The Effect of Formal Organizational Structures on Inter-organizational Networks

“A study on OEMs in the forest technology industry of Northern Sweden”

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**Abstract**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>The purpose of this research is to investigate the effects that Formal Organizational Structures have on the formation of Inter-organizational Networks</th>
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<tr>
<td>Background/Problem</td>
<td>When organizations are formed, they tend to lack access to resources that they need for their growth and development. The owners are forced to form interactions with relatives and close friends so as to acquire the resources they need. This results in having strong network ties. However, to develop they require access to resources which are only available through weak ties. Due to their newness these organizations may be limited to strong network ties. At the same time, when organizations are in their maturity stages, they tend to interact more with organizations they have worked with before and hence are familiar to. This also creates strong network ties. However, what these organizations need is to innovate so that they can remain competitive but strong network ties lack the information required for innovation. Weak network ties offer more opportunities for innovativeness and creativity as they have access to new information. Due to their interaction practices, these organizations may be limited to strong network ties. As organizations grow, they develop from being young and organic to mature and mechanistic but the other forms between organic and mechanistic are not documented. There is also limited documentation on how the network interactions formed by organizations are affected by dimensions of the Formal Organizational Structure acting together as organizations develop from organic to mechanistic.</td>
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<tr>
<td>Method</td>
<td>Our study focuses on the manufacturing industry, the forest technology sector particularly on organizations that deal in original equipment manufacturing in Västerbotten County in northern Sweden. We conducted a qualitative research using multiple case study on six organizations located in this region. We interviewed top managers with reference to the dimensions of the Formal Organization Structure and Inter-organizational Networks in order to come up with our results.</td>
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<tr>
<td>Conclusion</td>
<td>In conclusion, we found out that Formal Organizational Structure affects the formation of Inter-organizational Networks as organizations develop. We also found out that there are phases between the organic form and the mechanistic form that are a mixture of the two. Furthermore, our results show that it is not realistic for an organization to exist purely in an organic or mechanistic form.</td>
</tr>
<tr>
<td>Key Words</td>
<td>Formal Organizational Structure, Inter-organizational Network, Resource Based View, Lifecycle, Mechanistic, Organic, Network Interaction, Resources</td>
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Chapter One: Introduction

In this chapter we will introduce our topic, justify the need for research and introduce relevant concepts in this area. We shall conclude the chapter with a brief structure of the research.

1.1 Background

According to Tolbert & Hall (2009), organizations vary significantly in their structure and this has effects on organizational and individual outcomes. Structure is very important and significant to an organization. We shall use the example of a football field to show how structure affects an organization. Football stadiums have entrance gates through which fans and players access it. In comparison, organizations have ‘ports of entry’ known as hiring departments (Tolbert & Hall, 2009) where new employees or workers come in to the organization. Corridors guide fans and players’ movements and activities within the football stadium; they are a way of directing people to specific stands, changing rooms and rest rooms. In organizations, rules, regulations and systems guide employees on how to do things. These guide the behavior of organizational members and keep them in check (Pugh, 1963; Daft et al., 2010).

Football fields differ in size and complexity. Some are small and simple with makeshift stands, such as a local low level league football field while others such as those for high level leagues are large and complex with for instance: convertible roofs that close and open; mobile chairs; heating systems; and connections to several subsidiary training fields on the side. Similarly, some organizations conduct their daily operations from a specific single location and have few variations for their job types while others are operational nationally and internationally at the same time and have a wide variety of job divisions (Meyer & Rowan, 1977; Daft et al., 2010).

This analogy can also be compared to decision making systems in organizations. In some football fields the heating system to the stands used by fans is operated from a single point and by the same system whereas in other fields, each stand is heated independently depending on whether it is occupied at that time or not. Comparing it to an organization, the degree to which employees and departments are given the ability to make decisions differs, some are central to top management while others are delegated to individual departments (Meyer & Rowan, 1977; Tolbert & Hall, 2009).

However, this example of a football field may not be the most ideal. This is because some aspects of the football field such as the corridors do not change much with time. According to Tolbert & Hall (2009), most organizational structures change as they are influenced by different kinds of members, member interactions and changes from the environment.

Organizations have different structures over time; some are said to be either formal or informal (Meyer & Rowan, 1977; Tolbert & Hall, 2009) while others are documented as being either structural or contextual (Pugh et al. 1963; Daft et al., 2010). According to literature (Meyer & Rowan 1977; Tolbert & Hall, 2009), the formal structure entails what is to be done in an organization and which personnel are responsible while the informal structure considers norms and social anticipations that are not officially laid down by an organization. Daft et al. (2010) and Pugh et al. (1963) view the structural element as the internal aspects of an organization and the contextual element as the external aspects. Different authors (Pugh et al., 1963; Meyer &
Rowan, 1977; Ambrose & Schminke, 2003; Tolbert & Hall, 2009; Daft et al., 2010) further subdivide formal structures into various dimensions such as; centralization, formalization, specialization, hierarchy and professionalism. These dimensions will be considered as centralization, formalization and complexity because these three capture the specialization and professionalism mentioned above among other elements. Our study will thus consider three dimensions and not five as prescribed above. Burns & Stalker (1967) suggest that these dimensions interact to create the formal organizational structure forms. The interrelations of these dimensions in formal organizational structures determine whether an organization takes up a mechanistic form or an organic form (Ambrose & Schminke, 2003). According to Tolbert & Hall (2009, p.42) a mechanistic structure is “characterized by a hierarchy of authority, task specialization and formal control” while an organic structure is defined as one that is illustrated by “a network structure of power, continuous adjustment and redefinition of tasks within the organization and encouraged communication involving information and advice” (Tolbert & Hall, 2009, p.42). Daft et al. (2010) argue that as organizations grow, they tend to have more bureaucracies which make their structures more mechanismistic and less organic.

According to literature (Greiner, 1972; Daft et al., 2010) an organization’s formal structure is altered by its growth. Growth may be triggered by several factors such as increased competition within the current market (Ahuja, 2000); a desire to expand operations (Sexton & Landstrom 2000); access to new markets (Greiner, 1972; Daft et al., 2010); opportunities to increase its capital base (Sexton & Landstrom 2000) or; even the need to improve its skills and knowledge base so as to remain competitive (Lundstrom & Stevenson 2005). From these factors we can deduce that organizations change so as to meet some form of resource need that it may have. Whatever the cause for change the formal organizational structure is affected but this change is likely to be caused by a change in the resource needs of the organization.

Our research takes on a life cycle perspective and considers an organization as having a development process. A young organization is likely to be different from an older one especially if the resource needs keep changing as they develop. We also agree with the authors (Tolbert & Hall, 2009, p.42; Daft et al. 2010) that as organizations develop their formal structures change. It has also been suggested (Rugman & Hodgetts, 2000) that organizations tend to seek ways to change while maintaining a competitive advantage without over extending their resources. Development requires an investment in some kind of resource. Organizations are not always able to allocate resources to their development and this provides an opportunity for them to join forces with other organizations.

When organizations interact with each other they usually have a common goal that they want to achieve. In attempting to achieve this common goal these organizations tend to share their resources. Sharing resources allows them to do more with less, this means they can operate more extensively without investing too much of their resources. Organizations are able to pull resources together to achieve common goals while sharing the risks (Mair et al., 2006) associated with change and development. Through these interactions, organizations are able to acquire the resources they require to develop further. These interactions are known as inter-organizational networks and it considers interactions between multiple organizations (Jap & Anderson, 2007; Cropper et al., 2008, p.46). Similarly, inter-organizational networks also change over time and they develop as the organization changes (Hite & Hesterly, 2001, p.275; Zaheer & Soda, 2009,
Organizations form different inter-organizational networks depending on their resource needs (Hite & Hesterly, 2001, p.276).

