowledge sharing. As noted earlier, the network has similarities with franchising. According to earlier literature, many innovations developed by franchising entrepreneurs are not communicated to franchisors/hubs (Combs et. al., 2004). Thus, firms with good relations might be better able to identify and implement local adaptations that will benefit the entire chain.

Auto Ltd has developed well-established processes for knowledge absorption concerning numerical data. An especially important tool for information gathering and sharing is the electronic database and ordering system (see Figure 3). From the perspective of the hub firm this offers statistical knowledge for further development of logistics and product flows. Auto Ltd has also recognized the opportunity to profit by selling the accumulated statistical data. Concerning the electronic database, there is also a recognized process from idea to development. From the entrepreneurial perspective, electronical tools support the entrepreneurs in their daily routines.

> *"Considering the future, we have this fabulous tool (database). And when all concept firms use our databases, we will have access to a new level of information. We will have information about using a car in northern and southern conditions…it is clear that we can start selling our statistics and so on"*. (Director, development)

> *"The first thing is this database. Other chains didn´t have this kind of tool then; nowadays, everybody has a similar database. It was a huge novelty, you were able to insert the registration number and get information about car models and suitable spare parts"*. (Entrepreneur D)

> *"If you get an idea or find shortages concerning the database, this information will be forwarded straight to headquarters to the IT manager. The process works quite well here"*. (Manager wholesaling)

The other identified internal processes are also formal and based on causal logic, the focus being on vertical reporting and data analyzing procedures, which is reflected in the following quote:

> *"We wanted to collect more relevant and extensive market information at group level, because the message tended to change on the way from the customer interface forward in the organization… We started to change those things, and over the last three years, we have collected, analysed and communicated data intensively"*. (Managing director)

Although there are also practices for network socialization, current procedures do not support informal horizontal communication in the best possible manner. Auto Ltd has, however, recognized the need for supporting horizontal interaction and communication between units, and also between entrepreneurs. For example, brand days are one way to reinforce a common identity and informal communication. The commitment of Auto Ltd to develop the network is reflected in offering free education to entrepreneurs. The utilization of this opportunity varies among entrepreneurs. Area managers of the Auto Ltd play an important role in supporting and training the unit personnel in their

own geographical area. Thus, it can be said that the practices identified in the case network indicate the need to strengthen and develop the service concept further. It also highlights the need to support entrepreneurs so that they can commit to chain ideology and brand as well as possible.

As discussed in our theoretical section, causation and effectuation can occur simultaneously. The effectuation logic starts from one's means, focuses on affordable loss, entails leveraging surprises, the forming of partnerships by generating commitments, and aims at controlling rather than predicting the future (Sarasvathy, 2001). Most of the garage entrepreneurs have originally started their business using effectual logic. They have known a person interested in a business partnership and have utilized the know-how and experience they have possessed. Also, new business areas have been the result of utilizing own knowledge and social networks. When recognizing a promising opportunity, entrepreneurs have started acting upon it without market analysis or pre-planning (Sarasvathy & Dew, 2005). This operation mode is clearly expressed in this next quote from one of the interviewees:

> *"There was this store in another town, from which we bought quite a lot of cars to sell. And next door there was this other store selling microcars. Somehow it started from that, we got interested in a possibility of starting to sell microcars too. And microcars have grown a lot in number recently; the number of microcars sold annually is something totally different than it was five years ago."* (Entrepreneur C)

According to our results, all of the entrepreneurs interviewed have recognized opportunities to develop their own business (see Figure 3). The opportunity to expand one's service portfolio or to expand one's business into new areas has often been a result of the fact that there have been resources in-house and someone has had the idea to start something new. The case data therefore confirms the earlier research findings concerning existing resources as a source of entrepreneurial opportunities (see Fisher, 2012). When the entrepreneurs have had an opportunity to experiment on a small scale without investments being too demanding on resources, they have taken the risk and stepped out of the comfort zone of doing business as usual. For two of the entrepreneurs, the result has been a successful new service.

> *"We specialize in waxing and cleaning the interiors of the vehicles. We are so good at what we do, that it pays us to advertise this service in newspapers too. We started with these services three years ago, when an employee of mine suggested them to me. He already had ten years of experience in waxing and cleaning the interiors. He is also very social and at the moment people come here after hearing from somebody about our service."* (Entrepreneur A)

> *"One always has and must have crazy ideas. A representative of our business partners comes here every two months and asks me whether we could expand our garage business to coachwork and painting. But, this would require additional investments, training and know-how. We are currently renovating our car wash and after that we will reorganize the layout of our shop. Something must be going on all the time. One quickly falls behind if one rests on one´s laurels."* (Entrepreneur D)

When looking at the case network it is evident that entrepreneurs look at it mostly locally. Within the service hub network they interact mostly with local units. Also, there can be small-scale experiments, but they mostly stay local. Many of the opportunities recognized by entrepreneurs in this study have been realized in order to develop their own businesses, and not so much to develop the hub network. Experimenting on a small scale is not systematic in the service network yet; there are no processes for it. However, Auto Ltd has realized the need for further development and also the

need for small-scale experiments, and thus wants to encourage co-operation and dialogue between entrepreneurs as well as between units (as mentioned earlier). The entrepreneurs, however, have differing opinions about strengthening co-operation and increasing dialogue between entrepreneurs. The entrepreneurs would benefit from developing co-operation, as is evident in these two quotes extracted from our data:

