Strategic Management for SMEs
and Networking Intelligence as a facilitator for growth

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ABSTRACT

The need to manage an unpredictability and to defuse uncertainties in the market is of great interest for SMEs, especially since many actors are forced to interact almost instantly upon inception. The strategic management of SMEs, within a networking context and through their internationalization process, is the primary focus of this research paper. Building on discoveries from the clean tech industry and facilitators surrounding those actors, the knowledge of firm’s network embeddedness and the importance of a network proficiency for business development is discussed as a point of supply to strategic actions in a highly competitive environment. A conceptual model is constructed, building on existing theories regarding internationalization to further expand current theories regarding networks, entrepreneurial effectuation, International Entrepreneurship (IE), International Business (IB), in order to create an applicability for an industry that is notably influenced by the political sphere. The analysis, stemming from an explorative multiple case study, illustrates the empirical data through the conceptual model. Key findings include that the environment can be said to be partly non-conducive for SMEs international venturings, due to the disruptive nature of the technologies and at times opposing cognitive mindsets. The conclusion points to a general need for an ability to augment a liable position through a mastery within networking realms along with a purposeful cognition, something these authors have labeled a Networking intelligence (NI) in its entirety. NI would, for this reason, be equivalent to obtaining a mastery within three networking dimensions with the additional feed-in mechanism of purposeful cognition. NI would as such constitute an advantage, ultimately leading to firms gaining a greater impact in regards to a commercial development through an internationalization processes. NI would in this regard act as a facilitator for growth, promoting more effective, efficient, and possibly more balanced actions on the international scene. NI would also enable SMEs to mirror the capabilities of an embedded MNC, with its heterogeneous resources.

Keywords: Networking, Networking intelligence, Clean Tech, Strategic implementation, Internationalization, Cognition, Effectuation, Policy
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1 INTRODUCTION

With business environment delivering great pressures for business owners of today, due to an increasing global competition, intricate networks\(^1\) are coming into focus for more actors than deeply embedded Multinational Corporations (MNCs). Small and medium enterprises (SMEs\(^2\)) need to find their way in this landscape, understanding decision making processes, constructing and implementing strategies, and position themselves in a value-chain in order to grow and sustain a business development process. Sometimes they have an instant interaction on a global scale, and are then considered to be so called “Born globals” (Oviatt & McDougall, 1994). Being engaged in an array of relationships creates an embeddedness in a wide network structure (Forsgren et al, 2005:28). Larger firms, with internal as well as external embeddedness\(^3\) that span across cultures and national borders, have a high probability of facing an extended degree of complexity at an organizational- and individual level. With multilayered inter- and intra connections, decision making for managers in this context aimed for certain commitments are, as per Forsgren et al. (2005), dependent on the commitments of others. Firms’ relational closeness is thus vital in this contextual interplay in order to make sense of information and gauge the impact of other actors, their decision makers and communication and actions in general. It is however, not possible to diminish a level of unpredictability that exist within a business network\(^4\), even

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\(^1\) Networks is here defined as a set of connective referencepoints, that separately represents a relationship or lack of relationship in between them. The substance of the specific relationships varies but the commitment between them can be considered to be cultivated over some time, thus creating a “relative stable pattern of network interrelationships” (Brass et al, 2004:795).

\(^2\) SMEs are here defined as firms ranging from 10-250 employees, i.e Small 10-49 employees and Medium-sized 50-250 (Achtenhagen, L., 2011:10).

\(^3\) “Embeddedness reflects the degree to which actors are enmeshed in a social structure and the effects that the inherent social relationships have on economic outcomes. Embedded ties are characterised by trust, cohesion, personal relationships and reciprocity” (Uzzi, 1997 in Mendenhall et al, 2012:501).

\(^4\) The definition of a business network is, in Forsgren et al’s (2005) words, business firms acting as exchange entities and through commitments to continued exchange with other actors becomes embedded in networks of business relationships (Forsgren et al, 2005:8 f). A social network can be viewed as the relational dimension of social capital, as per Tsai & Ghosal (1998) as something that e.g. generates trust and trustworthiness (Tsai & Ghosal,1998 in Levin & Cross, 2004:1478).
though more detached relationships can hold a greater degree of predictability through a more formalized connection (Ibid: 58). Forsgren et al (2005) have therefore suggested that “MNC’s are loosely coupled organizations with heterogeneous resources embracing conflicting interests” (Ibid:102), through a multilayered embeddedness (Ibid:103). SMEs does not have a comparable internal complexity, but their external complexity is elevated due to a “liability of outsidership” (Johanson & Vahlne, 2009, Schweizer, 2013). Their increased level of uncertainty is linked to their lack of network ties, exasperating the need to mirror, to an extent, a proficiency of larger actors to survive and to succeed. Practically this could mean that there is a most real need for SMEs to tap into heterogeneous resources, embracing conflicting interests through a multilayered embeddedness into networks, in order to find business opportunities.

The network structure can be seen as fairly strong although the relationships in it are in a constant flux; changing in multiple ways as a consequence of both e.g. exchange-cooperation and business activities. The business relationships do not only involve the activities but also expectations, intentions, and interpretations related to the business activities. They can be clear to those directly engaged in them, but also strenuous to grasp for those indirectly included. Firms and its managers, however, are set to function in this ambiguous, ever changing, and complex network structure (Forsgren et al, 2005:25). A connectedness, is in this perspective said to be important, in order to lessen complexity and unpredictability (Ibid:57 f). The benefits of networks for entrepreneurs and SMEs in an internationalization process have been stressed through a body of research (e.g. McDougall et al., 1996, Söderqvist & Chetty, 2013 ). The literature in this area holds, according to Schweizer et al. (2010), that a firm’s network is important to an international expansion strategy, which in their view implies that other firms are simultaneously engaged in networks, thus there is an inter-linkage between actors on an international level. In this aspect,

5 Entrepreneurs are here defined as per the Global Entrepreneurship Monitor (GEM), as a recent start-up company in the span of being in business up to three and half years (GEM, Global Report, 2012:13) They can also be classified as micro firms that would hold anything between 1-9 employees. (Achtenhagen, L, 2011:10) For the benefit of this paper, the SME-definition will also include entrepreneurs, unless it is explicitly stated any other way.

6 Internationalization is “the process of increasing involvement in international markets” (Welch & Luostarinen 1988 in Schweizer et al, 2010:343).
Johanson & Vahlne (2009), expanding on their 1977 Uppsala internationalization model, describe the process as a by-product of firms’ efforts to improve their competitive position, as well as involving a relationship specificity. They see markets as networks of relationships, and insidership as a prerequisite of a successful internationalization (Schweizer et al, 2010: 344).

### 1.1 Problem discussion

With the world economy going through an extended period of instability in the 2000s, there is without a reasonable doubt some truth to the statement that “in an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge” (Nonaka 1998 in Koh and Tan 2006:687). Knowledge of the competitive arena, of actors and its environment, both immediate and distant is of course of vital importance for any business, especially those wanting to operate at an international and/or global level. But how leaders within SMEs can constructively and efficiently operate, taking into account multiple points of references, embracing a chain of decision making procedures and processes is equally important to grasp, in order to continue to move forward. Even though small organizations can go to great lengths to create an environment of clarity, the challenges might be particularly difficult when conditions are obscure. Apart from obvious network issues such as distance and number or reference points, obscurity can be linked to a lack of organizational smartness that is said to be based on the assumption that organizations at all times have the ability to intelligently tap into the cognitive capacities within its structure (Alvesson & Spicer, 2012:1194). In the case of the SMEs this might be more related to a lack of cognitive readiness and expert knowledge pertaining to an internationalization process: “Many companies do not dare to internationalize due to a perceived lack of competence” (Achtenhagen, L., 2011).

Research that focuses on the significance of what entrepreneurs do while building and fashioning personal network relationships has revealed strong influential impacts of connections, related to resource mobilization. Behaviors such as symbolic actions, negotiating tactics, and networking style, thus deserve notice as per Vissa & Bhagavatula (2012). Strong interorganizational network linkages as a success factor, especially for new ventures, have been recognized (e.g. Uzzi, 1996),
since it can lessen a liability of uniqueness and small size (Hite and Hesterly, 2001; Larson, 1992 in Vissa & Bhagavatula, 2012: 273 f). Recent studies argue that “mindful deviations” (Agogué et al. 2012:605) from old paths can be viewed from the perspective that entrepreneurs are mobilizing resources in order to create alternative paths. With ‘unexplored pathways in the unknown’ (Ibid:606) being a tangible variable for SMEs venturing out, it might be even more important to acquire a networking proficiency in order to accurately determine networking strategies and networking ambitions from a position of value-creation in this sphere of the unknown for them (Agogué et al, 2012:606). This could be especially true in relation to policy efforts towards SMEs, and their possibility to judge those efforts accurately and beneficially, from a range of perspectives.

The importance of building relationships and the role of networks in relation to strategic decision making, is mentioned by Håkansson & Snehota (2006) and Coviello & Munro (1997) while the notion of social capital as a productive driver for new market entry is addressed by Björkman & Kock (1995) and Agndal et al. (2008). Vasilchenko & Morrish (2011) have found the positioning within networks related to available internationalization opportunities to be an important element, whereas the network dynamics, formations and the managing of the same has been explored by Håkansson & Ford (2002), Coviello (2006), and Oviatt & McDougall (1994, 2005) as a source for competitive advantages for start-ups and SMEs. The issue remains however if there is a current proficiency of networking activities and its dynamics within practitioners, to the point of enabling internationalization?
1.2 Purpose and research question

This research paper aims to investigate the strategic implementations of Swedish SMEs in their internationalization development and consequently review a networking capability in combination with networking opportunities. There is a pursuance to understand how they reach and also achieve their objectives in a networking setting, as many SMEs need to engage in networking activities almost instantly in their quest to acquire business opportunities both nationally and abroad. Some need to look for opportunities within an internationalization to fulfill their objectives. Facilitators are also engaged in promoting network opportunities for the SMEs, in an array of settings including international arenas, which puts the internationalization process as the backdrop, for any study regarding SMEs strategic implementations. How they utilize networks, what skills they hold in the networking area, as well as their awareness of networking dynamics are addressed in combination with in what way they can work with and within networks. The study will have one focal question:

*How can the strategic implementation of an internationalization process, for Swedish SMEs in a networking setting, be explained?*

1.3 Delimitations

Although the purpose is to look at SMEs in a Swedish context, the choice has been to conduct this study within the clean technology\(^7\) industry. This will exemplify a group of Swedish SMEs

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\(^7\) Clean technology is here defined in accordance with the National Environmental Technology Strategy (NETS) as “any technology that is less harmful to the environment than available options” and clean tech is the abbreviation used in this paper. (Regeringskansliet, Environmental Policy, Energy)
and provide answers suitable for the research question, adequately substantiating the research aim.

1.4 Structure of the paper

Section 2 – This passage will review theoretical considerations in regards to networks and network behaviors, derived from induction. An entrepreneurial stance that has gained more interest from researchers in regards to SME practice, has also been included. A conceptual-model is developed and concludes this segment.

Section 3 – This passage develops the paper’s utilized methodology, in particular outlining the research design and process, including a descriptive segment on how the data has been collected and analyzed, as well as the study’s limitations.

Section 4 – This passage summarizes a policy background and paints, in broad strokes, a current empirical setting for clean tech SMEs. This includes the policy effort of the National Environmental Technology Strategy (NETS)\(^8\) and evaluations of the same through some of the secondary data that has been gathered for this study. The chapter is a preface to the compiled primary data that is revealed and discussed in the ensuing section.

Section 5 – This passage introduces the aggregated case-findings along with an analysis of the same. Keeping with the conceptual-themes, the discussion acknowledges similarities and differences between agencies acting as facilitators or actors working towards an impact related to internationalization. It involves SMEs mastery of knowledge pertaining to internationalization procedures and strategies linked to such endeavors within networking structures. The section concludes with a summary of all findings and some policy implications.

Section 6 – This passage encapsulates the primary findings, fulfilling the research question for SME clean tech actor’s strategic implementations of internationalization process. Reflections for managerial augmentations are emphasized, as well as propositions for future research.

\(^8\) NETS is a collaborative effort from the Swedish ministry of Enterprise, Energy, and Communication, the Ministry of the Environment, and the Ministry for Foreign Affairs (Regeringskansliet, Environmental Policy, Energy).
2 LITERATURE REVIEW

The phenomenon of internationalization is intriguing in the context of strategic management; how do actors view their opportunities and under what conditions and in what way do they act to advance their positions. This review will add to existing theory by incorporating entrepreneurial research with IB research in an effort to grasp the intentional actions by SMEs further, in their quest to reach growth. The internationalization of clean tech actors is also yet to be explored to any degree, which is why the conceptual model has been developed to capture essential features of their journey and expand our knowledge of their strategic actions within a network context. The section starts with a review of cognition and execution variables and will then move on to networking elements, that the study has revealed to carry significance for SMEs in their ambitions to develop their businesses. The different networking aspects will be detailed as well as the networking environment. The reality conditions faced by SMEs as well as the difficulty of grasping the various facets from an agency/policy perspective, will conclude the segment.

2.1 Cognition

An understanding of the environmental necessities can be related to social cognition and whilst cognitive heuristics can be said to guide judgment under uncertainty by the same authors, the “attributions potential” (Shaver & Scott, 1991: 34), what an entrepreneur or an SMEs business owner acknowledges as success- or failure factors in their ventures, could explain their behaviors, to a degree. Heider (1958) had the components of task performance be ability, intention, effort, task difficulty, and luck. “When an action is intentional, its successful performance depends on the combination of the two internal elements (ability and effort) with the two external factors (task difficulty and luck)”(Shaver & Scott, 1991: 34). The attribution model, built on the same

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9 Heuristics can be viewed as simplifying strategies, rules of thumb, that are set in motion through a decision making process as per Bazerman & Moore (Bazerman & Moore, 2009: 6) It can generate accurate or partially accurate judgements. It is the dependence on heuristics that can cause complications, mainly due to a lack of awareness of them (Ibid.: 7).
parts and later established by Weiner et al (1978) is said to explain persistence in achievement
tasks, with a number of potential originators which in turn is illustrated by three theoretical
aspects, of which intentionality is of interest here: “intentionality is seen as the founder’s
intentions, the intentions of other people in position to influence the outcome, or a combination”
(Shaver & Scott, 1991: 35). With investigations into intentionality, within a group of pre-venture
actors, of the mentioned variables internal/external and stable/variable, a 100% of the business
choices came down to internal factors. A know-how can of course evolve over time, as has been
found in a comparative study between early stage entrepreneurs and later stage entrepreneurs,
where it was evident that later stage entrepreneurs “maintained richer, broader, and more
complex networks of ongoing relationships both inside and outside the firm” (Van de Ven et al.,
1984 in Mueller et al., 2012: 998, 1011). Success could also be directly linked to a higher degree
of external orientation, involving a broader network through the development process of the firms
(Van de Ven et al, 1984: 99). “Competence, confidence, imagination, and commitment were the
core personal characteristics that distinguished between entrepreneurs of the later stage and early
firms” (Ibid:104). From an entrepreneurial standpoint, there are those that argue for sense making
lighting the way for an internationalization undertaking, contingent on that acting as an enabler in
prospecting the external environment. However, this obligates a non-rigid environment, without
deeply set cognitive models. Consequently, some environments might not be conducive to
international entrepreneurship (IE)\textsuperscript{10} acts and a prudently applied internationalization procedure
that has worked in the past. In part also due to the fact that entrepreneurs sometimes redefine
and/or change the environment, to some degree, with a new business model (Zahra et al,
2005:142).