1.2 Problem Discussion

Literature (Tolbert & Hall, 2009; Daft et al., 2010) states that formal organizational structures can take on either one of two forms: mechanistic or organic. The authors suggest that mechanistic organizations are in the later stages of development while organic organizations are in the early stages of development. Studies also show that mechanistic organizations being in the later stages have more prior interactions (Podolny & Page, 1998, p.64; Cropper et al., 2008, p.293; Zaheer & Soda, 2009, p.5) in inter-organization networks and are keen to interact with organizations with which they have had previous relations with (Halinen & Tornroos, 1998, p.187; p.189). This means that they are more relationally embedded, that is, they often interact and are thus closely related (Gulati, 1999, p.402; Cropper et al., 2008, p.721; Huggins, 2010, p.523). These organizations are in mainly strong tie dominant networks (Chell, 2001, p.259; Capaldo, 2007, p.588; p.590; Katz & Green II, 2001). When organizations reach their maturity stage they require innovation (Capaldo, 2007, p.587) so as to remain competitive (Hoopes et al., 2003, p.892). However, mechanistic organizations are in strong tie networks meaning that they lack access to the novel information (Granovetter, 1983, p.219; Moller & Halinen, 1999, p.423; Lavie & Rosenkopf, 2006, p.798; p.799; Scherer et al., 2012, p.9) that they require to be innovative (Hansen, 1999, p.105; Swedberg, 2000; Hoojiberg et al., 2007, p.80; p.81). This means organizations are locked in unproductive networks that inhibit new knowledge flow and reduce novelty (Tiwana, 2008, p.251; p.252; Huggins, 2010, p.518).

Conversely, organic organizations being in the early stages of development require interactions that would support their establishment (Deakin, 1999, p.88; Sexton & Landstrom 2000, p.53; Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004). Like the mechanistic organizations, they are mainly present in strong tie networks (Gulati et al., 2011, p.216; p.218; Tortoriello et al., 2012, p.1026). This means that they are also relationally embedded (Gulati, 1999, p.402; Zaheer & Soda, 2009, p.29), which is ideal for implementing the information that is generated within the network (Levin et al., 2011, p.923; p.925) but not for development. The information available in the strong tie network is redundant (Moller & Halinen, 1999, p.423; Swedberg, 2000) and as such it does not support innovation. As an organization develops its resource needs change (Hitt & Hesterly 2001, p.276; Huggins, 2010, p.523) but due its embeddedness and minimal interaction with weak networks, it may find itself constrained to the strong tie network and this hinders its development. A strong relationship with the ‘wrong’ partner could prevent the organization from forming a more suited alliance (Jap & Anderson, 2007, p.263; Huggins, 2010, p.518). An organization needs to have a position that gives it flexibility in obtaining and utilizing resources within the network (Hulthen, 2012, p.197).

This shows us that both mechanistic and organic organizations have strong tie networks but for different reasons. The mechanistic organizations have strong ties because they are comfortable interacting with familiar network partners rather than forming new interactions. In as much as new interactions allow access to new information that can help organizations that are mature to be innovative and thus maintain their competitive advantage, they are more inclined to continue with the current interactions. The organic organizations have strong ties because they are new
and being recently established they lack the resources to grow so they depend on the close relations to help them set up. These organizations may need weak ties but they lack access to these interactions that would help them better establish themselves and as such grow.

An organization’s formal structure changes over the course of time (Greiner, 1976; Tolbert & Hall, 2009; Daft et al. 2010). Furthermore, literature (Burns & Stalker) mainly considers the two extremes in this development process: the organic structure which is found in the early stages and the mechanistic structure found in the later stages. However, Ambrose & Schminke (2003) suggest that there are intermediate stages in this development process. We support this view because it is unlikely that an organization can change from mechanistic to organic form or vice versa without having gone through some other forms in between. Based on this, we think that it is important to identify if there are actually other forms in between. This will help us know how organizations having these forms actually choose to interact with other organizations and the types of inter-organizational networks they form. Ambrose & Schminke (2003) call attention to this middle ground but majority of the literature seems to only focus on the two extremes: mechanistic and organic.

We have identified a gap in that there is minimal research on how the interactions of the three dimensions of formal organizational structures - centralization, formalization and complexity - affect network interactions formed by organizations.

A second gap we have identified is the lack of research on other forms that could exist between the two mechanistic and organic polar extremes.

This study is intended to contribute theory to the fields of organizational structure and networks particularly to formal organizational structures and inter-organizational networks respectively. The research will contribute to these two fields by showing how the three dimensions of formal organizational structure interact to influence network interactions by organizations. It is also important to clarify that our study will not contribute to the life cycle theory because we are using it simply as a perspective so that the reader can understand the view that our research takes on. Also, we will not be contributing to the resource based theory because we are using it as a basis to link the two fields in which we will actually be contributing to, that is, Formal Organizational Structures and Inter-organizational Networks.

The study is also intended to contribute to managers. They will be better placed to know how the changes in their formal organizational structure actually affect the inter-organizational networks that they form.

This research will also make societal contributions. We suggest that the formal organizational structure changes as a result of changes in the resource needs of the organization. Resources are considered as a scarce commodity and as such the results of this study will allow managers to know how best to network whenever their resources need change. This way, the organizations will utilize their resources through inter-organizational networks in such a way that they extend their usability so that they are not quickly depleted.
1.3 Research Purpose

The purpose of this thesis is to investigate the effect of formal organizational structures on interorganizational networks. From our research, it is evident that formal organizational structures change (Tolbert & Hall, 2009) as organizations develop (Daft et al., 2010). At the same time, resource needs in organizations also change (Hitt & Hesterly, 2001) with the development of organizations which in turn affect the type of networks formed by organizations.

1.4 Research Questions

We will consider the formal organizational structure as having either a mechanistic or an organic form. We also stated above that the form results from the degree of interaction between three dimensions namely centralization, formalization and complexity. These dimensions are made up of several elements such as decision making and hierarchy among others. However, it is reasonable to assume that these elements do not affect the formation of inter-organizational networks in the same way. To confirm this, we phrase our first research question:

*RQ:1. What elements of formal organizational structures affect inter-organizational networks?*

We have also seen above that the formal organizational structures alter with a change in the resource needs of the organizations. We are keen to see in what way, this change in structure actually influences the interactions that the organizations choose to form with other organizations. To investigate this we phrase our second research question:

*RQ:2 How does a change in the formal organizational structure, caused by a change in the resource needs, affect the network the organization forms?*

1.5 Delimitation

This research will focus on how the formal organizational structure affects inter-organizational network. Our study will focus on two main areas: organization theory and network theory. Within the organizational theory there are many areas of study such as organizational leadership, organizational learning, organizational development, organizational behavior, and organizational structure among many others. For the purpose of our research, we will limit our study to organization structure and within it we will focus on formal organizational structures since we aim to investigate how the formal organization structure changes over time. Our study considers this change as being necessitated by a change in the resource needs of the organization. We focus on the formal organization structure because firstly, there is extensive research on the informal organizational structure in relation to networks and secondly; there is little research done on the interaction of formal organizational structure dimensions.

The network theory is relatively wide and captures several aspects like systems networking, social networking, intra-organization networking, and inter-organizational networking among others. However, our study will center on inter-organization networking and within it we will consider network ties. Our focus on the network ties will help us see the changing element of the
inter-organizational network interactions. We will be able to see how strong or weak these interactions become with a change in the formal organizational structure.

1.6 Theoretical point of departure

In this section we outline the flow of our literature in relation to our topic. We will start off with the formal organizational structure then look at the inter-organizational networks. Over time, organizations develop and this may require a change in their formal structure. This development within the organization would mean that it requires different resources so as to facilitate and support this process. Since organizations join networks so as to exchange and obtain resources, then a change in resource needs would mean that the networks an organization chooses to join may also change. Our study will consider the formal organizational structure from a life cycle perspective because we believe that organizations develop over time then we will see how this change affects the networks the organization forms based on the resource needs. For this we will use the resource based view. Our approach is depicted by Figure 1.

1.6.1 Organizational Structures

According to Nahm et al. (2003), organizational structure is the manner in which duties and authority are allocated and work procedures are carried out, by employees in an organization. Organizational structure further branches in to formal and informal structures (Meyer & Rowan, 1977; Tolbert & Hall, 2009). The formal structure entails clear official organizational specifications, terms and conditions while the informal structure entails unofficial standards and social specifications (Tolbert & Hall, 2009).

Tolbert & Hall (2009) categorize formal organizational structure dimensions in to three, that is; centralization, formalization and complexity. They argue that these dimensions interplay with each other but in different variations. “The observation of interaction among these three dimensions of structure forms the basis for work that posits the existence of distinctive forms of organizations” (Tolbert & Hall, 2009, p.42). Burns & Stalker (1961) noted that organizations tend to lean on either side of two forms, that is, mechanistic or organic. According to the authors, a mechanistic organization is one that is characterized by high levels of specialization, there are a lot of formalities involved and they also have a vertical top to bottom control of decision making while an organic organization portrays totally opposite attributes to the mechanistic one.