> *"It would be useful to co-operate more (with other garage entrepreneurs in the hub network), especially in problematic situations regarding repairs. For example, a list of people whom one could call on would be one possibility. It would also be useful to know about special experts, who especially know a lot, for example, about electrical defects or have special knowledge and know-how regarding a certain car brand. And we have discussed these matters with representatives of the hub network."* (Entrepreneur D)

> *"We have been discussing joint marketing (for garage entrepreneurs in the service hub network in our area). But, in our town we haven't put this idea into practice yet. But, it would be advisable, I think. During the time we belonged to this filling station chain, we did co-operate with other stations in direct advertising. It worked quite well and also reduced our advertising costs."* (Entrepreneur B)

When there clearly would be benefits, for example, in joint marketing and exchanging know-how, what then are the matters preventing this kind of development at the moment? First of all, entrepreneurs have differing opinions and experiences when it comes to the competitive situation depending on their geographical location. For example, in towns where there are several other concept garages located quite close by, entrepreneurs may see the other garages belonging to the same hub network as competitors. Two of the entrepreneurs also brought up the questions of opportunism and the need for transparency in co-operation. As Dhanaraj and Parkhe (2006) have pointed out, the issue of fair play should be highlighted in order to promote network stability and a willingness to share knowledge.

Secondly, because the entrepreneurs have stakeholders and co-operators also outside the hub network, it may be that they have not felt the need to co-operate more with other service hub network entrepreneurs yet. As stated earlier, many of the entrepreneurs are also part of other networks. Therefore, entrepreneurs are not committed to one network alone, but they are applying network/stakeholder commitments to their own benefit, resulting in an ongoing emergence of network commitments and new network formation. Besides belonging to national level network(s) and having a more or less peripheral position in the network, entrepreneurs are also part of local networks where power relations are more equal or entrepreneurs might have a central position. Also, an entrepreneur might find it rational to concentrate on their own core business and form small-scale local partnership network. According to our results, there is a lot of innovation potential at the grass roots of our case network. Entrepreneurs have, in addition to developing their own firm, also successfully contributed to other networks to which they belong (see Table 3). If other networks are seen as producing more value for their own business, experimentation and improvement ideas are also focused on that business area (Dhanaraj & Parkhe, 2006):

> *"There are some things we have done regarding microcars. We have made some changes, which have also reached the factory. For example, there was this development idea regarding the heating system."* (Entrepreneur C)

> *"We have done windscreen replacements and painting previously. We decided not to do that anymore a while ago, because it proved not to be financially unviable. And we did painting on a small scale until last summer, because we still had premises for it. At the moment, we*

have subcontractors whom we co-operate with in windscreen replacement and painting. They also direct customers with functional defects in their vehicles to us." (Entrepreneur E)

Value creation in the network is currently based on capitalizing on earlier innovation outcomes. Hence, from this perspective the opportunity recognition processes seem to be highly causal, and are guided by the analytical processes of Auto Ltd. On the other hand, when examining the network and the opportunity recognition processes from the entrepreneur's perspective, a slightly different picture emerges. As the recent entrepreneurship literature suggests, most of them have started and developed their operations by relying mostly on effectuation logic. By agreeing to the concept of the network, they have at the same time agreed to confirm more to the causal logic. The process is, however, more complex. They are not only partners in this one network, but belong to other networks. Their commitment to any particular network is not guaranteed, but they weigh the benefits and drawbacks of the different opportunities from their own point-of-view and take decisions accordingly.

Discussion and conclusions

In this chapter, we discuss the managerial and theoretical implications of this study and also acknowledge its limitations and provide ideas for future research. In our study we have explored opportunity recognition processes in a hub network which operates in the automotive industry in Finland. This kind of network is usually analysed from the perspective of a hub firm, but in this study we have analysed both entrepreneurial and hub firm perspectives. Concerning the entrepreneurial perspective, we have focused on identified research gap on how and when networks are used and for what purpose (Ng & Rieple, 2014). Theoretically, we rely both on recent theorizing on networks and opportunity recognition. We built the study on a single case of a nationwide garage service concept network. In the case network, there are features of many kinds of networks, such as strategic and supply networks and franchising, which made it interesting and relevant research context.