2.2 Strategic execution

\textsuperscript{10}International Entrepreneurship (IE) has been defined as “the discovery, enactment, evaluation, and exploitation of
opportunities - across national borders- to create future goods and services” (McDougall & Oviatt, 2005:540).
Zahra et al (2005) state that the knowledge of entrepreneurial decision making in relation to internationalization process is rather limited. They suggest that a cognitive perspective and approach could enrich the understanding of “how” of entrepreneurial practice (Zahra et al, 2005: 129). One problem with current research in this area of organizational behavior is that it traditionally has a focus on already established organizations. There are several findings indicating significant differences between newly established businesses and mature organizations (Mueller et al, 2012: 998). In part due to a lack of routine activities from the entrepreneurial perspective, but also as a result of pursuing different business opportunities (Ibid: 1011). With some IE researchers holding to the idea that entrepreneurs and managers are rational and well informed, as per Zahra et al (2005), others maintain that managerial cognition involves bounded rationality, and as such are influenced by experiences and environmental conditions (Zahra et al, 2005: 135). Cognitive biases are said to affect the decision-making, including “temporal and spatial myopia” (Levinthal & March, 1993: 110). With an organizational intelligence being said to stem from the ability to exploit the knowledge of others whenever possible, myopia would not in general create a good balance between exploration and exploitation. It would also weaken the effectiveness of learning, as per the same author (Ibid:110). Entrepreneurs have nevertheless been found to be less likely to engage in counterfactual thinking (Baron, 1999) thus minimizing negative perceptions and judgments that in turn would have situations look less risky and more promising than what they would look to someone else (Baron, 1999:80). Yet, others have stressed entrepreneurs’ distinctive and amphibious features in bringing ”organizing assumptions from one social domain into another” (Powell & Sanholtz, 2012: 111), even though the same

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**Footnotes:**

11 Bounded rationality is here defined as a deviation from an absolute rationality, due to limitations such as behaviors of others, a lack of understanding of ones own decision making process and information of importance, time and cost constraints, intelligence and perceptions that all ultimately have an individual strive for satisfactory solutions rather than optimal ones (Bazerman & Moore, 2009: 5). An individual can be said to make a decision based on a cognitive mindset, the available information, and within a time frame, and can therefore also be said to be bounded, i.e reaching a decision that is suboptimal to a degree (Secchi, 2011: 16). More recent findings propose that bounded willpower (more emphasis on present events than future matters), bounded self-interest (altruism) and bounded awareness (e.g. overlooking accessible information adjacent to pressing considerations) are closely related to bounded rationality (Bazerman & Moore, 2009: 6).

12 Biases derive from heuristics, and as such have individuals hold to certain presumptions regarding situations and informations. (eg. Bazerman & Moore, 2009: 18 ff)

13 As per Levinthal & March, the learning is in these two aspects centralized around sacrificing the long run for the short run as well as favoring effects that occur near to the learner (Levinthal & March, 1993: 111).
authors can see that as more of a naive foresight and pragmatic approach rather than a computed move (Ibid:111).

Recent data thus propose that effectuation would explain the actions of entrepreneurs to a greater degree than causation (Fisher, 2012 in Chetty et al., 2013:3). It has been shown that effectuation is connected to entrepreneurs with existing networks. Causality can in the literature be described as related to decisions, whilst effectuation are linked to design, this even though the logic of causality assists in the selecting process and the logic of effectuation assists in formulation, according to Sarasvathy (2008) (Chetty et al, 2013:2). “Causation focuses on the logic of prediction (Sarasvathy 2001), to the extent that if one can predict the future, one can control it. Effectuation emphasizes the logic of control, to the extent that if you can control the future, you do not need to predict it. Organizations that use effectuation make decisions on the basis of existing means, i.e. identity, knowledge, and network” (Chetty et al, 2013:4 ). The effectuator’s given means, are said to be related to 1) Who I am (individual level), 2) What I know (firm level), and 3) Whom I know (the level of the economy) (Sarasvathy, 2001: 253). The authors point to the transformational nature of means and aspirations over time, that ultimately will produce different effects based on an affordable loss versus an acceptable risk scenario. The effects also relate to the amount of control that is achieved in the process, based on strategic partnerships (Ibid:253). With effectuation processes being established as actor dependent (Ibid:250), it is relevant to entrepreneurial behavior. With the coupling of attributes and entrepreneurial perception, judgment reaches a level of individualism since it is “dependent on the subjective plans, knowledge, and expectations of individual entrepreneurs” (Sarasvathy & Dew, 2013: 282). The value of residual rights can still be said to be an important element, since the entrepreneur has an ambition to position him/herself so that the attributes can be capitalized on, even though they might not be perceived to hold an embedded asset currently by other economic actors, as per the same authors. “Current contracts only capture a fraction of the potential attribute of assets” (Ibid:283) that might lie ahead. This argument follows the effectuation strand, in that entrepreneurial judgment can be seen as less than a necessity, and should it occur, an effectual logic can still be an influencer (Ibid: 292).
2.3 Networks and network dynamics

A network can be viewed as a marriage, in that the nature of the relationship changes over time, and before entering into a strategic network a firm has to become aware of its own position as well as potential partners. Since changes will leverage strategic decisions, resource accessibility, as well as the power dynamics, an understanding of network structure is vital (Millson & Wilemon, 2008:45). With a network structure, behaviors in organizations come into focus. Brass et al (2004) mention actor similarity and personality, as two elements of interpersonal relationships. They link Kanter’s (1977) idea of “homosocial reproduction” to organizations display of a model similarity pattern. “An individual’s similarity in relation to the models attributes of an organization (or group) may determine the extent to which he or she is central or integrated in the interpersonal network” (Brass et al., 2004:796). Research also suggests that personality can influence social network patterns within an organization, in that individuals in a central network position have been found to have a high self-monitoring capacity along with a stability in relation to external expectations, i.e. they have shown a capability to adapt their behavior to meet demands (Ibid:796). These actors can be said to have a greater connection as well as control over significant resources and as for the perception of them, it was discovered that they were considered to be more influential by others, based on them having more “accurate cognitive maps” (Krackhardt 1990 in Brass et al, 2004: 798).

The same authors also speak of a shift from “simple binary considerations, such as the existence or non-existence of relationships, to a consideration of distinctions, such as the strength and content of the relationship” (Brass et al, 2004: 809). Burt (2000) refers to Coleman (1988, 1990) in regards to the source of social capital, in that a network with closure can be viewed as a dense network, since everyone is connected and no one can escape the notice of one another (Burt, 2000: 351). Burt has previously put forth that networks come with a cost, hence the need to
choose judiciously, and for that reason it is vital to have a network rich in structural holes.\textsuperscript{14} The assertion is here that “the size and strength of one’s network are not as important as the diversity of one’s contacts” (Burt, 1992 in Brass et al, 2004:799), and in this, it connects to Granovetters (1973, 1982) and Uzzis (1996, 1997) argument about the importance of weak ties within a network sphere. Some see entrepreneurial networking within a structural environment as highly unpredictable and that one can view entrepreneur’s networks as dynamic evolutionary refining processes. The networking style is in this context perceived to affect how you network, i.e. what networking skills that are embodied, has consequences for how the network structure forms (Vissa & Bhagavatula, 2012: 286 f).

\textbf{2.4 Network externalities and lock-in effects}

The formation of social networks has a tendency to display a conflict between individual strategic behavior and a collective outcome, as per Buechel & Hellman (2012). Viewing strategic networking from the aspect of tension between stability and efficiency (Jackson & Wolinsky, 1996 in Buechel & Hellman), spillover\textsuperscript{15} effects of relationship formation (Buechel & Hellman, 2012: 72) can be said to be contingent on a type of situational knowledge, as to when to encourage and when to block strategic network formation (Ibid:83). The relationships within a network holds ambiguity that in turn has the potential to both harm and benefit actors within it, according to Morrill (2011). While a win-win perspective might be viewed as a prerequisite for network activities, new relationships can for instance be viewed as a negative externality for the remainder of the network, unless- as the results has it- actors are able to make transfers to their

\textsuperscript{14} Structural holes is per Brass et al (2004) defined as the lack of a connection between two contacts who are both linked to one actor. This dynamic generates a power position for the actor who can e.g. control an information flow between the two contacts to the point of playing them against one another. Many structural holes have been found to enhance mobility related to an individuals social resources (Brass et al, 2004: 799).

\textsuperscript{15} Positive externalities/spillovers is defined by Buechel & Hellman (2012) as “situations where agents can profit (at least not suffer) from others who form a relationship. Negative externalities mean that they do not benefit from that action” (Buechel & Hellman, 2012:72). Analyzing positive and negative externalities\textsuperscript{15} in conducted studies has produced results to the effect of stable\textsuperscript{15} networks not being able to become “too-dense” while negative externalities can (Ibid:71).
networking partners. Those actions will also have efficiency and stability converges rather than diverge as they often have been found to do (Morrill, 2011:367). Should the externalities be positive, the current value within existing relationships does not decrease the value towards potential partners to the point of having to disconnect with existing relationships for profitable gains within a network (Ibid:368).

With the sustained notion of network effects being a tangible variable for actors to manage, the understanding of a mirroring dynamic of technological process, creating a network effect, is of equal importance. With path-dependence\(^{16}\) nowadays, also including self-enforcing processes (Agogué et al. 2012: 605 f), two approaches are said to offset path-dependence related to decision-making, namely result prediction or increased information exchange regarding options at hand (Zhang et al, 2012:193). Building on strategic behavior as well as the choosing of different paths, evolutionary gaming theory suggests that e.g. players consistently copying other player’s behaviors, a positive correlation is even said to possibly occur between revenues and copying inclinations. When one player alters a strategy, the current situation is also treated as a known situation, which in turn is being transformed into a somewhat matching best strategy. An asymmetrical replication dynamic game model can thus partly explain replication behavior and convergence within a field that in turn can generate a multiple equilibrium (Ibid:193 ff). This also relates to bounded rationality within a circle of actors or a network, in that if one player selects an option in an attempt to gain a higher ROI, other players are then likely to be drawn in the same direction over a period of time, in order to not miss out (Ibid:196 f). The risk can thus been lowered through network perception and its effects.

From the perspective that networks can be effective as well as mutually beneficial, the argument of size as a prerequisite for network effect can be considered flawed in part. Hence an argument that structure and conduct within a network will generate strategic implications that affect the

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\(^{16}\) Path dependence relates to an evolution of e.g. technologies, firms’ strategies and industry structures, in that current and future events is tied to history, both in regards to “development sequences and social dynamics that in turn are characterized by positive feedbacks and self-enforcing dynamics” (David, P. A. 2007: 92).
creation of value (Afuah, 2013). Seen here as drivers for strategic action during the entire lifespan of the network, structure- and conduct variables are discussed from three perspectives: (1) in order to avoid inessential bridge-making as well as opportunistic behavior within the network, the target for a networking body, as per the author, should be on finding non-opportunistic, and centrally located actors to ensure them being facilitators rather than withholdingers of value within the network. This in order to avoid any structural holes. (2) Given the suggestion that valuable network-actors hold strategic and possibly multiple roles, one would do well in trying to appeal to such actors when building a network, thus provide an increase of value by each new member. (3) Building a non-opportunistic network holds advantage related to value, since opportunism is proposed to be able to reduce the network’s value to its members. Trust and reputation can be impacted in a negative way in contrast to suggested gains connected to honesty, trustworthiness, and dependability (Afuah, 2013:269). A competitive advantage as well as an attainment of a positive performance-output can thus be acquired through a thorough review of tangible social network theoretical points in combination with a general firm performance (Ibid:258), something that could render important information to smaller actors in particular need of a strategically sound and stable network-activities.

2.5 Network environment

Visser (2009) puts forth the argument that policymakers often in their plans to change the situation of clusters are speculative due to a lack of knowledge-specificity (Visser, 2009:169 f). Interesting in this context is a discussion of cognitive distances. Seeing that learning can be viewed as a less than rational process and rather dependent on bounded rationality, a cognitive lock-in effect could be seen as a standard setting rather than an irregularity, something that is particularly intriguing in the connection to network and cluster-formations and/or processes. In combination with tacit knowledge, a cognitive lock-in effect would have actors operate from a cognitive and technological focus stemming from a set frame of mind; one they are unwilling to see change and to an extent also are unaware of. With this in mind, one important focal point could then be to aspire to decrease cognitive distance so that a joint purpose can be achieved for
network and cluster formations. Notably, networks do have a limited durability due to the fact that individuals and their ideas as well as the network’s original meaning will change over time, to the point of bringing about a “boredom effect”, something that also will diminish cognitive distance. In this sense networks and its utility can be said to be fairly temporary (Ibid:172 ff).

The importance of spatial concentration can, from a transaction-cost economical perspective, be especially important for SMEs, where it has been found that they can attain a superior performance in such an environment, one that included complementary firms. Another approach focuses on creating an innovative milieu from institutional and cognitive frameworks in order to stimulate newness, while simultaneously lessen any institutional downsides, like stagnation and ambiguity through for example social capital. The idea of spatial concentration in this setting centers around an openness to the outside, to avoid a disconnect and lock-in effects but rather to ensure the transfer of innovations from the inside to the outside through an interconnection (Ibid: 176). The issue of where, when and why synergies between specific actors encourage productivity and/or innovation, involves something called spatial scale and this is where the two-processed spatial concentration and relational development need unfolding in view of cluster and network (see figure 1) (Ibid:178 f).

17 Clusters, per the definition of Brenner (2004), are said to be ‘spatial agglomerations based on local self-augmenting processes (LSAPs) (Visser, 2009: 180).