Burns & Stalker (1961) argue that mechanistic and organic organizational structures exist objectively and are not simply interpretations given by observers of different schools. Nonetheless, we think that it is not realistic for firms to purely exist in either a mechanistic or an organic form as Burns & Stalker (1961) claim. According to literature, when the organization is at the creation phase (Greiner, 1972) or the entrepreneurial stage (Daft et al., 2010), the organization is seen to be very informal and should be portrayed as being organic (Burns & Stalker, 1961). However, in this stage or phase, the entrepreneur is portrayed as the sole supervisor (Daft et al., 2010) and is the dominant figure (Greiner 1972). These are characteristics associated with the mechanistic form of formal organizational structure where an organization is seen as formal and at its maturity phase (Tolbert & Hall, 2009). This does not support the argument by Burns & Stalker (1961) that a firm could exist as entirely in either the mechanistic or the organic form.
1.6.2 Organizational Lifecycle

Adizes (2004) argue that every single thing has a life cycle during its existence. The author adds that organizations are involved in a cycle of birth, growth, ageing and finally death. Various authors (Greiner, 1972; Quinn & Cameron, 1983; Daft et al., 2010) have documented life cycles containing different stages or phases. Authors in this field have used diverse terms when discussing the stages or phases of the organizational life cycle. However, most of the lifecycle models argue to have similar key elements (Aplin & Greiner, 1980 cited in Cosier, 1991, p. 227). Organizations are said to go through the life cycle stages in a sequence (Adizes, 2004) progressing from one stage to the next as they grow (Quinn & Cameron, 1983). According to Greiner (1972) and Daft et al. (2010), growth of organizations causes certain crises and in turn these crises force organizations to make specific changes within themselves (Greiner, 1972; Daft et al., 2010). We will use the life cycle as an analytical tool to give context to the interaction between the formal organizational structure and inter-organizational network.

1.6.3 Inter-organizational Networks

For organizations to be successful, they need to interact with other organizations. Organizations exist to achieve certain goals and objectives. Interacting with other organizations can help an organization realize its purposes faster and more efficiently. Organizations often rely on each other to facilitate their efforts be it suppliers, distributors or even customers who in some cases tend to be other businesses (Jap & Anderson, 2007). Organizations will interact with other organizations at some point (Provan & Milward, 1995; Cropper et al., 2008). This interaction is called a network.

A network is defined as connected exchanges with patterns that affect business activities (Naude & Turnbull, 1998, p.45; Cropper et al., 2008, p.46; Farooqi & Miog, 2012, p.6). When organizations network and partner with other organizations they do so to gain different kinds of resources (Swedberg, 2000; Katz & Green II, 2001; Cropper et al., 2008). A resource is considered to be rare, valuable and hard to imitate (Barney et al., 2001; Hoopes et al., 2003, p.891). Resources when utilized well, offer the organization competitive advantage (Das & Teng, 2000, p.36; Huggins, 2010; Baraldi et al., 2012). Over time an organization develops and with this, its resource needs change and with the resource needs change comes a change in the network interactions (Huggins, 2010, p.523). We will use the resource based view to show how inter-organizational networks change with a change in the resource needs. Emeritus et al. (2003, p.227) consider inter-organizational networks as setting up of and sustaining contacts with organizations whose interaction is valued by the organization.

When organizations interact with other organizations, they are said to have inter-organization networks (Chell, 2001, p.259; Jap & Anderson, 2007, p.263; Cropper et al., 2008, p.290; Baraldi et al., 2012, p.266). In discussing inter-organization networks, Jap & Anderson (2007, p., 263) suggest that for organizations to exist successfully, they require some level of support from other organizations. This support is in the form of resource exchange and this is different for every network interaction (Swedberg, 2000; Katz & Green II, 2001; Cropper et al., 2008). When organizations join networks, the organizations they share resources with are called exchange partners (Hitt & Hesterly 2001, p.276; Cropper et al., 2008, p.4; Huggins, 2010, p.523).
Forming inter-organizational networks is an intentionally, well planned strategic move by the organization aimed at accumulating resource capital for future investment (Gulati (1999, p. 397; Perry, 1999, p.157). When an organization is choosing network partners it considers two aspects; positioning and the connection strength. Organizations tend to want to interact with potential partners who have central positions within the network. We will consider how the position of the organization changes in the network as its resource needs change. To do this we will take on the organizations as the focal point of view in network interactions. When considering connection strength, there are two kinds of connections an organization can form when it networks (Perry, 1999; Cropper et al., 2008, p.291). These connections are known as network ties and can either be weak ties or strong ties (Podolny & Page, 1998; Sexton & Landstrom 2000; Katz & Green II, 2001; Capaldo, 2007). Weak ties are characterized by distant and rare interactions among the exchange partners, these ties are often sources of valuable information particularly useful for innovation purposes (Capaldo, 2007, p.587). Strong ties are characterized by close and frequent exchange partner interactions, these ties are often very useful for implementing the information gathered within the network (Levin et al., 2011, p.923; p.925).

![Fig 1: Focus of Study (Complied by the Authors, 2013)]
1.7 Definition of Key Terms

These are preliminary terms that we will start to use in this research but we will build on them further in the following chapter.

**Organizational Structure:**
An organization’s structure is defined as “the sum total of ways in which it divides its labor into distinct tasks and then achieves coordination among them” (Mintzberg, 1979; cited in Souitaris et al., 2012, p. 479).

**Organic Structure:**
“An organic structure is characterized by overlapping responsibilities (specialization is low), and coordination is achieved via distributed decision making (centralization is low), flexible and unwritten procedures (standardization and formalization are low), and consultative communication” (Burns & Stalker, 1961; Courtright, Fairhurst, & Rogers, 1989; Hatch, 1997; Joshi, Dencker, Franz, & Martocchio, 2010 cited in Souitaris et al., 2012, p. 479).

**Mechanistic Structure:**
“A mechanistic structure is characterized by division of labor into specific tasks (specialization is high), and coordination is achieved via concentrated decision making (centralization is high), fixed and written procedures (standardization and formalization are high), and command-like communication” (Souitaris et al. 2012, p. 479)

**Formalization:**
Pugh et al. (1968, p.75) describe formalization as the "extent to which rules, procedures, instructions, and communications are written”.

**Centralization:**
Pugh et al. (1968, p.76) describe centralization as the degree to which the locus of decision making is in the upper levels of the organization hierarchy.

**Complexity:**
Complexity refers to the degree of how firms distribute duties horizontally, vertically and geographically (Tolbert & Hall, 2009, p. 27). These authors emphasize that complexity is divided in to three categories; horizontal, vertical and spatial (geographical dispersion).

Horizontal complexity is “the way work duties in an organization are subdivided in to different jobs and groups with a consideration to skills and knowledge held by members” (Tolbert & Hall 2009, p. 27).

“Vertical complexity which is also termed as hierarchical complexity entails the division of decision making chores and administrative responsibilities” (Tolbert & Hall, 2009, p. 29).

The third dimension is spatial complexity or geographical dispersion which is “the degree to which firms have different sites in different physical places” (Tolbert & Hall, 2009, p. 30).
Inter-organizational networks:
When organizations come together towards a common shared goal, they network. When this involves several organizations then the interaction is known as an inter-organizational network (Naude & Turnbull, 1998, p.45; 102; Cropper et al., 2008, p.4).

Networking:
It is “the process of combination, recombination, and co-development of resources that happen through the interaction among organizations” (Baraldi et al., 2012, p.266). This is the “process of establishing and maintaining contacts with key persons in one’s own or another organization” (Emeritus, 2003, p.227). This suggests that networking is an intentional process. Organizations get in touch with organizations they want to partner with and foster a relationship that allows them to meet their resource needs.

Strong Ties:
Inter-organization networks characterized by close, frequent relations and contact among exchange partners (Swedberg, 2000). These ties are characterized by relational attributes of trust and reciprocity (Hooijberg et al., 2007, p.80).

Weak Ties:
Inter-organization networks characterized by distant, rare relations with less frequent contact among the exchange partners (Swedberg, 2000). These ties provide fresh ideas that facilitate innovation (Hooijberg et al., 2007, p.81).