Our theoretical contributions are twofold. Firstly, we have utilized multiple perspectives related to network creation and management - Dhanaraj & Parkhes' (2006) framework for orchestration in innovation networks, insights concerning managing supply networks (Knight & Harland, 2005) and management of strategic business and innovation networks (Möller et. al., 2005; Paasi et. al., 2010) - so as to analyse the network also from the perspective of the firms being orchestrated by the hub firm. The entrepreneurs had decided to join the case network so as to be able to utilize the marketing power of a strong brand, to obtain education and training and a secure flow of spare parts, which is essential to their business. The rationale behind belonging to several networks was the possibility to secure one's own business; sometimes the new opportunity requires joining another network (see Sarasvathy & Dew, 2005; Vandekerckhove & Dentchev, 2005). According to network management literature, the hub firm is supposed to orchestrate the network through the processes of managing knowledge mobility, innovation appropriateness and network stability. However, in the resource-constrained context of small firms, there is evidence that firms engage in effectual processes. While in a large network more organized processes are used and needed, enabling effectual logic, for example, in local pilot projects, might provide fruitful renewal ideas. Based on our case analysis we posit that, in addition to managing knowledge mobility, innovation appropriability and network stability (Dhanaraj & Parkhe, 2006), the hub firm and network would benefit from empowering small firms' experiments and initiatives for renewal.

Secondly, in terms of the literature on entrepreneurial logics (Sarasvathy, 2001; Fisher, 2012; Perry et.al., 2012), we have extended the analysis into the context of small firms that operate in a hub

network context, where elements of both causation and effectuation are evident – with firms experiencing opportunity recognition through the causation processes observed in the hub, but also simultaneously, engaging in opportunity development through effectuation processes. The literature on entrepreneurial networks looks an entrepreneur as a central node (O'Donnell et.al. 2001; Vandekerckhove & Dentchev, 2005), who expands resources and converge constraints trough commitments with other individuals or firms. Exploration of new possibilities takes place via search, variation, risk taking, experimentation, play, flexibility and discovery (Sarasvathy & Dew, 2005). Belonging to a hub governed network poses a challenge for the entrepreneurs; how to balance between development of their own personal and interorganizational network without forgetting the benefits and constraints proposed by the hub network. In our study we have identified these challenges and our findings corroborate the ideas presented by Vandekerckhove and Dentchev (2005) that entrepreneurs should rethink and evaluate the status of their stakeholders, get in contact with their less important stakeholders and also, about their involvement in various issues. Based on our findings we propose, that entrepreneurial activities for opportunity recognition in a context such as presented in our study are about balancing between developing personal networks and recognizing the resources offered by the established hub network. Until now in the case context, the entrepreneurs have mainly utilized their own personal and interorganizational networks in opportunity recognition and business development.

From the network perspective, our case network can be categorized as a transaction network (Paasi et. al., 2010) due to the fact that value creation in the network is currently based on capitalizing on an earlier innovation outcome – the garage service concept. From the perspective of opportunity recognition, most of the entrepreneurs have started and developed their operations by relying mostly on effectuation logic, as the recent entrepreneurship literature suggests (Sarasvathy, 2001). By agreeing to the concept of the network, they have agreed to confirm more to the causal logic. Since the network is quite complex and the commitments and interests of various stakeholders need to be safeguarded simultaneously, the knowledge mobility-related processes are highly causal from the hub firm perspective. On the other hand, the entrepreneurs operating as part of the network have used and prefer the effectual opportunity recognition processes.

There is an abundance of innovation potential at the grass roots of a hub-governed network. According to our results, entrepreneurs are utilizing the information that they hold about the customer that the hub firm does not have, primarily to improving their own business. This on the one hand also ensures that they are not over-dependent on the hub firm. As Dhanaraj and Parkhe (2006) have pointed out, all network members, also small actors, will actively pursue their own self-interest. Therefore, it is important, when managing this type of network, to pay attention to and develop the transparency in co-operation, because it is crucial for increasing the willingness to knowledge sharing between network partners. At the same time, it is important to ensure that the entrepreneurs have the freedom to develop their business in their own way. This in turn will enable effectuation at the grass roots of the network, since the entrepreneurs acquire first-hand knowledge regarding customer needs as they are responsible for end customer interface and their satisfaction.

While the type of network we have studied seems to function well and provide clear benefits for the network members with its competitive advantage, the risk is that this situation may change over time, if the knowledge and expertise that exists in the network is not utilized fully in innovation and the renewal of activities. One of the risks is clearly the potentially increasing frustration with the entrepreneurs in the network who feel that their ideas are not heard. In the hub-governed case network, the interconnectedness is low and interaction is mainly vertical. Entrepreneurs are mainly interacting with the local units. Therefore, this type of network would clearly benefit from improving knowledge-sharing in the network. Although entrepreneurs may not be able to contribute directly to the renewal activities of the network offering, it is important to remember that experimenting small-scale can provide valuable information to the hub firm's R&D personnel. We posit that, by changing

stakeholder relationships through network engineering – in this case increasing horizontal interactions – a hub firm can facilitate opportunity recognition. According to both earlier literature (Combs et. al., 2004) and our results, the problem is that local improvements mostly stay local. Improving interaction might also help to identify and implement local adaptations and improvements to benefit the entire chain.

In this study, we have raised some problems in opportunity recognition processes in the network context. We have conducted an in-depth case study and, when it comes to case studies, the results they yield are context-dependent. Our results are especially applicable in hub network contexts where there is a notable service component, such as in franchising. Since networks are such an important phenomenon in today's business environment, much more research should be devoted to generating new understanding of the opportunity recognition processes in networks. Especially longitudinal research in this context would be essential to build understanding on opportunity recognition and exploitation in hub network context.

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