18 The reason for a separation of the two concepts is tied to four problems, as per his arguments. Firstly, clusters do not necessarily equate to all types of spatial concentration, secondly, clusters are neither built on networks or networking behavior at all times. Thirdly, cluster development does not always include local and regional networks and lastly, network can also prosper outside of the local and the regional and it can be particularly true regarding the enhancement of learning and innovation. In view of that, it is evident that all cluster-formations can be defined as clusters per the definition of their enhancing interaction and dynamic inter-related activity (Visser, 2009:180). Still, LSAPs vary in nature and they can, not to say that they will, consist of firm-cooperation within a network at a local or regional level only (Ibid:179 f). Local and or regional firms can however benefit from their network in the same way as being part of a cluster, with the limitation residing in the lack in numbers that, should they have been more, could have advanced the growth-speed through the increased resource-provision available (Ibid:181).
Visser’s argument is thus that policy-makers and researchers have a lot to gain through the clarification of clusters and network-areas and how those can be differentiated, since they, according to him, might not be sure of which region-specific conditions or industry that matter the most and what to reinforce - in relation to local self-augmenting processes (LSAP) - as a process that can generate clusters (Visser, 2009:170). Given this idea of resource-interaction, specific knowledge might however not be close at hand for all actors, thus spatial proximity might not be the main issue but rather social and institutional proximity, as per arguments by Boschma (2005), something that could be unrelated to local linkages (Ibid:181).

In an effort to explain how public efforts can boost entrepreneurship, Lerner (2010) has a few points, of which some will be expanded on here (Lerner, 2010:261 ff). He reinforces the main challenge, which is that policy makers often make expensive errors in regards to the entrepreneurial and venture capital sector, primarily due to a lack of full comprehension of how the market behaves. Policy-makers have tapped into the fact that “entrepreneurial activity does not exist in a vacuum” (Ibid:261), however the extent of it might still be illusive to a degree. It is in this perspective important to have knowledge of all the barriers facing entrepreneurs, other
than money issues. Efforts are necessary throughout the supply-chain in order to achieve results. Attracting capital is a vital but a single step but not the entire solution - *entrepreneurs are in need of an advantageous operational field*. (Ibid:261) Even though policy-restrictions sometimes seem important, to enforce ventures operating in certain areas rather than others etc., can have an adverse effect on creativity. It is thus crucial that programs include both creativity and flexibility (Ibid:263). Flexibility is such an essential element to entrepreneurial activity. In this sense, stability of governmental programs is of equal importance as the reflexivity is in assessing program outcome. This, to assure flexibility as well as ensure continuous success based on creativity. A long-term perspective is thus important from a policy aspect. Risk management in relation to knowledge is an important factor, of which research has a part to play (Ibid:261 ff). Economic policy cannot, as per Wagners (2002) arguments and with the acknowledgement of a process-complexity, select allocative outcomes, even though it can substitute, to an extent, regulations that govern economic synergies. Governance exchange entails e.g. normative components and it involves an array of patterns and structures for human interplay. The stretching of normative standards both relates to style of practice as well as what is advised for and against within a set structure of governing guidelines and traditions. Attainability within the limitations of such a framework is an important issue to address (Wagner, 2002:106). Policy measures can partly be responsible for a conversion of managerial systems. One policy measure can generate a small conversion whilst multiple measures have the potential of making quite significant results in a particular direction (Ibid:116). Wagner further develops the idea of having a constitutional requirement for economic policy serve as a type of constitutional filter through the distinction between matching and non-matching measures (Ibid:199). Levinthal & March (1993) have also illustrated conflictual interests in contemporary politics through ”the contrasts between advocates of free competitive markets (the strengthening of the selective pressures of the environment) and advocates of current businesses (supporting existing firms in their struggle for survival)” (Levinthal & March, 1993: 110). Both arguments could be related to a particular fit between an understanding of networking-aspirations and networking results through an increased knowledge of the governmental level, synergies between departments, and other actors, not to mention the market, i.e. business- and social networks, for SMEs.
2.6 Conceptual model

With a complex context for international and/or global managers in addition to a constant movement, relational and/or situational, the phenomenon of strategic management for SMEs stands out as a vital component to successful business growth. SMEs cannot escape a level of outsidership (Johanson & Vahlne, 2009), however in order to implement strategies to the point of them yielding desired impact through internationalization, there needs to be a level of proficiency related to networks and networking behavior, even to the point of mastery. The managerial intentionality within a social cognition is an important element to reach efficiency and logic within a network structure. SMEs that in actuality effectuate strategic considerations conducive for internationalization in such a context have the potential to decrease uncertainty and increase opportunities due to connective variables. Actors thorough understanding at a management level of strategic networking processes, could potentially and more accurately be able to deal with and create a balance between exploration and exploitation as well as stability and efficiency in the midst of network dynamics and its effects. An equilibrium that could generate a beneficial environment in favor of growth. With strategic action being affected on several levels, a conceptual model has been formulated under which three stages are set to explore and maybe even reveal a causality between organizational behavior and internationalization. That said, the effectuation strand has revealed that causality as well as a linearity is a non-factor in entrepreneurial decision making processes, which must be considered when taking into account the different means by which SMEs implement their strategies to internationalize. Based on the theoretical considerations, the following elements are suggested to explain the internationalization process- its scene- starting with the strategic implementations and working under networking conditions. Within the strategic implementation, as the starting point for any SME wishing to venture out and capitalize on opportunities, social cognition will incorporate the theoretical concepts of cognition and strategic execution, due to the fact that social markers and attributes- and the awareness of the same- have been shown to be important in the process of expansion. The networking stage will include three dimensions: networking dynamics, dimensions, and effects (lock-in effects and externalities being condensed to conclude effects, whilst the dynamic theoretical section has been expanded to also include dimensions, which
partly has been derived from the theoretical section of the network environment - specifically the spatial scale, i.e. cluster- and network formations). Networking being so pivotal in business activities, can from this view be considered to be the adhesive to relationship building and business connections. The social- and business spheres, i.e. networks, are thus considered to be deeply connected, separated only through two conceptual stages in this paper. The third and final step towards reaching business growth through internationalization involve the conceptual scene, consisting of policy elements that affect the environment for the SMEs - elements that either set the scene or detract from it, depending on what efforts that are initiated.

Figure 2: Conceptual-model for SMEs.
3 METHODOLOGY

The notion of applying an exploratory approach derives from the ambition of this study to capture the strategic implementation process in the environment of the respondents. The exploratory perspective is meant to clarify and assess the process, containing a level of ambiguity or uncertainty (Saunders et al, 2009:139). The research is specifically concerned with the resolution of operational issues, i.e. the implication of internationalization strategies at the organizational level together with those who experience the issues directly, as described by Saunders et al. (Ibid:147) With this notion, an interesting research through case studies, can be used to develop theory inductively, (Eisenhardt & Graebner, 2007:25) and subsequently this research has an emphasis on induction (Saunders et al, 2009:127). The theory building is said to materialize through “patterns of relationships among constructs within and across cases and their underlying arguments” (Eisenhardt & Graebner, 2007:25). To gain a distinct picture of the phenomenon, the descriptive elements in the study serve as an extension of the exploratory approach, it can in this sense also be seen as a “precursor to explanation” (Saunders et al, 2009:140), thus aiding in answering the research question in a more accurate manner.

A qualitative approach is granted to be a viable option considering the choice of exploration and the search for new insights (Robson 2002 in Saunders et al, 2009: 139, Saunders et al, 2009: 490). Since this research was interested in investigating organizations as entities, the paper also adheres to a holistic view, (Yin, 2003 in Saunders et al, 2009: 147) in investigating the how, as an un-explored area in this particular context (Eisenhardt & Graebner, 2007:26). A notable reason for using a qualitative approach is the high likelihood of generating rich empirical data related to e.g. complex social processes that quantitative data are unable to disclose. Additionally, any insights derived from an inductive logic can be viewed as a good complement to a future deductive theory testing (Ibid: 25 f).

3.1 Research design
Multiple cases can be seen as experiments that aid in a type of replication logic and also through comparison assist in extending already existing theories (Yin, 1994 in Eisenhardt & Graebner, 2007:25). The rational for a multiple case study, such as this, derives from the need to firstly establish one case but then also consequently probing a generalizability from the multiple findings (Yin, 2003 in Saunders et al, 2009: 145 f). The possibility for “contrary replications and elimination of alternative explanations” (Yin, 1994 in Eisenhardt & Graebner, 2007:27) thus then further emphasize the choice of research design. Capturing the “thick, detailed descriptions of actual actions in real-life contexts that recover and preserve the actual meanings that actors ascribe to these actions and settings” (From the editors, 2004:455) can be difficult, but something that also can be provided through a qualitative research study of this kind. It is important to try to understand the social process that underlie management, as per the same author, and by drawing attention to human interactions, the examples discussed and analyzed could have the potential to enrich the field of management in general. Thus bringing together theoretical concepts and relationships with an empirical phenomenon. This research can also be seen as positivistic and connected to realism, with the underlining assumption that the reality will be mirrored by scientific data and theories (Ibid: 455 f).

Since causation can be seen as an important determinant, a casual explanation could here give focus to the topic as well as establish accuracy. It could also be instrumental in highlighting the theoretical framework, thus creating critical realism as per Welch et al, (2011:741) A case study with its close adherence to data, as per Eisenhardt & Graebner (2007) can be said to keep the researchers “honest” (Eisenhardt & Graebner, 2007:25) although the challenge to present rich documentations and theoretical arguments is very real (Ibid:30). Done right, “cases can sharpen existing theory by pointing to gaps and beginning to fill them” (Siggelkow, 2007:21).

3.1.1 Case Selection

The principle of selection was binary. On one hand SME actors akin to location (Sweden), firm size (between 1-250 employees), sector (clean tech), and being in the process of internationalization. On the other hand, agencies related to organizations in Sweden with a mandate to facilitate growth, exports and/or internationalization, size was irrelevant, the study
contain for this reason both larger and smaller organizations. The reason for a twofold approach was due to a industry specificity, which in turn can be related to a lack of immediate market-realization of business prospects. SMEs in the clean tech sector can involve disruptive technologies and since the current market would be more inclined to consider such prospects non-viable products/risk involvements, and consequently also having a preference to opt out of any pre-market association, the longer horizon could for those reasons demand an agency/policy involvement. The facilitators, i.e. agencies/incubators would then acts as intermediators, infusing e.g. knowledge and administrating contacts/venue-presentations to bridge a market gap for these particular actors (Agency/Incubator, 2014).

The selection derive partly from a previously held seminar at the WWF conference “climate solver” in the fall of 2013 and partly from The Swedish Energy Agency. Additionally actors and agencies have been asked to join the study based on the above-mentioned criteria. The separate actors, operating within the clean tech sphere, have been divided into two categories, namely facilitators, i.e. those who promote export/internationalization (Agency/Incubator) and firms, i.e. those who actively investigate export/internationalization opportunities for growth (SMEs). (See below table).

<table>
<thead>
<tr>
<th>SMEs, 5 Interviews</th>
<th>Agency/Incubator, 6 interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-1 Founder/CEO, 60 min</td>
<td>Agency-1 International Director, 60 min</td>
</tr>
<tr>
<td>SME-2 VP, 60 min</td>
<td>Agency 1 Sr. Advisor, International affairs, 60 min</td>
</tr>
<tr>
<td>SME-3 Sr. VP, 60 min</td>
<td>Agency-2 International Business Developer, 60 min</td>
</tr>
<tr>
<td>SME-4 Founder/CEO, 60 min</td>
<td>Agency-3 Director, 60 min</td>
</tr>
<tr>
<td>SME-5 CEO, 55 min</td>
<td>Agency-4 VP, 60 min</td>
</tr>
<tr>
<td></td>
<td>Incubator-5 Business Advisor, 80min</td>
</tr>
</tbody>
</table>

Table 1: Interview sampling

The sampling included business owners/founders, CEO’s, and VPs for the SME actors. The individuals within the group agency/incubator, held positions that relates to international expansion in one or several countries, directly acting as facilitators towards entrepreneurs and SMEs. Their knowledge-backgrounds were vastly different, bringing about broad facilitating capabilities. Since this study focuses on managers/executives in organizations working towards
finding their way in an international business context or in the business of facilitating exports, it was important that the individuals held key positions related to responsibilities in building and maintaining relationships and communication within a process of internationalization.

The facilitators and the firms will be referred to in text as either: (SME, 2014) or (Agency/Incubator, 2014). Some individuals, acting as facilitators, have had previous extensive SME market experience- prior to a facilitators/agency position- which can blur the lines between actors and facilitators somewhat in the empirical section. The legitimacy deriving from prior practical SME experiences are here considered to exceed any such ambiguity. Regardless of past experiences, there will be a separation based on current positions. Practically the empirical data can be found to converge occasionally under section 5 due to the compiled knowledge of certain individuals within the agency realm. Given the fact that the actors and agencies have been granted anonymity, the authors are prohibited to describe organizations and individuals in detail.

This has had some implications on the structure of the paper; the data has been combined into a collection of answers. With a purpose to review SMEs as a group, a non-singularity is not seen as a hindrance in this case. The public documentation of state-assigned agencies has been included as reference material regarding the empirical setting (see Appendix A), even though it can neither be confirm nor repudiate whether or not the study has included those mentioned there. Some actors have an ongoing relationship with an agency/incubator and/or agencies, whilst others are yet to engage or have refrained from engaging in such a connective context. The engagement levels are diversified.

### 3.2 Research process & data collection

The research study has utilized both primary and secondary sources, hence applying a multiple method to answer the research question. As primary data, the authors have applied the use of a single data collection technique through the use of qualitative research interviewing (Saunders et al., 2009:151). The face-to-face interviews were non-standardized in nature (Ibid:321) and lasted on average one to one and a half hours each (see table 1 under 3.1.1). Two interview guides were used (see appendix B and C) (Ibid: 329). Interview themes that were taking into account could be
summarized accordingly: Firstly, background information in the form of an overview of both interviewee and the organization. Specifically this pertains to the respondent’s role, including responsibilities, and experiences related to international activities and/or export promotion. Additionally the organizational product/service offering, its development process, and climate utility was included. Secondly, the ongoing involvement of projects pertaining to internationalization, also containing of strategies and implementation of decision making processes to leverage uncertainty and the current environment. Three of the eleven interviews were recorded and transcribed upon agreement from the interviewees, in addition to making notes. The interview materials that were not recorded, relied on compiled notes during the interview session, notes that shortly after the interviews had taken place, were completed in full and used as transcripts (Ibid:334). The secondary data that was added to the interviews was for example policy reports and governmental publications (e.g. evaluations of strategic public initiatives), research papers, business reports (e.g. within energy- and clean technology), and newspaper articles. The secondary data has been selected to authenticate the empirical findings, and to affirm the circumstantial setting of the SMEs. The authors have selected the data with care, in a genuine effort to find and evaluate valid material that meet the objectives and aid in answering the research question (Kervin 1999 in Saunders et al, 2009:273).