Network Position:
The firm is focal point and the position it holds in the network is critical to the interactions it forms (Granovetter 1973; Ahuja, 2000, p.318)

Network Embeddeness:
An organization’s desire to network with other organizations it has had previous interactions with rather than with ‘new’ unfamiliar partners organizations (Cropper et al., 2008, p.293)

Resources:
Anything that is rare, valuable and hard or costly to imitate and that provides an opportunity for the organization (Maijoor & Witterloostrijn, 1996, p.550; Das & Teng, 2000, p.36; Barney, 1991 cited in Barney et al., 2001; Coates & McDermott, 2002, p.436; Madhok, 2002, p.540)

Resource Based View:
This is when an organization sustains its competitive advantage by deriving from the resources and capabilities it controls that are valuable, rare, imperfectly imitable, and not substitutable (Barney, 1991 cited in Barney et al., 2001, p. 626)

1.8 Structure of the Thesis

The next chapter, chapter two, is a review of what authors have previously written on the areas of formal organization structures and inter-organization networks. The chapter after that, chapter three, will detail the methodology we will use to see if our propositions hold. Chapter four is an
analysis of the data that we have collected. The fifth chapter is a discussion of the findings where we compare what the literature in chapter two says against the data we have collected. The theoretical knowledge we gathered led us to create the propositions which are the framework we used to see if the empirical results supported them. The thesis will conclude with the final chapter showing the implications of the research, its limitations and making suggestions for further studies.
Chapter Two: Literature Review

This chapter looks at the research that has been done in the area of formal organizational structure and inter-organizational networks. We will then draw propositions from the literature and develop a conceptual model that we will use to test our propositions.

2.1 Organizational Structure

Different authors have described organizational structure in diverse ways using different terms over time. For the purpose of our study, we shall look at the descriptions by Tolbert & Hall (2009) and Daft et al. (2010). Tolbert & Hall (2009) describe organizational structure in terms of formal and informal structures. The formal structure refers to explicit organization specifications such as who is to do what and how they should do it. While the informal structure refers to norms and social anticipations that are not officially laid down by an organization but can be very powerful in guiding people’s behavior.

According to literature (Tolbert & Hall, 2009), formal structures are official and explicitly state “responsibilities, division of how work is to be done and specifications of relationships involving the members of an organization while informal structures involve the unofficial divisions of work, definitions and relations that emerge over time in an organization” Tolbert & Hall (2009, p. 20). This means that formal structures are clearly defined, expressed on documentation and easy to follow while the informal structure is implied, adapted and developed over time but is not documented.

Pugh et al. (1963) use a different angle when describing organizational structure. They portray it as either being structural or contextual. Daft et al. (2010) supported this view and argue that the structural type contains the internal characteristics of an organization whereas the contextual type characterizes the organization as a whole and is external. The authors then classify structural into six dimensions: formalization, specialization, centralization, hierarchy of authority, personnel ratios and professionalism. Then they classify contextual into size, environment, organizational goals and strategy, technology and organizational culture.

Tolbert & Hall (2009) discuss formal organizational structures under three dimensions: centralization, formalization and complexity. These studies consider the dimensions proposed by Daft et al. (2010) then further the discussion by grouping the proposed six dimensions into the three dimensions. Both consider centralization and formalization as dimensions under organizational structures. What Daft et al. (2010) consider as hierarchy of authority, Tolbert & Hall (2009) cover under centralization; what Daft et al. (2010) consider as professionalism, Tolbert & Hall (2009) cover under formalization and; what Daft et al. (2010) consider as specialization and personnel ratios, Tolbert & Hall (2009) cover under complexity.

For the purpose of our research we will consider formal organizational structures (FOS) as discussed by Tolbert & Hall (2009) because it captures what Pugh et al. (1963) and Daft et al. (2010) proposed and expounds on it further. Also, since we intend to investigate the effect of FOS on inter-organizational networks, Tolbert & Hall (2009) study is a better fit. It considers
organizational structures as being either formal or informal as opposed to Daft et al. (2010) who consider organizational structures as being either structural or contextual.

Tolbert & Hall (2009) propose that when these three dimensions: centralization, formalization and complexity interplay they result in two formal organizational structure (FOS) forms, mechanistic and organic as shown in Figure 2 below. We however think that there should be other forms between these two forms and our research is aimed at investigating if these other forms do actually exist.

![Formal Organizational Structure Diagram](Complied by the Authors, 2013)

Fig 2: Formal Organizational Structure (Complied by the Authors, 2013)

2.1.1 Characteristics of Formal Organizational Structure (FOS) Forms

According to literature (Tolbert & Hall, 2009) when the dimensions of formal structures interact at various degrees, they result in either Mechanistic or Organic forms. These characteristics will be shown in Table 1. We will now consider what each dimension contributes to the two forms.

2.1.1.1 Centralization

*Mechanistic organizations:* In this structure of organization, decision making is limited to a few people and departments in the firm. The proportion of job diversity and workers who participate in decision making is low and the decision areas they are involved in are also few (Hage, 1965). According to Daft et al (2010), top management has the last word when it comes to decision making in a firm. The hierarchy of command is considered to be tall since information has to pass through different levels before it gets to the end user (Tolbert & Hall, 2009).

*Organic organizations:* This structure is characterized by high proportions of job occupants being involved in making decisions in a firm (Hage, 1965). Decision making is delegated to staff members meaning that the mandate to decide on issues affecting the organization is not a responsibility of the top management only. There is the absence of tall hierarchies in this structure since authority is spread throughout the departments.

2.1.1.2 Formalization

*Mechanistic organizations:* This structure is characterized by detailed written job descriptions, procedure manuals and written rules and regulations, instructions and communication (Pugh et
al. 1968). Hage (1965) also notes that in mechanistic organizations, job assignments are rather permanent as they are written down and their variation is low.

**Organic organizations:** The proportion of codified duties is little in an organic firm while the amount of variation is high (Hage, 1965). This structure has little or no formal rules and they operate on a basis of shared understanding among the employees (Tolbert & Hall, 2009). The two authors add that organic firms might have written rules but how much they abide by them distinguishes them from mechanistic organizations.

### 2.1.1.3 Complexity

**Mechanistic organizations:** This formation is portrayed as having few training opportunities for their employees and less job specialty within the organization (Hage, 1965). Tolbert & Hall (2009) document that mechanistic organizations are not sub-divided into numerous departments that perform various tasks but rather are concentrated into a few departments within the organization.

**Organic organizations:** This structure characterizes an organization as being divided (Daft et al 2010) into various sub parts that are appointed different responsibilities and assignments within an organization. This means that these organizations have high complexity (Tolbert & Hall 2009). Various kinds of people performing diverse jobs in different locations are involved, be it in departments within the organization or in different geographical areas. Employees in this kind of structure have high job specialty and as such undergo long periods of training (Hage, 1965).

<table>
<thead>
<tr>
<th></th>
<th>Mechanistic</th>
<th>Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centralization:</strong></td>
<td>Decision Making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Few participants.</td>
<td>Team effort.</td>
</tr>
<tr>
<td></td>
<td>Dominant top level management.</td>
<td>Collaboration involved.</td>
</tr>
<tr>
<td></td>
<td>Not delegated to staff members.</td>
<td>Delegated to staff members.</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>Tall structure.</td>
<td>Flat structure.</td>
</tr>
<tr>
<td></td>
<td>High bureaucracy.</td>
<td>Not bureaucratic.</td>
</tr>
<tr>
<td></td>
<td>Power is concentrated at the top.</td>
<td>Power is distributed across</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the organization.</td>
</tr>
<tr>
<td><strong>Formalization:</strong></td>
<td>Job descriptions</td>
<td>Not clearly defined.</td>
</tr>
<tr>
<td></td>
<td>Detailed and clearly defined.</td>
<td></td>
</tr>
<tr>
<td>Roles</td>
<td>Clearly defined and permanent.</td>
<td>Not clearly defined and not</td>
</tr>
<tr>
<td></td>
<td>High codification.</td>
<td>very permanent.</td>
</tr>
<tr>
<td></td>
<td>Little variation if any.</td>
<td>Low/Moderate codified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High variation.</td>
</tr>
<tr>
<td>Rules and Regulations</td>
<td>Clearly defined policies and procedures.</td>
<td>Hardly any formal rules, there</td>
</tr>
<tr>
<td></td>
<td></td>
<td>is a shared understanding of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>what is expected of the staff.</td>
</tr>
<tr>
<td>Communication</td>
<td>Very formal</td>
<td>Less formal/Informal</td>
</tr>
<tr>
<td><strong>Complexity:</strong></td>
<td>Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Few training sessions.</td>
<td>Numerous training sessions.</td>
</tr>
<tr>
<td></td>
<td>Short training durations.</td>
<td>Long training durations.</td>
</tr>
<tr>
<td>Departmentalization</td>
<td>Few departments.</td>
<td>Numerous departments.</td>
</tr>
</tbody>
</table>

Table 1: Characteristics of FOS forms (Complied by the Authors, 2013)
2.1.2 Organizational Structure theory:

Studies on organizational structures have been done for over a long period of time. Authors and researchers in this field give various views on organizational structures. Heimeriks et al. (2012) trace the studies and research of these structures back to Max Weber’s time in the early 20th century where he concentrated his study on organizational structure and bureaucracy.

New study and research has come up over time and has expounded on other aspects of the organizational structure. Pugh et al. (1963), for instance, have looked at the organizational structure from a contextual and structural angle. Their work has been supported by early research from the likes of Hickson et al. (1964 cited in Zanzi A. 1987, p. 126) and recent work done by Daft et al. (2010).

Another view of the organizational structure is documented by Roethlisberger & Dickson (1934 cited in Tolbert & Hall 2009, p. 21) where they classify organizational structures as formal and informal. This classification was also documented in the work of Meyer & Rowan (1977). Tolbert & Hall (2009) also support the formal and informal structure documentation in their own study.

Authors such as Burns & Stalker (1961) and Daft R. et al (2010) have researched and written on organizational structures and their classification. Most of this literature on organizational structure classifications has popularized two forms of formal organizational structures; mechanistic and organic (Burns & Stalker 1961).

Donaldson (2001) writes that the mechanistic versus organic argument has one major shortfall, it can be overly simple. Some writers such as Meyer et al. (1993 cited in Souitaris et al. 2012, p. 479) have even come up with complex structural configurations to try and remedy this issue. Nonetheless, according to Ambrose & Schminke (2003, p. 295), the mechanistic versus organic argument is still the most preferred distinction when it comes to demonstrating differences found in organizational structures.

Courtright et al. (1989) and Covin & Slevin (1989, cited in Souitaris et al. 2012, p. 479) point out that the mechanistic-organic documentation is managerially appropriate. This view is supported by Donaldson (2001) especially since it is still the focus of recent work on organizational structure as portrayed by Sine et al. (2006).

The mechanistic-organic form has two extremes and considers the organization as either mechanistic or organic. This offers a very static approach to this argument. Ambrose & Schminke (2003, p.296) however suggest that these two FOS forms represent ends of a continuum and not a dichotomy which makes them dynamic. They further explain that organizations are never completely mechanistic or organic and add that most organizations display characteristics of both. These attributes are summarized in Table 2. Moreover, Ambrose & Schminke (2003) propose that there exist intermediate phases or stages in between the two FOS forms. We concur with Ambrose & Schminke (2003) view that the mechanistic-organic approach is a continuum and that there should exist other forms between the two. We aim to investigate if there are actually forms that exist between the organic and mechanistic forms.
However, unlike these authors, we will not consider them as intermediate phases because intermediate might suggests a middle form. Our research rather seeks to investigate if there are various other forms between the mechanistic and organic forms, not necessarily a middle form.

2.1.2.1 Mechanistic FOS form

This is depicted as the specific defining of rights, technical processes and duties attached to every particular functional role (Hage, 1965). The author also adds that its chain of command structure is long and well illustrated, positions of power are clearly distinct and the processes and lines of communication are made clear to all.

Weber (1947 cited in Ambrose & Schminke, 2003, p.297) argues that “in mechanistic organizations, formal procedures will be seen as the standard by which fairness should be evaluated and individuals’ justice concerns will focus on procedural justice”. He further explains that the mechanistic model’s fundamental function is that of doing away with the human factor in the decision making processes by making formal rules and procedures more reliant.

According to Souitaris et al. (2012), labor is divided in to specific tasks in the mechanistic form which demonstrates high levels of specialization while communication within the organization is command-like. They note that procedures within the organization are permanent and written which portrays high formalization and standardization. The authors also point out that decision making is concentrated in fewer areas within an organization which depicts high centralization.

2.1.2.2 Organic FOS form

Hage (1965) documents the organic form as being one where individual responsibilities in an organization keep on changing and are frequently redefined with time portraying low levels of formalization. The author also adds that in this structure, communication, control and power are in the form of a network configuration as authority and decision making is spread throughout the organization thus depicting low centralization.

“Organic organizations are based on interpersonal transactions; they mostly rely on interpersonal factors such as face-to-face communication” (Lengel & Daft, 1988 cited in Ambrose & Schminke, 2003, p. 297). Courtright et al. (1989) characterize organic forms as involving discussions and explanations within the firm while Nadler & Tushman (1997) describe an organic organization as one whose control systems are informal and interactions among employees in a firm are common and encouraged.

Various authors and researchers such as Courtright et al. (1989) and Joshi et al. (2010) argue that organic organizations have got low specialization by virtue of having overlapping duties within organizations while centralization is low in regards to decision making being spread across or along the organization. In this case delegation and consultation are commonly practiced by employees.

We agree that both these forms exist at some point of an organization’s existence. We however think that it is impractical for an organization to start off as an organic organization then as it develops and matures it becomes mechanistic without having some phases in between.
Organizations may start off as being organic then with time they adapt elements of the mechanistic form before they finally become mechanistic. We are curious to find out if there are organizations with purely mechanistic or purely organic elements or if there is a mixture of these elements from the time an organization is established.

<table>
<thead>
<tr>
<th>Decision Making</th>
<th>Mechanistic Form</th>
<th>Organic Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear guidelines.</td>
<td>Group effort with a lot of consultation.</td>
<td></td>
</tr>
<tr>
<td>Concentrated on the top level management.</td>
<td>Spread across organization.</td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>Division of labor.</td>
<td>Low specialization.</td>
</tr>
<tr>
<td>Task specific.</td>
<td>Flexibility of tasks.</td>
<td></td>
</tr>
<tr>
<td>Transactions</td>
<td>Formal</td>
<td>Interpersonal</td>
</tr>
<tr>
<td>Control Systems</td>
<td>Formal</td>
<td>Informal</td>
</tr>
<tr>
<td>Specialization</td>
<td>High and more defined</td>
<td>Low and less defined</td>
</tr>
<tr>
<td>Hierarchy of authority</td>
<td>Tall</td>
<td>Flat</td>
</tr>
<tr>
<td>Role/Job descriptions</td>
<td>Clear cut and well defined</td>
<td>Continuously changing, Frequently redefined, Often overlap</td>
</tr>
<tr>
<td>Communication</td>
<td>Highly formal &amp; bureaucratic.</td>
<td>Less formal, More interpersonal and often face-to-face.</td>
</tr>
<tr>
<td>Policies and Procedures</td>
<td>Formalized and standardized</td>
<td>Informal &amp; Less defined</td>
</tr>
</tbody>
</table>

Table 2: Attributes of Mechanistic and Organic FOS forms (Complied by the Authors, 2013)

2.1.3 The interaction between Centralization, Formalization and Complexity

We are considering the interaction between the three dimensions of FOS (Tolbert & Hall, 2009), that is, centralization, formalization and complexity. The interplay of these dimensions is what forms the relationship among them thus determining the FOS forms. An interesting fact to note according to Blau (1973 cited in Tolbert & Hall, 2009, p. 41) is that some authors such as Pugh et al. (1968) consider complexity as having an inverse relation to centralization. Tolbert & Hall (2009) also supports this perspective.

According to Tolbert & Hall (2009), high complexity makes it difficult for a small number of decision makers to collect and make decisions that affect an organization within limited time. They further claim that high complexity causes high delegation of decision making but top level managers can ensure some control. In our view, the control by top level managers however seems to create some contradiction in that, although delegation of duties comes with high complexity according to the authors, top executives still have a hand to play in decision making. This may also be perceived as a form of centralization.