The interviews drew upon “contextualization resources”, from Welch & Piekkari (2006), e.g. body language, common personal experiences, to form a shared understanding and create a framework for sense making (Welch & Piekkari, 2006:431). The target is to capture organizational behavior from individuals’ perception and experience. Particularly adhering to the concept of using the right language, a ‘romantic’ approach was used even though, as per Welch & Piekkaris arguments, it is not seen as neutral as a neopositivistic prescription. To further elaborate on the objective in using a romantic approach in contrast to a neopositivistic approach, it is due to the neoposivistic explicit aim to objectively “extract” (Holstein & Gubrium 1995 in Welch & Piekkari, 2006:420) accurate information from a place of impartiality in order to minimize bias. Since decision-making rarely is made without any emotional attachment of some sort, trying to objectify and create reliability and validity as measures within a mindset of detachment could in actuality hinder genuine responses in this context. Decision-making can thus be seen as not an
exact science, hence the decision to use an approach that embraces more of a dialogue, where sharing is encouraged, in a context of general understanding (Welch & Piekkari, 2006:420). A romantic approach rather, is asserted, connects with the notion that interviewing is part of a social interaction, and thus engaging with interviewees on a personal level, will provide an understanding and trusting environment, something that in turn would generate responses that are open and genuine. The emphasis on obtaining beliefs, sense making, and inner motives from the interviewees is not without challenges, one being the need to create a “situated friendship” (Douglas 1985 in Welch & Piekkari, 2006:420). Language is seen as a means for “communion” (Welch & Piekkari, 2006: 420) between the interviewer and interviewees and as such, choosing the right language can be instrumental in order to evoke authentic responses in a relaxed environment (Ibid:426). A narrative structuring in the interviews was encouraged by the interviewers, to increase the probability of “ensuring that the data was organized both temporally and with regard to the social and/or organizational context of the research participant” (Saunders et al, 2009:497).

Systematic and analytical implications in the research process, through induction, have been linked to the theoretical material through the compiled findings, which meant that the search for appropriate theoretical considerations was an ongoing process prior to the analysis. The authors searched, for example, for key words in various academic data-bases and/or journals, based on e.g. network dynamics and effectuation since such issues have been found to be important in explaining the strategic concerns of the SMEs. An attentiveness and vigilance was imperative, regarding the matching of theory with the empirical findings. The procedure of connecting existing theories to new developing theories, could then be said to have been legitimized by rich empirical insights found in the qualitative data as well as in previous substantiated theoretical concepts. (Eisenhardt & Graebner, 2007:25 f).

3.2.1 Data analysis & presentation

The non-standardized and intricate nature of the data that was collected was aggregated, assorted, and restructured as a sequential, to form a meaningful analysis, as per Saunders et al. (2009) in accordance with the conceptual framework (Saunders et al, 2009:484). A comparative approach
has been used in the analysis of the interview material, in order to reveal any similarities and/or differences within the overarching themes of interest (Yin, 2003 in Saunders et al, 2009:495), namely strategic implementation, networking, and internationalization procedures. The data have thus been presented in a way that kept the material as a collection of answers, suitable with the aim. Any convergence of data (Agency/Incubator and SME) derives, as stated under 3.1.1., from a previously held position within a SME. The conjoined findings would in this way act as an enforcer of a phenomenon at an SME level. The pattern matching between data and theory, creating the logical connections within the conceptual model and the supporting evidence, was important in order to understand the different relationships and connective nodes (Eisenhardt & Graebner, 2007: 29).

3.3 Research limitations

The obvious limitations of a qualitative study such as this, is that the phenomenon will not be quantified. Case studies have been revealed to be more likely to provide primary reports on internal- and construct validity, showing rigor by accentuating the more principal forms of validity at the expense of external validity (Gibbert et al 2008:1472). However, since the ambition is not to capture the scale of a phenomenon, but rather the phenomenon itself, it is doubtful that in-depth information can be retrieved from a larger selection of survey respondents (Kumar et al, 1993:1634). The number of informants, eleven in total, can be viewed as a significant number, enough to create a strong analysis, showing validity in the results. A weak analysis would in contrast cast doubts on any conclusions as well as on the method used to obtain the data (Saunders et al., 2009:484 f). Another limitation and a possible negative, is the time-consumption as well as a narrower focus in comparison to any larger scale method. Since it requires access to firms and interviewees, a researcher bias is also a risk (Welch & Piekkari, 2006). Informant bias and random error, stemming from differences in organizational roles, can also contaminate the results. Inaccurate recollection and memory failure related to past events, resulting from e.g. hindsight bias, can also influence the reports of actual events (Kumar et al. 1993:1634).
3.3.1 Generalizability, validity and reliability

A crucial issue with case studies is that they seek to probe a phenomenon in their particular context, “rather than independent of context” (Pettigrew, 1973 in Gibbert et al., 2008:1466). Any rigor can be related to causality between variables and results, and in this the authors believe that the presented research framework, the pattern matching entailing comparable findings, and a theoretical triangulation enabling a verification of findings by embracing various perspectives, have provided an ample level of internal validity (Gibbert et al, 2008:1466). The accuracy by which the study has shown construct validity relates back to the series of confirmation, both theoretical and empirical, from the research question to the conclusion (Yin, 1994 in Gibbert et al, 2008:1468), where the authors have provided a conceptual model based on several different theoretical perspectives, consequently being analyzed and discussed prior to conclusion within the same contextual framework. In providing several case studies, there is a good base, as suggested by Eisenhardt (1989), for a cross-case analysis and an analytical generalization (Gibbert et al, 2008:1468). Even though clean tech could be said to have particular challenges in regards to regulatory and institutional barriers related to a shift towards a green economy, there should be enough reliability in the study to refrain from it being a random error, due to the level of replication (Ibid: 1468). The authors realize that the transparency level will be impacted with the decision to grant anonymity, thus influencing the reliability of the study. The clean tech sphere is a broad field due to the broad definition, but Sweden is a small country in the context of a global economy, something that was a key issue in the choice to withhold profiling information on the study’s informants in order to keep the data anonymised. The study is more focused on the internationalization process, i.e the business development process, and how actors reach an impact in regards to their strategic implementations to reach that aim, thus the significance of revealing names of specific firms was not crucial in view of the research objective. The substantiated validity aspects should however be able to emphasize a level of reliability even with the specific constrictions of the generalizability pertaining to SMEs in the clean tech industry (Ibid:1468).
4 CLEAN TECHNOLOGY, Empirical setting

This passage summarizes a policy background and paint, in broad strokes, a current empirical setting for clean tech SMEs. The chapter is a preface to the compiled primary data that is revealed and discussed in the ensuing section, this in order to create an awareness of the operational circumstances that both facilitators and SME actors work with and under. The first sub-section will explain the policy context through the NETS initiative. The second sub-section will include reviews of the policy initiatives, including NETS, through the secondary data that has been collected. As mentioned in section 3 (3.1.1), the clean tech setting has a specificity, due to a current lack of green economy market applications/assimilations, even though a shift towards greener option would be in line with governmental policies. In order to overcome this rigidity, to a degree a market failure and/or a slower conversion, the policy mandates and subsequently the governmental agencies play a pivotal role in facilitating a shift towards green/cleaner options, to encourage and usher in new market options, thereupon aiding in reaching a business impact ‘pre-market’ for SMEs (Agency/Incubator, 2014). Should there be a less than advantageous fit for the SMEs in regards to these efforts, the effect could be significant, and the possibility of reaching a critical and sustainable growth could also diminish and the process become troublesome. Capital is a crucial point of convergence for quite a few, an area where the government has a mandate to supply venture capital (VC) when needed. The RRV (2014) has however stated that the state-supply of corporate financing, for such seemingly risky ventures are non-conducive and opaque to a degree since they have been found to be allocated based on factors such as certain geographic locations or sectors. This would further emphasize the somewhat problematic setting for the SMEs in this industry (RRV, 2014:9 f) and a need, not only for facilitating efforts, but also for the right kind of efforts, within a certain time-frame in the business expansion process.
4.1 Clean technology policy environment

With Climate changes becoming more of an urgency, it is imperative to find and introduce new green technologies into the market, in order to mitigate the issues at hand.

Pursuant to an aim of advancing and even being a pioneer in environmental technologies, the National Environmental Technology Strategy (NETS) was launched in 2011\(^\text{19}\). The explicit purpose is to promote new business and employment to accelerate sustainable Swedish solutions. NETS can be seen as a tool for a greater impetus in combination with ongoing activities\(^\text{20}\) to evolving an internationally competitive clean technology sector, and it has a total budget of 400 MKR SEK with the strategy running until 2014 (Regeringskansliet, Environmental Policy, Energy).

The overarching goals are:

1) Achieving favorable conditions that will generate the evolution of clean tech business in Sweden.

2) Facilitating exports of Swedish clean technology, thus contribute to a sustainable economic growth in Sweden and on a global scale.

3) Promoting research and innovation within clean technology and enable for innovations to be commercialized (NETS, Environmental Technology 13 Swedish Solutions, 2011:4)

The strategy is carried out by 20 formal governmental assignments allocated on 11 actors (Growth Analysis, 2013:09, p.11) of which, for the purpose of this study, the ones pertaining to

\(^{19}\) “Miljöteknikstrategin. Regeringens strategi för utveckling och export av miljöteknik 2011-2014” is the Swedish version, and as such it is more comprehensive, outlining the different initiatives, in contrast to the English version, NETS, that has a more inspirational approach regarding Swedish solutions of environmental technology.

\(^{20}\) It is important to recognize that this initiative in no way mirror fully, the formal mandates and assignments of government agencies working to facilitate a growth-prospering environment for SMEs on a regular basis.
export promotion and internationalization of entrepreneurs and SMEs are in focus (For an overview, see appendix A\(^{21}\)).

4.2 Evaluations of NETS and facilitating activities related to export and internationalization

An evaluation of the strategy from the Swedish Agency for Growth Policy Analysis in December 2013 showed that a majority of companies (92%) involved in the NETS initiatives are large companies (250+ employees). Micro-companies (0-9 employees, on average 3 employees) and SMEs (10-49 employees, on average 22 employees) are only 3%. (Growth Analysis 2013:09, p. 23). Overall, NETS is said to go according to plan and a number of trips by delegation, export promoting processes and the formation of several Swedish and international cooperation consortia has taken place. However, “very few outcomes from the Strategy’s measures have so far been able to be demonstrated” (Growth Analysis, 2013:09, p.9).

It is evident in the NETS program that network supporting activities are a point of convergence, as a way to overcome barriers to market for SMEs. The effectiveness regarding these strategies for these actors are however questionable, especially in view of SMEs difficulties to enter networks due to a liability of outsidership (Johanson & Valne, 2009). Smaller actors are holding a meager percentage within a NETS output, thus far (Growth Analysis, 2013:09, p.23). An evaluation from Riksrevisionen, in relation to Swedish exports, show that the service offerings sometimes fail to meet the needs of business owners to a satisfying degree. Small actors are said to have the least amount of knowledge regarding public actors ability to support them in an internationalization process, yet they are the group that is said to experience the biggest obstacles and having the greatest need for these services (RRV, 2013:71 f). These findings could as such be indicative of a mismatch towards SMEs. Since the intent and purposeful actions of NETS in many aspects involves a focus on networking activities- to promote and induce a greater inter-

\(^{21}\) Appendix A is based on Miljöteknikstrategin.
connectiveness of organizations that can administer help, advice, capital, etc. for SMEs internationalizations - it is noteworthy that the policy-efforts neither match a networking-proficiency in some cases for SMEs nor hold a needed level of clarity for the organizations venturing out, as revealed in the report (RRV, 2013).

From an internationalization standpoint, it is noticeable that NETS has had a focus on categories in the later stage of business development (Growth Analysis, working paper, delrapport 1, 2012:20), i.e. targeting an increasing in volume more so than commercial development. This has left out a large portion of SMEs, who in their quest for expansion and internationalization are situated in between two categories, namely commercial- and market development and market launch/volume increase. The agency resources have also been allocated accordingly. Their conclusion is that clean tech companies need be in the later development stages to attain a level of success within this context. Entrepreneurial promotions have not been targeted (Ibid: 39 f). The bulk of firms that has received support within NETS, are also found within already strong export sectors, and are said to not have a high level of green innovativeness (Growth analysis, 2013:09, delrapport 2, p.47). Innovative clean tech entrepreneurs and SMEs looking to implement their strategies of internationalization from a place of newness, can then be said to not have been considered. RRV's evaluation of risk-capital supply (2014), also point to the fact that public investments are geared towards the later stages of development and mature companies (RRV, 2014: 47).

The evaluations of network activities and the impacts of export facilitating efforts are fairly slim. There is an issue relating to measurability that has not been solved as of yet. RRV (2013) has in their report stressed the importance of finding a satisfactory methodology that accurately can report on specific activities as well as an on more aggregated data. This would preferably be coordinated between agencies so that information can be used for comparative analysis (RRV, 2013:10, p. 74). As of now, the conclusion by RRV along with Growth analysis, is that there is an imbalance related to supply and demand insofar as the agencies understanding of SMEs needs and their ability to facilitate results based on a specific aims (Ibid:74 and Growth analysis, delrapport 1, p.38).
This summarizes, in short, the backdrop for clean tech actors in Sweden. The next section will contain the empirical material that has been collected, together with an analysis of the same, thus forming an accumulated discussion. Interweaving the empirical discoveries with theoretical considerations will allow for a rich tapestry of multifaceted data.

5 DISCOVERIES: ANALYSIS & DISCUSSION

This section introduces the aggregated case-findings along with an analysis. The findings will be amalgamated from the two groups, SMEs and Agency/Incubators, to form united data within the conceptual themes, in the model presented under section 2.6. This in order to probe SMEs mastery of knowledge within a networking sphere, and their ability to internationalize and set forth e.g. implement strategies favorable for designed strategic targets.