Blau (1970 cited in Tolbert & Hall, 2009, p. 41-42) argues that higher levels of formalization tend to go together with lower levels of centralization. The author explains that the reason behind
this is that sticking to more formalized, merit-based personnel practices enables employment of highly qualified employees who can be given the responsibility of decision making as compared to less qualified ones (those without professional training and experience).

However, Tolbert & Hall (2009, p. 42) note that Blau (1970) and Hage & Aiken (1967) and other authors who find formalization to be inversely related to centralization were dealing with relatively professional work forces who posses professional training and experience. These studies by Hage & Aiken (1967) and Blau (1970) contradict Hage (1965) and Tolbert & Hall (2009) who positively correlate formalization and centralization. We observed that the mechanistic and organic FOS forms are as a result of the interaction between the three dimensions of FOS. These dimensions may interact in such a way as to create intermediate forms (Ambrose & Schminke, 2003) between these two extremes. It is possible then to have organizations that are neither purely mechanistic nor organic.

According to Table 1 above, an organic structure is considered to portray low levels of centralization, low levels of formalization and high levels of complexity as compared to a mechanistic one that is highly centralized, highly formalized and lowly complex. It is important to note that the advantages and disadvantages of the three dimensions reflect the pros and cons of organic and mechanistic structures as shown in Table 3.

2.1.3.1 Centralization

Pros: We will first consider centralization as a dimension. Tolbert & Hall (2009) write that fast decision making is one of the advantages that come with high centralization; it is faster because fewer personnel are involved. Another benefit is that there is more coordination within an organization, more consistency is observed and conflict of policies in the organization is reduced.

Cons: On the contrary, in a situation where decisions are made at a high level and information relied upon comes from lower positions in a firm, then this might lead to poor decision making (Tolbert & Hall 2009). Stevenson (1990) also points out that effort to gather information from employees at lower levels of the organization is complicated. The author explains that there is often little interaction between high and lower level employees in highly centralized organizations. Hackman & Oldham (1976) argue that centralization also causes lack of control over work by individuals within organizations which in turn causes negative attitude towards duties and organization loyalty.

2.1.3.2 Formalization

Pros: One advantage according to Staggenborg (1988) is that formalized organizations are able to sustain themselves over a long period of time. Jenkins (1985b, p.10, cited in Staggenborg 1988, p. 597) explains the reason behind this is that most firms prefer working with organizations that have professional managers – those with specialized training and experience.

Tolbert & Hall (2009) point out that formalization in a firm leads to reliable and predictable behavior outcomes which reduces high variability in employee behavior. These authors also note that formalization offers an advantage when training new employees in the organization. They
attribute this is to the fact that rules, regulations and job descriptions are written down and as such it is easy for the new workers to refer to them.

Tolbert & Hall (2009) also emphasize that formality in an organization promotes equality since everyone is treated according to the rules set down by the company. Formalization has been accredited with influencing success of organizations (Heimeriks et al., 2012). According to Schulz (1998), organizational regulations that are documented and are particular on who should perform specific duties at given periods and under specific circumstances, allow the organization to deal with repetitive problems efficiently. The main reason behind this is because the firm is familiar with these problems so solutions are easily anticipated and available.

Cons: On the other hand, Crozier (1964) writes that the numerous rules in a formalized organization restrict the abilities of an individual greatly and that management tends to create rules so as to control workers. The author also adds that this might result to very rigid organizations which are incapable of dealing with customer demands whenever need arises.

Another disadvantage is that work processes in organizations could be slowed down when many rules and regulations are put in place (Tolbert & Hall 2009). Hage & Aiken (1967) draw the fact that formalization kills innovation in an organization since employees are not encouraged to think for themselves and are forced to stick to the job descriptions and manuals presented to them.

Some current research from Baum & Wally (2003) has also exposed that formalization in organizations could cause rigidity. It slows down firm performance by restricting immediate competitive responses such as price change, adaptation to changes and open communication (Khandwalla, 1977, cited in Baum & Wally, 2003, p.1112)

2.1.3.3 Complexity:

We shall consider the positive and negative aspects of horizontal and spatial complexities in this section. The reason why we do not consider vertical complexity in this case is because it is closely related to centralization as it is believed to show concentration of power (Tolbert & Hall 2009).

Horizontal Complexity Pros: Horizontal complexity is accredited with more efficiency in an organization, reason being that employees are able to specialize in certain specific skills which give them greater knowledge and expertise of performing the specialized duties (Tolbert & Hall, 2009). The authors also point out that the expertise gained due to specialization could lead to greater levels of innovation among employees; this is supported by the works of several authors such as Hage (1999) and (Burnham, 1975; Lawrence & Lorsch, 1969, cited in Tolbert & Hall 2009, p.29).

Horizontal Complexity Cons: On the negative side, horizontal complexity is associated with high levels of conflicts in an organization due to the different specialized divisions. Vaughan (1999) adds that diversification takes place in organizations such that managers are unable to monitor every unit and this might lead to actions such as embezzlement of funds and poor governance, the author termed these as corporate crimes in the firm.
**Spatial Complexity Pros:** Tolbert & Hall (2009) write that spatial complexity allows for firm expansion. Other advantages noted by these two writers are that organizations are able to adjust to local environments by adapting the needs and wants of the customers located there and that an organization gains the ability to exploit different labor markets and local resources.

**Spatial Complexity Cons:** On the down side, spatial complexity causes poor coordination and control within the organization due to its different locations despite production of the same product or service (Tolbert & Hall 2009). It is a difficult task to manage an organization in harmony with different branches located in different geographical locations. There are a lot of factors that could hinder harmonization such as different cultures of employees in the different locations, rules and regulations and so on.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centralization:</strong></td>
<td></td>
</tr>
<tr>
<td>High coordination; high consistency; reduced policy conflict</td>
<td>Poor decision making; little interaction between high and low level employees; loss of control over work; negative attitude towards duties; reduced loyalty towards the organization</td>
</tr>
<tr>
<td><strong>Formalization:</strong></td>
<td></td>
</tr>
<tr>
<td>Organization is sustained in the long term; reliable and predictable employee behavior; easy to induct new employees to organizational rules, regulations and job descriptions; promotes equality among employees; standardizes solutions to repetitive problems</td>
<td>Lack of autonomy in work; rigidity makes response to customer needs slow; slow work processes; reduced innovation</td>
</tr>
<tr>
<td><strong>Complexity:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Horizontal</strong></td>
<td></td>
</tr>
<tr>
<td>High efficiency; skill specialization; high innovation</td>
<td>High levels of conflict; difficult to manage; poor governance</td>
</tr>
<tr>
<td><strong>Spatial</strong></td>
<td></td>
</tr>
<tr>
<td>Easy to expand the organization; easy to adapt to customer needs; easy to exploit different labor markets and local resources</td>
<td>Poor coordination; hinders harmonization</td>
</tr>
</tbody>
</table>

Table 3: Summary of FOS dimension pros and cons (Complied by the Authors, 2013)

**2.2 Organizational Structural Changes In an Organization's Life Time**

Organizational structures alter with the development of a firm, these changes occur as an organization goes through the phases of the organizational life cycle (Daft et al. 2010). According to the authors, an organizational life cycle shows the conception of an organization, follows through to maturity of an organization and eventually death of an organization.

Cosier (1991) documents that organizational structures change with firm development. The author further explains that the best organizational structure depends on the phase of development that an organization is at in its life cycle. It is important to note that a key assumption in the lifecycle made by various authors is that organizations undergo a certain
specific sequence of life stages from beginning to end. Some organizations today do not pass through all these stages and might skip one or two or might not even go through to the end stages of the life cycle. Some collapse before they get a chance to mature.

Various authors (Downs 1967; Thain, 1969; Greiner, 1972; Lyden, 1975; Filley et al. 1976; Beckhard & Harris 1977; Lavoie & Culbert, 1978; Adizes, 1979; Mintzberg, 1979; cited in Souitaris et al., 2012, p. 479; Aplin & Cosier 1980; Kimberly & Miles 1980; Quinn & Cameron, 1983; and, Torbert 1975; cited in Cosier R. 1991, p. 225) have proposed various organization life cycle models in their work. We will consider the studies conducted by Greiner (1972) and Daft R. et al. (2010) because they focus more on how the dimensions of FOS change along the lifecycle of an organization. This will also allow us to determine in what stage an organization tends to lean towards the organic or mechanistic structure of organization. These two studies also show a clear variation of time periods between past (Greiner, 1972) and present (Daft R. et al., 2010) research.

Greiner (1972) and Daft et al. (2010) have different labels for the various points in their models of organizational life cycle. Nonetheless, the changes experienced in the organizational structures in the different periods appear to be more or less the same. Aplin & Greiner (1980, cited in Cosier R. 1991, p.227) suggest that most models of the organizational life cycle have the same key elements which are creativity and entrepreneurship; formation and control and; adaptation and decentralization.

2.2.1 Organization Life Cycle Models

We considered several models on the life cycle perspective and we realized that they all led back to two models, the Greiner 1972 and the Daft et al. 2010 models. We chose to consider these two models and what they suggested about this perspective. Also, being an old and a new model it is possible to see how this perspective has changed over time.

2.2.1.1 Greiner (1972 p. 60-62) Model (see Appendix I)

Creation Phase - According to Greiner, this phase is characterized by frequent communication among all employees including the owner. Informal communication is prevalent, employees put in long working hours and the owner or entrepreneur is always a dominant figure.

Direction Phase - This phase brings with it the appointment of managers in the organization to establish a leadership direction and functional organizational structures start being formed within the organization. Systems such as accounting systems, budgets, formal communication patterns and centralization are instilled within the firm.

Delegation Phase - In this period, decentralization in the organization takes place, management is by exception, there is acquisition, responsibilities are delegated and communication from the top is not as frequent.

Coordination Phase - In this stage, there is merging of decentralized divisions, establishment of formal planning, the growth in staff numbers, careful allocation of capital expenditure and the centralization of technical operations.
Collaboration phase - At this stage of the cycle, Greiner points out that project teams are formed, matrix structures are adopted and team work is common.

2.2.1.2 Daft et al. (2010, p 357-359) Model

Entrepreneurial Stage - In this stage, the organization is said to be informal and there is no bureaucracy in the firm. Working hours at this stage are often long and control is based on the entrepreneur’s supervision.

Collectivity Stage - In this second stage, the authors note that clear goals and directions start to develop in an organization. The establishment of hierarchy of authority, departments, job assignments and division of labor takes place.

Formalization Stage - This stage brings about the implementation and use of rules, procedures and control systems. Informal communication becomes less frequent but formal communication is encouraged. Professional laborers are employed at this stage and the top management concern themselves with issues such as strategizing and planning.

Elaboration Stage - In this stage, organizations adapt the creation of team work and encourage managers to work together within the firm. Employees are also encouraged to take up social control and self discipline so as to reduce over reliance on formal control. Teams and task forces partially replace formal systems which are also simplified at this level. The firm may even split in to various divisions so as to maintain a small organization composition.

2.2.2 Organizational Change between the Phases

According to Greiner (1972) and Daft et al. (2010) the shifting or progression of an organization from one phase or stage of the organizational cycle to another is caused by crisis situations which develop at every specific stage or phase. The authors explain these crisis situations as changes within the environment both the internal and the external one that force the organization to change from one phase to another.

Greiner (1972) states that; the creative phase directs the organization to a leadership crisis which calls for the appointment of a manager who establishes a functional organization structure, accounting systems, budgets and so on. This leads the organization in to the direction phase, which then faces the autonomy crisis which arises due to lower-level managers demanding more self-governance. Such demands by lower-level managers cause changes that plunge the organization in to the delegation phase which in turn experience the control crisis. The control crisis then leads the organization into the coordination phase and lastly a red-tape crisis leads to the collaboration phase.

According to Daft R. et al. (2010), the entrepreneurial stage brings about a need for leadership crisis which may force an organization to employ managers to provide guidance leading to the collectivity stage. This stage is then hit by a crisis known as need for delegation which pressurizes organizations to come up with mechanisms of guidance to departments without depending on regulations from top leadership. This crisis forces the firm to get in to the
formalization stage which experiences a crisis of too much red tape. This may cause restriction in innovation and this might call for the resignation of the entrepreneur owner and a professional is employed instead. This crisis steers the organization in to the elaboration stage which faces the need for revitalization crisis which calls for continuous innovation in a firm or risk decline.

The crises described by the two authors above cause changes in organizations by altering the formal structure of organizations. The changes are seen to depict alteration in leadership and/or management style, power delegation (Courtright et al., 1989; Joshi et al., 2010) and codification (Pugh et al., 1968; Hage, 1965) of jobs. These are all aspects of complexity, centralization and formalization.

2.3 Inter-Organizational Networks

Organizations operate within highly competitive markets. If they rely only on themselves for resources then very few are likely to survive. In an effort to increase their chances of performing better, they join forces with other organizations. When organizations collaborate with other organizations they form what we will consider, for the purpose of this research, as inter-organizational networks.

A network is a set of connected exchange relations (Cropper et al., 2008, p.46) among business units (Halinen & Tornroos, 1998, p.190) or the pattern of relations (Naude & Turnbull, 1998, p.45) that affect business activities (Farooqi & Miog, 2012, p.6). When an organization connects with other organizations it does so to exchange resources in an effort to achieve common goals. An organization would join networks with organizations that have similar goals to its own. Their common interests are what draw these organizations to each other. According to Farooqi & Miog (2012, p.6) these interactions affect the organization’s business activities. Network interactions are frequent and repeated (Huggins, 2010, p.515; p.518).

Jap & Anderson (2007, p., 263) suggest that organizations form networks so that they can improve their performance by increasing the resources available to them. Forging alliances with other organizations allows the organization access to more resources which they may not have otherwise been able to get on their own (Briones, 2009, p.19). Networks are formed when organizations contractually agree to pull some of their resources together in pursuit of desired competitive outcomes (Sexton & Landstrom 2000, p.53; Oliver, 2001, p.470; Huggins, 2012, p.518). These contractual agreements mean that when organizations network, they make a deliberate and conscious effort to do so. Network relationships require an investment in form of time and financial resources (Moller & Halinen, 1999, p.423), and since resources are scarce, these relationships should be considered carefully. These agreements are voluntary and are based on trust - where capital is either shared or co-developed (Wickham, 1998, p.85; Gulati, 1999, p. 397; Oliver, 2001, p.470; Madhok, 2002, p.544).

For these alliances to work well there has to be trust and commitment to the process by the organizations involved. When organizations trust their exchange partners, they are willing to confidently depend and rely on each other for resources (Newell & Swan, 2000; Wong & Sohal, 2002, p.36). This confidence stems from an organization’s ability to reciprocate (Briones, 2009,
p.7) the efforts of others. When organizations trust each other they are expected to be reliable, fair and have predictable actions (Tomkins, 2001, p.165; Briones, 2009, p.20).

Commitment, according to Wong & Sohal (2002 p.38) is “an enduring desire to maintain a valued relationship”. The authors suggest that organizations trust and commit to each other if they consider their relationship to be important to them. These allow for transparency and inspire confidence among the organizations (Briones, 2009, p.21). Trust and commitment work hand in hand and cannot succeed independent of each other (Newell & Swan, 2000; Ryssel et al., 2004, p.201; p.203).

An organization intentionally chooses exchange partners that can provide the resources it needs to achieve its goals. Thus, network interactions are strategic in nature. Strategic network interactions in form of alliances and collaborations, allow organizations to remain competitive by improving their performances through innovations (Das & Teng, 2000, p.36; Huggins, 2010, p.515). When resources from other organizations interface with an organization’s internal resources, it is better placed to develop further as a business (Brush & Artz, 1999, p.225; Baraldi et al., 2012 p.271). Resources offer competitive advantage when they increase the difference between the value the organization gets and the cost incurred in getting that value (Hoopes et al., 2003, p.892). When organizations join networks, they gain unique resources which can be used to improve performance, encourage innovation, develop the business operations and ultimately offer competitive advantage.

“Networking is the process of establishing and maintaining contacts with key persons in one’s own or another organization” (Emeritus et al., 2003, p.227). This process is a competitive strategy that gives an advantage to organizations within the network over those that operate outside a network (Perry 1999, p.39; Ahuja, 2000, p.319; Hoopes et al., 2003, p.892). This view is supported by Gulati (1999, p. 397) who terms networking as a strategic alliance that requires a voluntary contribution of partner capital. Sexton & Landstrom (2000, p.377) and Hoopes et al. (2003, p.892) also agree with Perry (1999) and Gulati (1999) then build on this and suggest that networking is an investment, both human and capital, which can either be used in the future or can be used in the present to reciprocate support received in the past.