5.1 Strategic implementation

One can describe SME attributes as marked by their fierce ability and intentions to become successful in launching their goods (SMEs, 2014). The intentionality is a crucial element for most, in that it is related to people in a position to influence the achievement of tasks (Shaver & Scott 1991:34), something that can be said to generate both ambiguity and uncertainty (SMEs, 2014). The difficulty in the tasks and in the achievement of set goals is easier related to internal factors should one not be engaged in an agency-network of some kind. The added uncertainty and the variable `luck´ seem to be connected to an external part, sometimes due to a lack of understanding of how the external actors reach their decisions in regards to goods and internationalization-process. Some could perhaps even consider the process as somewhat arbitrary due to what they perceive as a lack of stability and vague conditions for causation within an agency setting (SMEs, 2014; Shaver & Scott, 1991:35). In contrast, it is evident that agencies/incubators work very hard in mapping and assessing potential actors, and they might even know of more than is expected of them, due to a genuine interest in their facilitator-roles.
(Agency/Incubator, 2014). Yet, any gap can perhaps be perceived as non-transparent, which can create puzzlement for SMEs. Bad luck as so far as not being picked or becoming part of a facilitating effort might just not come down to intentionality for anyone actor or agency specifically, but rather to the “insurmountable difficulty of the task” (Shaver & Scott, 1991:35) of fitting SMEs into unsuitable programs. The bulk of clean tech actors can be said to be small. 66% have less than 20 employees and 25% of all clean tech companies have fewer than five employees. As such they are many times to small to join programs that are geared towards an export-increase of Sweden AB. They are contrary in the beginning stages of internationalization and so the strategic intentions do not match either (Agency/Incubator, 2014).

From the aspect of comprehending mis-matching intentions, the assertion is for information and “know-how” being key for SMEs in understanding the core of the facilitating efforts, namely the mandates and the decrees by which the agencies are guided (and restricted). Agencies, particularly, facilitate certain things, but not everything (Agency/Incubator, 2014) and the difference for SMEs is directly connected to strategic management. An effectuation in relation to what would be in line with a product/service, would translate into an internal stability, while simultaneously building external matching links to a specific business (Van de Ven et al, 1984 in Mueller et al., 2012: 998, 1011). The difficulty for some relates to knowing exactly where their end product would fit in to a global value chain, (i.e. faltering in the internal elements ability/effort, as per Shaver & Scott, 1991: 34) which is why some facilitators offer services that are aimed towards SMEs finding a strategic beginning (Agency/Incubator, 2014). Any blurred lines would here be connected to agencies following mandates and policy guidelines, geared towards perhaps certain markets, hence why an awareness of the same is crucial for the SME who is looking to match developing intentions with a relevant task difficulty. It is evident that a comprehension of the attributions potential (Shaver & Scott: 34 f) takes some time to cultivate, and the most difficult intentionality-variable to comprehend is here mostly linked to the intentions of others in position to influence (SMEs, 2014). Success through a higher degree of external network orientation, as per Van de Ven et al. (Van de Ven et al., 1984: 99), can though, through the findings, be related to a higher level of professionality, from the start or developed through the process of business maturity. Individuals that rely on their sense-making for
internationalization procedures in relation to the external environment, have also been seen to have an acquired professional general proficiency in contrast to a specific expert skill in one area (SMEs, 2014). This need for a high level of internal and external awareness supports Zahra et al. (2005) notion that some environments are not conducive to IE acts (Agency/Incubator, 2014), although there are those that are able to exploit opportunities within a current system through a cognitive capacity and appropriate business models (Zahra et al., 2005: 142).

Entrepreneurial activities are hard work, their assets have been depicted to be strength to stay the course, pride in the products and/or services as well as a naiveté. The pride can also be viewed as a barrier, however without it they would most probably lack in conviction. Likewise, it is said that without naiveté they would not even begin the journey, their stubbornness enables them to fight throughout the process, not only through internationalization but from the onset of their business journey (Agency/Incubator, 2014). In accordance to Sarasvathy (2008) and Chetty et al (2013) the SMEs have been shown to base their strategic implementations on existing means. There is a utilization within the three levels; individual, firm, and economy, as so far as controlling costs and time-allocation in relation to all of them (SMEs, 2014), as per Sarasvathy (2001). The finding also suggests a concurrence with theory in that there also is a transformational shift over time of both means and aspirations. With limited resource availability for most actors, the affordability and risk-acceptance changes over time (SMEs, 2014) (Sarasvathy, 2001: 253). Since most actors are firmly established in a certain expertise, the individual- as well as the firm level is seen as fairly set from the beginning. The revealed uncertainty, for quite a few is related to the third level, the economy (SMEs, 2014). Many lack knowledge of the international economic environment, which is why strategic partnerships are so vital to a progression (Agency/Incubator, 2014) as well as cognition of the intentions of strategic partners.

The challenge is often to balance the time spent of positioning him/herself in accordance to future ambitions while still holding to an effectuation strategy in the now. As the firms mature, more of a strategic balance can be visible (SMEs, 2014), in this connecting to Mueller et al. notion of significant differences between newly established firms and mature organizations (Mueller et al.,
The SMEs in our study have made conscious efforts to create and control routine activities over the past years and their pursuit of business opportunities have also become more structured (with or without facilitating efforts/services), even more so, as anticipated, for those actors that have secured financial backing (SMEs, 2014). As an environmental condition, such managerial cognition could be seen as related to a bounded rationality as per Zahra et al. (Zahra et al., 2005:135). Temporal and spatial myopia could, in view of our collected material be related to a strong initial focus for many entrepreneurs towards agency-grant applications (SMEs, 2014), a situation that could be said to lack in balance between exploration and exploitation, as per Leventhal & March (1993). That said, this cognitive bias has not otherwise been noted as prominent in the SMEs effort to explore and exploit opportunities for growth (SMEs, 2014).

Most SMEs have to implement their strategies under very obscure circumstances (SMEs, 2014). This does not mean that they pace their strategic implementation processes, but rather that the likelihood of facing a stumbling block is fairly high. The mindset seem, however, to be geared towards utilizing any opportunity even though the risk of failure is high. To leverage such grim outlooks, they seek to attract experience in their leadership groups, in a conscientious way (SMEs, 2014). Mueller et al.’s (2012) argument of differences between mature actors as supposed to newly established firms is difficult to support fully from this perspective, mainly due to the insecurity over longer periods of time for the clean tech sector. It could therefore be a highly routine firm that still pursues an array of different business opportunities (Mueller et al., 2012:1011), something that is confirmed in our findings (Agency/Incubator, 2014).

A clash could perhaps arise between groups of stakeholders that would be more prone to look at the business opportunities from a causation point of view. The effort to use logic of prediction (Sarasvathy, 2001 in Chetty et al, 2013:4) – something that is particularly hard within clean tech being a disruptive technology - becomes an opposite stance towards individuals that could be said to engage in effectuation (SMEs, 2014 and Agency/Incubator, 2014). The importance of finding homogeneity in the way one works and within the existing means, identity-knowledge- and network (Chetty et al., 2013:4) are directly or indirectly expressed (SMEs, 2014 and Agency/Incubator, 2014). When those three variables are aligned it would also be somewhat
easier to address external circumstances, as some have experienced (SMEs, 2014). Those actors that are well grounded in who they are and what they know, seem to have a greater capacity to transcend the barrier to the economy level, that is to say, the effectuators’ mean of whom you know, in line with Sarasvathy (Sarasvathy, 2001:253) and thus also confirming the effectuation process as being actor dependent (SMEs, 2014).

One other dimension of the logic of prediction is in relation to some agencies, that abide under stricter normative regulations and rules, i.e. the logic of control only comes from a specific type of risk-management, one that does not accommodate a formulation of design that differs from the normative context. (Agency/Incubator, 2014) This has had negative implications for SMEs in their strategic implementations, i.e. their routes for expansions have been halted and a long waiting game has started for some, and even completely new strategies have had to be put in place (SMEs, 2014). One vital aspect does then come down to the actors “amphibious” nature, as indicated by Powell & Sandholtz (Powell & Sandholtz, 2012: 111) namely, their strength of transferring legitimacy and capability between social domains as a strong social signal of quality.

Our findings support the notion of a pragmatic approach as an asset in balancing outside pressures, as it has been revealed that those that are more utilitarian seem to find equilibrium through a social prominence (SMEs, 2014). The persistent intentions then align with the strategic context.

**Findings:**

i. *A congruity between existing means is crucial for progress*

ii. *Pragmatic SMEs find their way in networks and influence within a networking structure through a transference of legitimacy between social domains*

iii. *SMEs strategic implementations hinges on equalizing uncertainties on the economy-level and utilizing the resources on the individual- and firm level to the fullest*

**5.1.1 Social cognition**
All actors mention a path-dependence in relation to agency-behavior (SMEs, 2014), which can correlate to a lineage of risk taking, the perception of uncertainty, and assessments that relate to unexplored paths (Agogué, 2012:606). The awareness and consensus regarding facilitating efforts and activities being dependent on which you connect with or get assigned to is a strong indicator that social cognition variables are important (SMEs, 2014 and Agency/Incubator, 2014). The result is said to hinge on a specific competence of an individual at respective agencies, which also would have any negative outcome derive from a lack of a specific know-how (SMEs, 2014). Since clean technology can involve a large and/or intricate system, a general competence would lack in adequacy, especially in combination to relative high costs. SMEs have thus depicted a knowledge gap between themselves and the facilitators, further distancing facilitating efforts from the clean tech industry (SMEs, 2014). Cognition of how to protect oneself and also how to pinpoint a network connection that indeed would act as a facilitator, is of great importance.

One distinct reflection is that it is the hardest to achieve the attention of the agencies initially, but once you have past the first entry and received ‘a seal of approval’, the consensus is that you are on your way (SMEs, 2014 and Agency/Incubator, 2014). This practically means that a lot of SMEs apply great efforts in their initial stages to apply for grants and loans in order to break the barriers to international markets (SMEs, 2014), creating a level of myopia as per Levinthal & March, (Levinthal & March, 1993:110). However, this strategy does not yield success for everyone, and that could perhaps be related to the stochastic process that some actors to a degree recount (SMEs, 2014), in turn explained by the industry heterogeneity and possibly a level of cognitive bias (Levinthal & March, 1993:110) as an influencer. The successful social cognition variable could from this perspective be related to behavioral spheres meeting, namely the agency versus SMEs. Viewed as a pathway of ‘either or’ by several entrepreneurs and SMEs, the notion seem to be that you either reach a mastery of understanding the agency-process or you have to completely disregard it as a viable pathway, in order to move forward with other strategic activities (SMEs, 2014). However, those that are left without capital and/or support are more prone to see it from a risk-averse aspect, i.e. the agencies are depicted as refraining from risk in the earlier stages, to the detriment of the growth of innovative goods (SMEs, 2014).
SMEs have great innovative ideas, but agency actors do not have any way of gaging certain innovativeness other than by regular instruments which means in practice that many small actors are deemed as non-viable business options in relation to a typical risk-assessments (Agency/Incubator, 2014). Under such circumstances, naive foresight (Powell & Sandholtz, 2012) and non-counterfactual thinking are not considered beneficial attributes (Baron, 1999:80). It is in contrast crucial to address the problem of ignorance, conflict and ambiguity to augment the position in such a context (Levinthal & March, 1993:109) and level the power inequality. Those actors that have entered a network of influence, for example through an agency, and have reached a social embeddedness through their social cognitive capabilities, they have also been able to utilize the social structure to gain opportunities that otherwise would have been difficult to come across. It has, for example, entailed information exchanges in regards to political decisions and policy changes on a global level or EU level that has been instrumental in regards to some SMEs strategic implementations for internationalizations (SMEs 2014). This supports the notion of Chetty et al (2013) that effectuation is mostly connected to actors with existing networks (Chetty et al., 2013:3). The agency perspective has thus also proven to be instrumental for small actors, from a holistic approach, in order to overcome barriers to market. The added realization is here connected to the two-fold knowledge capabilities within agency-bodies and SMEs, in order to gain the insightful depth that is needed (SMEs, 2014, Agency/Incubator, 2014).

To lend additional support to the importance of social cognition on a Business to Business (B2B) level, some SMEs see a cultural competence (CQ) of great personal interest, just due to the fact that they view it as a necessity in business on a general scale to further opportunities, nationally or internationally. Others view their past international experience as sufficient in and of itself in scoping the different cultural framework (SMEs, 2014). A social cognition of what it takes to make international progress has, from a cultural perspective, been vital for SMEs strategic implementations and from this perspective it has helped in overcoming ambiguities. In this, verifying the importance of social capital as a productive driver (e.g. Agndal et al. 2008).

Findings:
i. Social cognition is essential and can to a degree defuse any distance between seemingly non-compatible actors and/or different normative milieus

ii. A cognitive mastery in a networking context can facilitate international strategic progressions through the augmentation of the position of power
5.2 Networking

With networks mirroring a marriage dynamic, ever changing, there is a need for a connective awareness as well as an adaptability in relation to one's own positioning and the conduct of other actors. Behavioral features, and an understanding of the same, are in focus through the network structure (Millson & Wilemon, 2008:45). Small actors come up against several barriers in reaching a connective level, a difficulty to create trust while still being at the periphery of a network for instance. In the clean tech sphere, time is of the essence and there is an urgency for small actors to build a relational capital. Smaller actors are facing formal structures in agency organizations, something that can stand in contrast to their more informal structures (Agency/Incubator, 2014). Since formal structures, as per Brass et al (2004), exert an additional influence on network building (Brass et al, 2004:797), the smaller actors relational skills are also tested structurally in order to find a good connective match. With research also indicating that a personality can affect social network patterns (Ibid: 796), the adaptation level can therefore be viewed as critical in order to increase the level of influence within a certain framework and under certain circumstances (Agency/Incubator, 2014). It relates to SMEs ability to epitomize an entity that holds accurate cognitive maps (Brass et al, 2004:796). This is an arduous task.

Since some agencies work towards facilitating an access to decision makers from a Buisiness To Government (B2G) perspective (Agency/Incubator, 2014), the significance of social capital cannot therefore be stressed enough as a relationship/networking facilitator, particularly in view of small actors delivering only part of a solution. With the very real requirement to fit into an international value-chain, in their internationalization process, a socially matching capability can be considered to be an initial source of entry to a system. This is where the agencies efforts fade out and the smaller actors role must become more pronounced (Agency/Incubator, 2014): SMEs have to model similarities and meet expectations in a homosocial reproduction (Brass et al., 2004:796). Practically this means that they must implant their ideas and their visions in another market context, connecting to specific ways of working, also pointing to synergies for a successful relational partnership. This homophilic principle (Ibid:796) has been found in some
actors more so than others (SMEs, 2014), and can be said to have acted as a mediating component as well as an enforcer in finding and making the most of possible opportunities for strategic growth within an interpersonal network setting. The individuals that deliver a stability in relation to expectations has also been found to be more influential (SMEs, 2014), in accordance to previous findings by Krackhardt 1990 in Brass et al (2004: 798). The strength and the content of the relationships is thus also connected to an increase of social capital for the individuals in question, as per Brass et al (2004) and Burt (2000). The embodied networking skill has also directly promoted a network structure (Vissa & Bhagavatula, 2012:286 f) that in turn has yielded results (SMEs, 2014).

Small actors have to balance small resources with strategic ideas, and one finding is that those actors that have been able to focus their resources on strategic networking activities are left with a wider network frame (SMEs, 2014). This does not necessarily simplify the strategic implementations within the network, mainly due to the fact that they have to bring value to, as well as utilize a range of, network connections in order to reach their targets. The strength of structural holes, i.e. weaker ties within a network, can be seen in the diversity (Brass et al, 2004:799) that some actors either work towards or even hold within their current networks (SMEs, 2014). The clean tech arena can be seen as a very small setting, showing a high network density, even more so regarding those actors that are under the umbrella of an agency or several agencies (Agency/Incubator, 2014). The findings are here in line with Burt (2000), in that a dense network setting provides a connectedness that have everyone more or less circle one another, i.e. not escaping the notice of one another (Agency/Incubator, 2014 and SMEs, 2014). With clean tech being such a dispersed industry, however, there are a lot of weak ties within this network structure, which would constitute a contrast to the thought of density; the difficulty in utilizing existing relationships to forward business ventures is tangible for quite a few (SMEs, 2014). An observation is thus that the actors that can be found at the periphery could be related to a lack of specific fit within particular mandates and facilitating efforts as well as with a lesser social capital. In essence: It comes down to `who you know´ and `what you know´ (Sarasvathy, 2001:253), i.e. what value that can be added, not to mention co-created in the realm of influence
that you, as actor, have the power to also exert. The self-monitoring capacity is highly instrumental in such a movement (SMEs, 2014).

The findings suggest that most of the SMEs have tried and failed in utilizing existing relationships at the onset of business venturing. The focus has been for all of them, to work within their existing networking realm to further their business ideas, however most of them have encountered difficulties with such a strategy and have instead found themselves capitalizing on serendipity, i.e. connections entering into their network sphere more or less by, what could be considered, chance (SMEs, 2014) or luck as the last attributional component by Heider (1958) in Shaver & Scott (Shaver & Scott, 1991:34). This indicates that a dense network has its limits, and the importance of a broad network containing of structural holes is supported to a degree in these circumstances in order to balance network costs (Brass et al, 2004:799). SMEs that have been able to utilize existing contacts to a much greater degree are those with a dense network towards finance, finance being such a crucial element to business expansion. Since resources are considered to be one of the more difficult obstacles to overcome as a small actor, a strong network base in relation to capital, can be said to have enabled a stability that in turn has allowed for a more strategic course of action from the onset. (SMEs, 2014) An overall finding suggest that once an actor move from the simple binary considerations within a network (Brass et al, 2004: 809) the practicable and elevating power variable for SMEs, in their strategic management implementations, comes down to network distinctions (SMEs, 2014).

Findings:

i. SMEs are facing an imperativeness to build relational capital whilst going through an evolutionary refining process

ii. The content and the strength of relationships act as drivers of internationalization to a greater degree if the networking skills are embodied

iii. SMEs need to model similarities and adhere to a homosocial reproduction to advance opportunities for growth
5.2.1 Dynamics

Having appealed to and attracted a board holding multiple and strategic roles, an entrepreneurial organization holds a significant value-increase, as suggested by Afuah (2013), to the point of creating a positive performance output. Several organizations in our study have pointed to their distinguished board- and/or advisory members as instrumental in opening doors in a networking context (SMEs, 2014). A reputable board that can bring an extensive international network, ready to be utilized at a high operative and networking level is advantageous. Highly connected individuals have greater means to entry, both at a policy level as well as at C-level (SMEs, 2014). Such a strategic implementation translates into a tangible awareness connected to a resource accessibility as per Millson & Wilemon (2008:45), demonstrating cogency in the depicted marriage-dynamic of network behavior. Notably, an individual-specific ability to connect, that also in turn translates into an organizational networking embeddedness, is instrumental in avoiding any inessential bridge-making (Afuah, 2013:269). The networking style is one of a facilitating nature, increasing networking value, consequently lacking in opportunism. With new green technology still in the stage of being actualized, trust and reputation therefore hold great benefits in creating dependability for SMEs venturing out in this area. Ensuring a lack of inessential bridge-making corresponds to all actors within the network, which must be attentiveness for SMEs entering and making their way in a networking context. With the dynamic being geared towards a value-increase through non-opportunism, it is vital to provide the arguments for a strategic partnership formation both through a general firm performance and social network transparency (Ibid: 258, 269). A vigilance of internal and external conduct variable, is therefore advisable to prevail and manage network dynamics.

Entrepreneurs, on some occasions, connotes to being more of creative geniuses and non-systemic individual. This does not by any means, apply to all, however, the business networks demand a competence in the social sphere nonetheless (Agency/Incubator, 2014). In practice, this means that SMEs have to not only know of network dynamics but they also have to mirror the same dynamics, quite similar to building relationship capital. One could also connect this to a copying
inclination of other player’s behavior to reach a better strategic positioning (Zhang et al, 2012:193 ff). This would however go against a non-systemic individual trait, leaving any stage of myopia, in order to exploit the knowledge of others (Levinthal & March, 1993:110). One could also view the copying from the SME perspective, as a chain reaction, and if there would be more of a copying-inclination between them, there could be more of an impact in relation to market. This is however not something that this study can substantiate through any findings. Most actors are sole entities, implementing distinctive strategic paths, which means that dynamics has been shown to generally be akin to the connections between SMEs and the facilitators (SMEs, 2014).

The challenging balance for SMEs is evident in the dynamic evolutionary refining process (Vissa & Bhagavatula, 2012: 286), mainly because most are looking for a position of stable establishment from the onset (SMEs, 2014) although the environment for SMEs carries a high level of structural instability for an extended period of time. Naturally it could be seen to be advantageous to go through the instability season fairly quickly, but the refining process could have more to do with finding an equilibrium for the firm and its goods amidst of the instability rather than trying to escape it. The demand facing SMEs, as seen here, is to be able to capitalize on the relational/network dynamics with a range of diverse contacts (Brass et al., 2004:799). The actors that have left the initial stages of business venturing, and found a stability in capital input and relationship formations (SMEs, 2014) do connect to Coviello’s (2006) propositions of network dynamics (Coviello, 2006:726), specially the notion that economic ties is a dominating factor regarding e.g. internationalization. The fierce market- and agency-facilitating context does not allow for much hand-holding and bridge-making from a coaching perspective. The same rules apply to everyone and with some agencies’ requirements to also align decisions to external and inter-state agencies, it constricts the room for flexibility even further; something SMEs need take heed of (Agency/Incubator, 2014) when they put together their strategies and make strategic judgements. A scrutiny regarding structural holes and how to enhance the mobility, advancing the position of power through visible social resources, would be meaningful (Brass et al., 2004:799).
Findings:

i. A tangible awareness of network dynamics, connected to a resource accessibility is key in entry and sustainability within networks

ii. A network value-increase relates to mirroring the network dynamic and that in turn can have SMEs avoid inessential bridge-making

iii. Constant re-evaluations of networking behavior, including structural holes, aligns strategic considerations and the probability for mobility advancements could rise

5.2.2 Effects

With findings substantiating that it is not the size of the network necessarily but rather the conduct, as indicated previously, that can be said to create a competitive network advantage, the level of connection with the network contacts creates the network effect and an opportunity to utilize and bring value within it (SMEs, 2014), in line with Afuah (Afuah, 2013: 257). Smaller actors seem however eager to engage in facilitating efforts abroad, but upon their return the confidence appear to fade (Agency/Incubator, 2014), hence decreasing any networking effect. The finding could be connected to the GEM-report (2012), in that Swedes tend to have a lack of belief in their own capabilities (GEM, 2012), and that there is a lack of functionality between different business mentalities. Swedes tend to book well in advance holding to a structured pattern whilst other nationalities keep it local and un-structured. Long distances heighten these differences and act as a hindrance for international business expansions. (SMEs, 2014) With the notion that Swedish businesses lack networks abroad to internationalize, the findings suggest that the network effect does not only come down to a networking connection, but also to an actual physical local presence as an add-on to a communicative interaction. With a high external orientation, as per Van de Ven et al. (Van de Ven et al., 1984:99), a raised net-effect can therefore correlate with a local B2B interaction, something that further emphasize a resource-gap for SMEs that are unable to internalize such capacity. Not all actors have the possibility of relocating resources to international hubs, although that had greatly increased the level of clarity
and business opportunities according to some (SMEs, 2014). Those SMEs that sell large systems, have a tangible need to maximize the networking effects (SMEs, 2014), and in one way this highlights the urgency to be able to also benefit from others within a network that form relationships (Morrill, 2011).

In order to find balance in the tension between stability and efficiency to gain a network effect admits a level of ambiguity (Morrill, 2011:368), the SMEs and entrepreneurs thus need to focus on valuable relationships and exchanging the less valuable, although our study suggests, as per Buechel and Hellman (2012), that the strategic networking hold a tension to the point of even being seen as a conflict of interests between SMEs individual strategic plans and the agency-mandates and decrees for Sweden as a collective. Potentially decreasing the network-effect for the SMEs, it could accompany a new systemic shift where SMEs must find their way in a singular motion, irrespective of Swedish MNCs leading the way (SMEs, 2014 and Agency/Incubator, 2014). Any tension and/or ambiguity in this sphere, also related to knowledge, would affect the SMEs efficiency in effectuating their strategic objectives. To disconnect with an agency actor for potentially more profitable gains in another context (Morrill, 2011:368) due to negative externalities deriving from e.g. Business to government (B2G) interplay, should hence be a real strategic option, even given the risks and uncertainties involved with such a motion.

The positive spillover effect (Morrill, 2011, Buechel & Hellman, 2012) of going in under an agency-activity is that is creates a certain level of stability through the possibility of being able to profit from e.g. state-to-state relationship formation (Agency/Incubator, 2014). The relations-focused individuals that have possessed more of a situational knowledge (Buechel & Hellman, 2012:83), something that potentially could be contingent on social cognition variables as discussed earlier, are seen actively trying to balance the network formations- inefficiency/under-connectedness and stability/over-connectedness - to find the most beneficial way forward (Ibid: 71). The overall finding is that the ability to leverage such circumstances increases over time (SMEs, 2014 and Agency/Incubator, 2014). In general, the findings indicate that there is a constant reiterating process in order to find the connectivity that will enable progress, i.e. a network effect, in the internationalization process (SMEs, 2014 and Agency/Incubator, 2014).
The strategic work in slightly more mature SMEs accommodates a richer communication-flow to balance all the ‘unknowns’ (Agogué, 2012: 606) in order to choose a path that would generate a positive network effect (SMEs, 2014).

Since the likelihood of additional steps in a similar direction greatly increase with a new pattern of behavior, related to bounded rationality (Zhang et al., 2012:196 f), the consequence is that once an SME has in fact entered into the agency realm, the chance of a greater ROI has been significantly heightened (Agency/Incubator, 2014 and SMEs, 2014). Mandates can revolve around addressing certain regions or difficult markets and/or also around bilateral agreements between countries, there is however no continuous environmental constant; the social- and business spheres can rather be said to constantly alternate depending on new contextual agendas (Agency/Incubator, 2014). A reason there is a path dependence for clean tech actors towards an agency structure and state interventions could in many aspects be due to a perceived lack of alternatives, not to mention a lack to predict results without such a dependency (Zhang et al, 2012:193). There could be said to be a fairly certain trajectory, should one fill the requirements and manage to move from the periphery into a connective circle, at least for a period of time. (SMEs, 2014 and Agency/Incubator, 2014). This could in turn be explained by the prerequisites for international policy interventions at state-levels, to facilitate a shift towards a green economy, and as a way to usher in greener options, i.e. promoting export of Swedish technologies (Agency/Incubator, 2014).

Findings:

i. SMEs have a very real requisite to balance stability with efficiency - situational knowledge assist the progress of judicious judgement

ii. Complexity and unknowns translates into an imperative need to benefit from others, navigating between positive and negative network externalities and lock-in effects

iii. A positive networking effect for SMEs is contingent on a good match between strategic targets and network expectations
5.2.3 Dimensions

Having agencies try to facilitate a market-oriented occurrence does not come without challenges. The practicality is that the networking facilitating efforts could be partly flawed (SMEs, 2014 and Agency/Incubator, 2014). First of all, as we have shown previously, entering a network of influence is quite a task for small actors, not to mention connecting with individuals of influence during a certain pivotal time during business expansion. It requires above all, knowledge and discernment from the SMEs, something that could be said to be a work of progress for many (SMEs, 2014). What makes someone excel in innovation does not at all times match with the ability to excel in business, e.g. networks and its dimensions (SMEs, 2014 and Agency/Incubator, 2014). Any added miscalculations of cognitive lock-in effects would hinder international expansion further and that could be due to an inadequate definition of clusters and network, the value they hold, and where specifically they would hold benefits for clean tech SMEs. In essence: The cognitive lock-in effects could through our findings perhaps be explained by a lack of knowledge specificity (Visser, 2009:169 f). Any level of ambiguity pertaining to the dispersed sphere of clean tech would translate into a lack of utility within a network dimension for SMEs (SMEs, 2014 and Agency/Incubator, 2014).

If a set frame of mind has it that network-facilitating efforts towards clean tech SMEs commercial growth would converge with an export-increase for most, it seems that the cognitive distance must be decreased to firstly find a joint purpose and utility for network and cluster formations (Visser, 2009: 172 ff). It is evident that skilled individuals are working to organize facilitating efforts for SMEs, many have made great strides in trying to overcome distances between agency and SMEs, however, the largest difficulty could possibly be connected to a lack of cooperation between agencies and a rigid interpretation of out-of-state guidelines (Agency/Incubator, 2014). Specific and colliding mandates can also act as barriers for an agency-knowledge output towards SMEs in the network dimensions (Agency/Incubator, 2014). Any effort in trying to create an innovative milieu from an institutional framework does present certain limitations for agencies and consequently also the SMEs. Individuals within agency-
bodies are said to try lessen any institutional downsides through an inter-connectiveness (Agency/Incubator, 2014), as per Visser (2009) Even so, the issue remains whether or not the agency-bodies know of the distinguishing synergies within network dimensions at the SME level and at the decisive depth or whether they know but cannot coordinate efficient harmony between agency-bodies and their service-offerings/activities.

One perspective is that there might be a mismatch related to the understanding of spatial scales (Visser, 2009:178 f) and a clarification might possibly need to come from the bottom up in order to create a better fit for SMEs. The other aspect is whether or not there is a proficiency of network-utility, to the point of understanding networks limited durability (including the boredom effect) (Ibid: 172 ff), especially for SMEs that work under volatile circumstances. The findings suggest that there could be a gain in the clarification of clusters and network areas and how they are differentiated (Agency/Incubator, 2014), in relation to LSAP, to enhance the dynamic-related activities within such facilitating efforts and to reach a better fit towards SMEs (Visser, 2009: 180). One finding could on the other hand be that network promotional activities within the clean tech sphere are hard to accomplish, due to the dispersed technologies and shifting strategic onsets (Agency/Incubator, 2014). Due to a lack of market-opportunities in Sweden for many clean tech actors, the international context is of vital importance, which is also why local networking might be less of a focal point (SMEs, 2014 and Agency/Incubator, 2014). The spatial scale with its dimension of spatial concentration and relational development could be worth considering in view of clean tech actors being active in possibly all four spheres, more or less. In order to avoid e.g. stagnation, any positive synergy related to spatial scale hinges in relational development and type of clustering. (Visser, 2009:178 ff) For clean tech and their specialized goods, a less than interconnected and complementary cluster (Ibid:176) will act as a hindrance, as many are in need of extra-regional networks instead of co-location processes (SMEs, 2014); sometimes through a combination of LSAP process and extra regional networks. The relational development still acts as a strong influence in the network dimensions, and as it has been asserted: clusters can be built without networks and networking behavior (Visser, 2009:170). SMEs entering clusters in need of relational networks can thus not be considered a good match at all times. One reflection is that if LSAP can be seen as a crucial process generator, it is vital that the SMEs perspective is taken into
account, to a larger degree, regarding cluster-and network facilitating efforts, to promote an advantageous operational field, as per Lerner (2010) (Lerner, 2010:261).

The general management knowledge that some agencies hold, is shown to be surpassed by the expertise knowledge that other agencies with a broader multi-disciplinary approach hold. Since clean tech can include an elaborateness, a general capability has a lesser chance of promoting suitable guidance in line with strategic growth within an internationalization process (SMEs, 2014, Agency/Incubator 2014). The notion is then that since the technology is specialized, there is a need for specialized knowledge to match (Visser, 2009:169 f), in order to find beneficial synergies in facilitating efforts (Agency/Incubator, 2014 and SMEs, 2014). In this regard we have found there to be a need for resource-interaction, stressing the need for advancing a social and institutional proximity, as per Boschma (2005), in facilitating efforts towards clean tech actors (SMEs, 2014 and Agency/Incubator, 2014).

Findings:

i. Networks hold a limited durability and a cognitive distance deepens the lack of utility for SMEs

ii. Clean tech facilitating efforts require a knowledge specificity in order to be effective for SMEs within suitable network dimensions

iii. With LSAP being seen as a process generator, the spatial scale and synergies related to concentration and relational development holds significance for SMEs

5.3 Internationalization

Internationalization is for many SMEs in the clean tech sector related to survival, not just business expansion. Reaching an impact on strategic judgements and implementations is for that reason momentous. The competitive advantage of being a global task-performer (Shaver & Scott, 1991:34), as most of the SMEs in this study both face and acknowledges due to the lack of market opportunities in Sweden, is also stressed by agency actors (SMEs, 2014 and Agency/Incubator, 2014). The challenge is however substantial, and something that a 21.st
technology cannot overcome either, mainly due to cultural barriers that demand physical interaction on a different scale than Swede’s at first glance might consider. Agencies have, through their events and trade shows, an important part to play for SMEs, in connecting actors that by necessity have to have a global mindset to further their businesses from an R&D stage (SMEs, 2014 and Agency/Incubator, 2014). Entrepreneurs need to carefully consider their network approach in their strategic planning and utilizing internationalization opportunities through such events as industry fairs and state-organized conferences, since the could be highly advantageous (Vasilchenko & Morrish, 2011: 102).

Aside from regular value-chain activities and finding the right partner throughout the supply chain, the cultural dimension stands out as a factor for the SMEs and included a technological intricacy, the stakes are high (SMEs, 2014). The wrong strategy could in fact break the business completely if one did not implement strategies in a way that creates firstly a connective value and secondly a financial value. The barriers facing these SMEs are numerous (Lerner, 2010:261). Interdependence, i.e. the co-dependence between information and people, is from this perspective instrumental in clean tech advancements abroad. This pertains, for example, to agencies promotional activities in a B2G interaction as well as SMEs interaction on a B2B level (Agency/Incubator, 2014 and SMEs, 2014). In these situations it is evident that some SMEs have weaker positions related to the technologies, i.e. they do not sell a whole product or service but rather a function of something (SMEs, 2014). As such, it does not only need to fit a (political) system; it has to additionally fit with other players within a value chain, as well as culture (Agency/Incubator, 2014). Those actors that have stronger positions, need also to rely on the interdependence in the interaction between information and individuals, however, with a complete product they are not as susceptible to other actors in a chain, but have to position themselves more so to fit the (political) system as well as the cultural system (SMEs, 2014).

There is a long standing Swedish tradition of using large MNCs as umbrella organizations and in this fashion indirectly facilitate smaller firms internationalizing through their efforts (Agency/incubator, 2014). Given Sweden’s littleness, globally, there is no wonder why a networking embeddedness, including an aspiration for entrepreneurial and SMEs imitation, are a
center of attention. Understandably this has relevance, based on the fact that the advancement into internationalization is perceived to hinge on successfully excelling in networking behavior (e.g. Vasilchenko & Morrish, 2011). The idea of larger actors aiding smaller actors in their internationalization to the level of reaching a significant growth impact have shifted in the disfavor of Swedish SMEs due to the effects of globalization. MNCs nowadays tend to be more embedded into global local structures and therefore not paving the way for smaller Swedish actors to the same extent (Agency/Incubator, 2014 and SMEs, 2014). This amplifies the gap for SMEs and their capacities of gaining an impact, hence why there might have been a focus on facilitating efforts for them, as previously shown. Supply-chain facilitating efforts, not necessarily enforcing one area over another, are of importance, as per Lerner (Lerner, 2010:261).

The findings also indicate and strengthen the notion that most of the SMEs are not in the later development stages (SMEs, 2014 and Agency/Incubator, 2014) and this is a hindrance regarding reaching an impact. Any lack of impact could thus be contingent on a continuous lack of favorable conditions (NETS, Environmental Technology 13 Swedish Solutions, 2011:4) due to the particular challenges that is connected to disruptive technologies. Even those that have reached a level of success are in need of much more of a strategic impact to secure any longevity (SMEs, 2014 and Agency/Incubator, 2014). To further an understanding of such a harsh market-climate yielding little impact for SMEs, additional illumination might be needed regarding the extent of current reality-conditions for SMEs (Visser, 2009), especially within certain settings. Further adaptations of a previously successful Swedish export model could be highly advantageous for SMEs.

The industry heterogeneity goes against the idea of reaching a non-singularity state within clean-tech networks and a similarity in dynamical actions towards instigating a green technology path (Zhang et al., 2012:193). In order to see any impact here, for smaller actors, there would need to be a converging pattern for clean tech actors in general; some even speak of a consolidation to create a momentum (Agency/Incubator, 2014). As of now, many operate on a one-cell basis, which does not create any mirroring or imitating-effect even though they, at least in theory, could utilize a dynamic within a network structure to generate a greater impact for green technologies
(Zhang et al, 2012). The imitating behavior seen in this study can thus, under current circumstances, be said to, reflect the relationship to agency bodies rather than to the technology industry as a whole (SMEs, 2014 and Agency/Incubator, 2014).

Findings:

i. *Imitating behavior seem to be related to agency actors rather than to the industry as a whole, which hinders the building of momentum*

ii. *New or adaptations to older export models could be advantageous for SMEs in order to overcome the gap between policy efforts and market behavior*

5.3.1 Scene

The idea of networks and clusters being a solution in and of themselves, when in fact they are not (Visser, 2009) is somewhat problematic; the complexity will be a hindrance, as has been a finding in this study (Agency/Incubator, 2014 and SMEs, 2014). The case discoveries suggest that there is an insufficiency between facilitating efforts for clean tech SMEs and them entering various networks (Visser, 2009: 169 f) for support and growth internationally (SMEs, 2014 and Agency/Incubator, 2014), mainly due to the industry diversity and SMEs outsidership. The entrepreneurial synergies could be said to be illusive to a degree as per Lerner (Lerner, 2010:261) and the networking proficiency for SMEs is somewhat lacking (SMEs, 2014). Nevertheless, SMEs best facilitators comes down to relational agency connections- people with a resolution to better these actors’ chances within the given and restricted frameworks, with an aim to utilize a long term perspective, a flexibility and a creativity (Lerner, 2010: 263) to bridge gaps within facilitating efforts (Agency/Incubator, 2014). This connects to Wagner’s (2002) argument of a government style of practice and an attainability within a framework, something that has generated a stability for small actors that in turn can build strong networking connections between agencies and SMEs (SMEs, 2014 and Agency/Incubator, 2014). It is proof that the relational factor is strong regarding networking behavior, residing more so at the individual level (Agency/Incubator, 2014). A systemic rigidity could mean that the ideology of facilitating
network-convergence for SMEs is divergent in practice and SMEs need to be networking-proficient to overcome any network barriers.

With Lerners (2010) notion that flexibility is the vital component to entrepreneurship, the facilitating-programs does not seem to have a built-in system to accommodate a heterogeneity and a speciality like the clean tech sphere (SMEs, 2014). The more distant horizon of clean tech prospects and the significance of certain options above others, add to the ambiguity (Agency/Incubator, 2014). Even though economic policy cannot, per Wagner (2002) and based partly on process complexity, select allocative outcomes, it could be said to have selected MNCs or other industries for facilitating efforts since the efforts in practicality has a difficulty in reaching clean tech SMEs on any larger and/or general scale. Many SMEs will assumably face a high likelihood of failure to achieve any scale of operations without facilitating efforts; the level of attainability could therefore be addressed further (Wagner, 2002:106). Such conflictual outcome correlate to Levinthal & March’s (1993) claims that there exists a struggle in finding the right measures without interfering too much with market forces while still trying to support businesses in their quest to survive in a highly competitive environment (Levinthal & March, 1993:110). The findings suggests that clean techs complex systems or alternatively disruptive systems, have potential to make an impact should the right facilitating efforts find their way into that sector (SMEs, 2014 and Agency/Incubator, 2014). The notion, from some agency actors/individuals, is that SMEs in this sector need a longer promotional period (Agency/Incubator, 2014). Selling one system for X amount of MEUR, has a certain monetary impact (SMEs, 2014), however with just one customer, the fragility is glaringly apparent and there is a need for continuous support to facilitate a stronger customer base and to get a stronger ROI in combination with longevity and sustainability. Any idea to fade out support once a deal is made or work on a shorter project basis for these SMEs, is therefore not supported in the gathered material (SMEs, 2014 and Agency/Incubator, 2014).

The expectations on the internationalization scene are affecting policy- and facilitating efforts as well as the risk-assessments. A convergence of coordinating efforts could have much positive considerations for SMEs in this landscape (Agency/Incubator, 2014). An observation is that one
key aspect for SMEs seem to be the ability to make the unknowns regarding internationalization process more known and workable in order to move ahead, even past initiating stages. The same could also be said to be true for agencies (SMEs, 2014 and Agency/Incubator, 2014), especially in regards to the disruptive-realm of new technology (Agogué et al, 2012). An adaptation is also imperative regarding institutional organizational models to accommodate clean tech SMEs, not to mention within risk-management (Lerner, 2010:261 ff). There are initiatives that look promising as so far as coordinating and interacting efforts, the sentiments there are, though, that there could be more accomplishments made relating to clean tech. The complexity of marrying a new system- including a mindset- with an older, is no easy task. (Agency/Incubator, 2014). This is where the networking knowledge comes in as an enabler, primarily for the SMEs, in order to try escape the institutional rigidity currently at large past R&D stages, for their greener market options.

Findings:

i. *An improved attainability for SMEs within current policy measures could generate a better networking results in relation to networking aspirations*

ii. *The extent of entrepreneurial synergies could be said to be illusive to a degree for policy makers and a networking proficiency of SMEs somewhat lacking which causes a divergence*

iii. *The heterogeneity within the industry emphasizes the demand for a greater flexibility and coordination of facilitating efforts for SMEs, to achieve longevity and sustainability*
5.4 Summary of key findings

To further the understanding of all the findings, all of the key findings have been compiled into a table. As such, they are related to the conceptual model stages in its entirety, with some additional changes based on the accumulated results. Simply put, the SMEs could be divided into two groups, namely the networking proficient and the non-networking proficient. The networking proficiency pertains to both the social domain and the business domain, they are seen as interlinked. Specifically, the findings point to cognition as directly linked to goal oriented strategic actions and this has lead to the overall category of a purposeful cognition. Secondly, the networking variable holds possibilities for SMEs, due to the overall indication that there is a gap for them, as a group, to be filled in reaching a networking mastery within the dimensions of network dynamics, effects and dimensions. Even though, plenty can be accomplished through a networking mastery- the two categories (purposeful cognition and networking mastery) could in one sense be seen as precursors to an impact of growth for SMEs- there are still some issues, connected to the scene and the environment as a whole. Those concerns will yield some policy implications, and as such the correlating findings have been separated from the cognition- and networking findings. The policy implications would depict the systemic fragility between market and state interventions for SMEs. The separation of the three comprehensive conceptual findings would thus, as a compiled piece of information, also stress the key findings in certain settings and within specific spheres of influence, something that could help explain how those spheres need to be strategically managed by the SMEs as well.
<table>
<thead>
<tr>
<th><strong>PERSEVERANCE</strong></th>
<th><strong>NATURE OF COGNITION</strong></th>
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<tbody>
<tr>
<td>A congruency between existing means is crucial for progress</td>
<td>Pragmatic SMEs find their way in networks and influence within a networking structure through a transference of legitimacy between social domains</td>
</tr>
<tr>
<td>SMEs strategic implementations hinges on equalizing uncertainties on the economy-level and utilizing the resources on the individual- and firm level to the fullest</td>
<td>Social cognition is essential and can to a degree defuse any distance between seemingly non-compatible actors and/or different normative milieus</td>
</tr>
<tr>
<td>A cognitive mastery in a networking context can facilitate international strategic progressions through the augmentation of the position of power</td>
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<tr>
<th><strong>NETWORKING MASTERY</strong></th>
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<tbody>
<tr>
<td>SMEs are facing an imperativeness to build relational capital whilst going through an evolutionary refining process</td>
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<tr>
<td>The content and the strength of relationships act as drivers of internationalization to a greater degree if the networking skills are embodied</td>
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<tr>
<td>SMEs need to model similarities and adhere to a homosocial reproduction to advance opportunities for growth</td>
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<tr>
<td>A tangible awareness of network dynamics, connected to a resource accessibility is key in entry and sustainability within networks</td>
</tr>
<tr>
<td>A network value-increase relates to mirroring the network dynamic and that in turn can have SMEs avoid inessential bridge-making</td>
</tr>
<tr>
<td>Constant re-evaluations of networking behavior, including structural holes, aligns strategic considerations and the probability for mobility advancements could rise</td>
</tr>
<tr>
<td>SMEs have a very real requisite to balance stability with efficiency - situational knowledge assist the progress of judicious judgement</td>
</tr>
<tr>
<td>Complexity and unknowns translates into an imperative need to benefit from others, navigating between positive and negative network externalities and lock-in effects</td>
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<tr>
<th><strong>POLICY IMPLICATIONS</strong></th>
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<td>New or adaptations to elder export models could be advantageous for SMEs in order to overcome the gap between policy efforts and market behavior</td>
</tr>
<tr>
<td>An improved attainability for SMEs within current policy measures could generate a better networking results in relation to networking aspirations</td>
</tr>
<tr>
<td>The extent of entrepreneurial synergies could be said to be illusive to a degree for policy makers and a networking proficiency of SMEs somewhat lacking which causes a divergence</td>
</tr>
<tr>
<td>The heterogeneity within the industry emphasizes the demand for a greater flexibility and coordination of facilitating efforts for SMEs, to achieve longevity and sustainability</td>
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</table>

Table 2: Comprehensive table of accumulated findings
6 CONCLUSIONS

The aim of this study was to explore how the strategic implementations of an internationalization processes, for Swedish SMEs in a networking context, could be explained. Previous research has stressed the importance of networks for internationalization, and investigating a current proficiency could therefore provide additional insights to IB research through a new conceptual model, taking into account the interweaving of network structure and network dynamics within different dimensions from an SME perspective. The supplementary purpose was to deliver more of a practical understanding for managers in their daily operations and through their commercial development, giving them a greater ability to leverage the internationalization process, in a setting that is affected by the political sphere.

With industry challenges being connected to a newness and a heterogeneity, there are some important aspects to consider for clean tech actors. The fundamental reason for internationalization is not a question of whether to internationalize, but rather where to internationalize, and specifically how to accomplish strategic objectives with limited resources. The market for clean technology is not yet mature, which increase the pressure to make pivotal decisions, resulting in positive outcomes. Key findings thus include that the environment can be said to be partly non-conducive for SMEs international venturings, due to the disruptive nature of the technologies, and at times opposing cognitive mindsets. With a gap between policy facilitating efforts and market conditions for SMEs, a specialized networking competence on their part is crucial in order to further alleviate an outsidership. An overall impression is that actors strategic actions related to internationalization could be more in accordance with strategic objectives, should the SMEs be more proficient within network activities and networking dynamics. Two networking groups, evolved through the data: the networking proficient and the less-networking proficient, indicating that the general knowledge could be improved further for SMEs as a group. The combined findings points therefore to a general lack of networking knowledge. The findings are even more evident through the actors that have been shown to be
more advanced in the networking area, and as a consequence have a greater received gain based on their strategic implementations. This would attest to networking mastery being a crucial for advancements. Reaching a networking mastery could in fact be an enabling factor for SMEs, to more fully mirror the MNCs embeddedness and heterogeneous resources, thus also ridding themselves of an outsidership and increasing the possibility of succeeding in the marketplace.

The joint group discoveries as mentioned in section 5.4 point to a prevalent need for an ability to augment a liable position through a mastery within networking realms along with a purposeful cognition, something these authors have labeled a Networking intelligence (NI) in its entirety. A networking mastery is depicted to consist of a deep understanding of network dynamics, network dimensions and its effect. NI would for this reason be equivalent to obtaining a mastery within three networking dimensions with the additional feed-in mechanism of purposeful cognition. A NI would subsequently enable SMEs to build the relational capital necessary to implement and manage their strategic and firm specific intentions, subsequently merging social- and business domains. It would as such constitute an advantage, ultimately leading to firms gaining a greater impact in regards to a commercial development through an internationalization processes. NI would in this regard act as a facilitator for growth, promoting more effective, efficient, and possibly more balanced actions on the international scene even when being faced with conflictual interests. The trajectory is found below in Figure 3.

![Figure 3: The trajectory for Networking Intelligence.](image)

To conclude, the policy implications, the separate category and collection of findings related to the environment, would hold relevance for those actors that are able to influence the surroundings for SMEs, and as such, they could aid in creating an understanding of certain reality conditions
for SMEs. Many SMEs have been found to consider Sweden to be too small of a market and thus deem it necessary to venture out through an internationalization almost instantly in order to survive. A business expansion process tied to an early internationalization demand a specific facilitating environment, hence why it would be of great value to find befitting policy efforts for such particular challenges.
6.1 Managerial implications

With more of a networking proficiency as per the suggested NI concept, the indications suggest that managers would have an increased ability to find a beneficial equilibrium regarding facilitating efforts as well as gaging the networking market conditions, in order to advance their business ventures and finding utility in the current efforts. A purposeful intentionality, including a heightened social cognition, could also usher in a greater awareness for SMEs in view of the need to mirror MNCs heterogeneous resources as so far as furthering possibilities for their business opportunities through internationalization as well as embracing conflicting interests. Managers need an enlarged awareness of networking behavior and its effect, and for that reason they need to take heed of mirroring/imitating networking conduct within the network structures that would be most suitable for their strategic considerations. The NI concept could have the potential to assist in this profound awareness, in order to converge an internationalization effort on a firm level with current policy efforts on a national level, that hold certain limitations within the realm of SMEs.

6.2 Limitations and future research

With an introductory investigation into the notion of NI there are grounds for further research within both Swedish firms in other sectors as well as other countries, in order to probe more of a general applicability. Any diverging distinctions between entrepreneurial entities, i.e. micro enterprises, and SMEs, could also be worth investigating in such a heterogeneous industry, to further an understanding of any additional significant patterns within the clean tech sector. With a belief that SMEs need to mirror larger actors to a degree, embracing heterogeneous resources in order to reach a deeper and wider business embeddedness, that in turn can generate business impact, it would be intriguing to review the MNCs possible need to mirror specific behaviors of SMEs in order to stay innovative, e.g. creative, and flexible. Any comparable and compatible elements within a networking mastery and strategic management would be interesting to explore.
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## Appendix A

<table>
<thead>
<tr>
<th>Breakdown activity 1) Business Sweden</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
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<tbody>
<tr>
<td>Environmental technology Strategy - Overview</td>
<td>A favorable environment for tech. development and its subsequent export.</td>
<td>Facilitating networks</td>
<td>Increased coordination and cooperation</td>
<td>2011-2014 / 400Mkr</td>
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<table>
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<tr>
<th>Breakdown activity 2) Business Sweden</th>
<th>Target</th>
<th>(Policy) means</th>
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<tr>
<td>Building strategic clean-tech alliances between foreign investors and Swedish businesses</td>
<td>Identifying supply and demand and creating opportunities within clusters and industries. Regulatory and Policy counseling.</td>
<td>Increased foreign VC and/or foreign R&amp;D/Investment in Sweden</td>
<td>20Mkr</td>
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<th>Breakdown activity 3) Business Sweden</th>
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<tr>
<td>Lowering entry to new markets</td>
<td>Soft regulations and support-activities with the administration</td>
<td>Overcoming and bridging a gap for SMEs. Identify and create opportunities within companies, competences and ideas.</td>
<td>40Mkr</td>
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<th>Breakdown activity 4) Business Sweden</th>
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<tr>
<td>Presenting Swedish clean tech</td>
<td>International conferences and expos.</td>
<td>Creating international awareness for Swedish clean tech</td>
<td>2.5Mkr</td>
<td>(N2012/2518)</td>
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<th>Breakdown activity 5) Vinnova and the Energy administration</th>
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<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
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<tbody>
<tr>
<td>Facilitating the convergence of and cooperation between clean-tech actors</td>
<td>Promoting multi-lateral and/or bi-lateral interaction through the creation of matchmaking activities between clean-tech actors, e.g. Innovators, entrepreneurs, customers, investors</td>
<td>Increasing the private investment-ratio in the clean tech sector</td>
<td>17.5Mkr</td>
<td>(N2011/4663/E)</td>
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<th>Breakdown activity 6) Vinnova</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity- and system-solutions, innovation-support for sustainable city development, and clean tech implementations in developing markets</td>
<td>Research and knowledge creation as well as matchmaking activities to foster innovation platforms</td>
<td>Increased Swedish service offering, including clean-tech and high-end partnerships between actors, e.g. universities, firms, public institutions</td>
<td>65Mkr</td>
<td>(N2011/5142/E)</td>
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<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridging the valley of death between publicly funded research and the private sector</td>
<td>Technical demonstration plants</td>
<td>Contributing to improved competitiveness for tests, verifications, demonstrations, and scale-ups of clean-tech innovations</td>
<td>36Mkr</td>
<td>(N2012/3381/E)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbiosis (Footnote to activity 2)</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a comprehensive and national communications platform</td>
<td>Communication Tools</td>
<td>Increased interaction, i.e. marketing and promotion of Swedish clean-tech industry</td>
<td>1Mkr/yr. 1+ 4Mkr (within N2011/1448/E; see above)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breakdown activity 9) Tilia</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsor entrepreneurial progress and regional advancements for international progress</td>
<td>Utilizing SMEs business networks at local, regional and national level. Simplify business processes, boost maturation-procedures,</td>
<td>Increase established SMEs (9Mkr turnover) ability to compete and do international business through knowledge accumulation</td>
<td>54Mkr</td>
<td>(N2011/2323/E)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breakdown activity 10) ActiInnovationsvin AB</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivate business development-support and financing for clean-tech firms</td>
<td>Utilizing incubators and their networks, e.g.</td>
<td>Making incubators more attractive for clean-tech firms, to increase the inflow of innovations that can be commercialized</td>
<td>10Mkr</td>
<td>(N2011/4387/E; N2011/9143/E)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiliaanalysis</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean tech data</td>
<td>Statistical development based on Swedish previous material</td>
<td>Definition of clean tech areas and the basis for analytics</td>
<td>1 Mkr</td>
<td>(N2011/3397/E)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tilia</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean-tech website</td>
<td>Cooperation with public and private actors to acquire relevant and useful information, e.g. Symbiosis</td>
<td>Publicize knowledge within the clean tech area and to promote knowledge sharing</td>
<td>5.5Mkr</td>
<td>(N2012/2754/E)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiliaanalysis</th>
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<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitate EU applications for SMEs</td>
<td>Making information accessible and useful for programs that have not yet been utilized</td>
<td>Increasing the amount as well as the quality of EU-applications</td>
<td>7Mkr</td>
<td>(N2011/6464/E)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Sweden (Footnote to activity 2)</th>
<th>Target</th>
<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign delegations interested in Swedish clean tech (symbiosis-concept)</td>
<td>Activities arranged by ASSET (Swedish clean tech association), e.g. Mapping, workshops, follow-up, educational packages</td>
<td>Increased attractiveness for Sweden. Specifically increased interaction with foreign actors and Swedish clean tech industry/teams, statistics.</td>
<td>1Mkr/yr. i.e. 4Mkr (within N2011/1448/E; see above)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiliaanalysis</th>
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<th>(Policy) means</th>
<th>Desired effects</th>
<th>Time/Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic review and follow-up</td>
<td>Research</td>
<td>Identify total strategic output, including its weaknesses and its strengths.</td>
<td>3Mkr, end review by 15 March 2015</td>
<td>(N2012/7860/E)</td>
</tr>
</tbody>
</table>

A summary of NETS activities that relates to export/internationalization for SMEs. (K. Burrescia, 2014)
Appendix B

INTERVIEW GUIDE - Actors

Background
- Describe your role and your position within the company, including tenure, education and past experiences
- Describe your offers/functions within your products/services, including development process and climate utility

The organization's international business and business process
- What were the reason for internationalization, incl. type of internationalization and number of markets?
- Upon initiation, estimate the time span until effectuation-stage, what those were, the conditions for them and the outcome?
- Facilitating efforts/support and if so, describe the process
- The decision to internationalize- any previous contacts/networks in relation to market?
- Challenges and how they were met, e.g. political, institutional, financial, social, environmental?
- Any examination of organizational knowledge prior to export/internationalization, if knowledge gaps- how were they dealt with?
- What type of links and synergies have been visible over time, past internationalization and how were they handled?
- In what way influenced the initial strategic outlook the market reality once the process and the implementation had commenced?
- Was any evaluation or restructuring done during the process, and if so did anything emerge that created added labour or added value for the organization?
- In what way have you worked with clarifying and understanding unknown paths?
- How are you dealing with risk and ambiguity, and how is that balanced to your needs?
- In hindsight, is there anything that should have been considered or done differently?
Appendix C

INTERVIEW GUIDE - Facilitators

Background

- Describe your role and your position within the company, including tenure, education and past experiences
- Describe your offers/functions within your services, including type of offers/support, customers and how you work with environmental issues
- In what way is your work evaluated, by whom and how is that translated into the operative work onwards?
- Financing?

The organizations international business and business process

- In what way are you cooperating and/or collaborating with other countries and actors regarding climate innovation?
- If there are collaborations abroad that has contributed to firms internationalization, in what way have you worked together to facilitate firms ability to venture out?
- Describe your work from perspectives such as knowledge development, rules and regulations, behaviors, and information exchange
- Explain how you are facilitating internationalization for entrepreneurs and SMEs, including what type of internationalization, markets selection, market preference from their perspectives, delegations, state-contributions, and national/foreign market contacts
- What type of challenges have been noticeable over time for the actors that you support, including variations?
- Can you describe the individuals experiences and firms international experience prior to any facilitating efforts, and how does that affect the internationalization- and decision process throughout?
- How common is it for firms to review their skill-sets prior to internationalization and if so, what type of processes are included in such an audit?
- In what way is the initial strategy influenced by the reality firms face during internationalization, and how is the organizations capabilities actuated/influenced?
- What can be learned from successful venturings, i.e international establishments, including time-span and firms ability for innovation and product development?
- The decision to internationalize- did the firms have any previous contacts/networks in relation to market, if so, describe these relationship
- Challenges and how they were met, e.g. political, institutional, financial, social, environmental?