Networks are dynamic and constantly changing (Halinen & Tornroos, 1998, p.187; Huggins, 2010, p.518). Whenever an organization joins a network, it changes in some way because the resources available also change. This dynamism is as a result of having a variety of network partners with diverse backgrounds. The nature of networks however, is determined by the size (large or small) and type of its partners - similar to each other or different- (Huggins, 2010, p.524). When organizations in a network are too similar, then the network becomes less dynamic and more static because the flow of information is not new (Moller & Halinen, 1999, p.423). Huggins (2010, p.518) however argues that with a lot of partner change, a dynamic network tends to be more unstable than a static one.

Network interactions can either be between two organizations, which are known as dyadic networks or among multiple organizations, which is known as an inter-organizational network (Provan & Milward, 1995, p.1). Dyadic networks are ties that connect pairs of actors and are also interactions considered one at a time (Hite & Hesterly, 2001, p.280; Rindfleisch & Moorman,
These two networks are shown in Figure 3 below. Cropper et al. (2008, p.305) propose that inter-organizational network explains the process of how alliances are formed among organizations.

![Network Interactions Diagram](image)

**Fig 3: Inter-organization Interactions (Complied by the Authors, 2013)**

Inter-organizational networks (ION) is the interaction between organizations (Cropper et al., 2008, p.4). The authors also suggest that the ION theory was first introduced by Evans, M. as a concept in 1965. Baraldi et al. (2012, p.266) consider ION as the “the processes of combination, recombination, and co-development of resources that happen through the interaction among organizations”. The ION theory (Jap & Anderson 2007, p., 263), suggests that organizations need to depend (Briones, 2009, p.9) on each other for resources if they are to remain competitive. Paulson (1974, p.321) proposes that this interdependence is determined by an organization’s resource need. This exchange of resources within a competitive environment is what forms the ION relationships (Briones, 2009, p.3). Cropper et al. (2008, p.302) and Huggins (2010, p.518) consider ION as sources of knowledge and information vital for business development.

According to Cropper et al. (2008, p.4), organizations consider the characteristics and patterns of organizational interactions before joining them. The authors suggest that when organizations are seeking exchange partners, they may consider the resources available to that organization and the network interactions it has had in the past. This view is shared by Perry (1999, p.157) who explains that inter-organizational networks “arise from inherited cultural and institutional influences combined with prevailing business pressures and opportunities”. This means that an organization’s networking patterns are influenced by its history and the alliance opportunities available to it at that point in time. The history here relates to the alliances the organization formed in the past.

ION can also be said to be the “interaction of actors over and above their individual attributes such as size” (Cropper et al., 2008, p.290). Network actors are the various organizations (Cook, 1977, p.64; Moller & Halinen, 1999, p.416) that form the network; ION is a collection of these organizations (Chell, 2001, p.259). These actors connect to form the networks (Perry, 1999) and these become interconnected relationships (Gans, 1974, p.370; Sexton & Landstrom 2000, p.371). It is these relationships that offer opportunities (Moller & Halinen, 1999, p.423) for business development (Perry, 1999).

### 2.3.1 Network Drivers, a Resource Based View

Organizations join networks so that they can access resources that they need so as to remain competitive and improve their performance (Das & Teng, 2000, p.36; Huggins, 2010; Baraldi et
al., 2012). We will consider the resource based view to show how organizations are driven towards joining networks.

The resource based view (RBV) defines an organization’s resources in terms of valued (Cook, 1977, p.64) skills, abilities and knowledge that are internally within its reach (Maijoor & Witterloostrujin, 1996, p.550; Das & Teng, 2000, p.36; Barney et al., 2001; Coates & McDermott, 2002, p.436; Madhok, 2002, p.). The authors also describe a resource as being difficult to imitate or substitute, valuable, rare and must provide opportunities for the organization. Baraldi et al. (2012 p.267; p.271) call these opportunities “an attribution to current or potential use”. Resources are tied semi-permanently to the organization and can either be tangible physical resources or intangible (but observable) knowledge and skill based resources (Maijoor & Witterloostrujin, 1996, p.550; Das & Teng, 2000, p.41; Hoopes et al., 2003, p.890). It is important to point out that RBV considers resources that are available to the organization internally, the ones it already possesses.

According to Baraldi et al. (2012 p.267) resources have three key attributes. They need to be valuable, where the resource improves the position of an organization relative to competitors; difficult to imitate or substitute, where resources are either immobile, costly to produce or replicate and; rare where resources are in short supply relative to demand. The authors however caution that if a resource is rare but not valuable or hard to imitate, it will not offer an organization competitive advantage.

Since the RBV emphasizes on resources within the organizations, not those outside it (Maijoor & Witterloostrujin, 1996, p.549; Coates & McDermott, 2002, p.436; Baraldi et al., 2012, p.267) then for the purpose of our study we will consider it alongside the ION theory. RBV discusses the resources available internally and ION discusses the resources available outside the organization. We therefore combine RBV and ION so that we can understand the change in resource needs. The change in the resource needs necessitates an organization to seek interactions with other organizations so that it can acquire what it lacks but needs in order for it to develop further. This will overcome the RBV constraints as it will consider the organization’s need to increase productivity (Madhok, 2002, p.544; Lind et al., 2012, p.178) beyond its current ability. Das & Teng (2000, p.31) suggest that from a resources based view, the idea behind networking is the value creation potential of the resources.

As the RBV considers the resources of one organization, ION considers resource interaction across several organizations that are involved in resource combinations (Baraldi et al., 2012 p.267). When the RBV is considered with the ION theory, they suggest that an organization forms networks for two reasons: to “produce knowledge and information of value, and to possess the internal capabilities to profitably exploit this knowledge through innovation” (Huggins, 2010, p.516). More often than not, if they are to improve performance and remain competitive, organizations require more resources than they have available (Das & Teng, 2000, p.36). This scarcity of resources (Garnesy & Leong, 2010, p.684) is what leads them to form ION (Briones, 2009, p.8) as a strategic necessity (Das & Teng, 2000, p.36).

As resources from within the organization combine with those in the network, they are modified and this changes the realized potential use and value of the resources (Brush & Artz, 1999,
Baraldi et al. (2012, p.267) agree with this suggestion and they further propose that resource combination changes the value and features that emerge from the resources. The authors also state that resources can always be developed further by changing their combination thus improving on their value. Lind et al. (2012, p.178) call this change of resource use and value, resource development.

The process of resource combination is learnt through trial and error and is perfected over time (Baraldi et al., 2012 p.267). It is not industry specific (Das & Teng, 2000, p.36) meaning that organizations are free to network and share resources with other organizations that are not affiliated to its industry. Baradi et al. (2012 p.267) propose that organizations influence the use of resources in two ways: by choosing the resources to combine within the network and by choosing which other organizations’ resources, it should combine its internal resources with. This combination also supports sustainable performance (Hoopes et al., 2003, p.891) within the organization.

When organizations form networks, they pull together resources from the individual organizations and this form the network resources (Gulati, 1999, p. 400; Hoopes et al., 2003, p.892; Tortoriello et al., 2012, p.1026). According to Huggins (2010, p.516), network resources are the benefits that network alliances offer organizations in form of valuable information and resources. These resources are the benefits that organizations generate from ION (Huggins, 2010, p.518). This gives network members a huge competitive advantage over the organizations operating outside a network. According to literature, resources can be of three kinds social (Katz & Green II, 2001; Das & Teng, 2000, p.41), technical (Swedberg, 2000; Das & Teng, 2000, p.41) and commercial (Cropper et al., 2008). These resources are discussed and then summarized in Table 4.

**Social Resource:** This is determined by the value of the organization’s social connections and how these can be used to assist in network co-operation for mutual benefit (Granovetter, 1985, p. 490; Swedberg, 2000; Sexton & Landstrom 2000, p.371-372; Katz & Green II, 2001; Cropper et al., 2008, p.292; p451; Huggins, 2010, p.520; Farooqi & Miog, 2012, p.6).

Social resource results from interpersonal social networks which help build local interactions and linkages (Huggins, 2010, p.520; p.525). Social resource is obtained if a network has organizations with access to valuable interpersonal resources. Joining these networks would be highly beneficial because the organizations operate as a community (Podolny & Page 1998, p.66), by pulling together to achieve a common goal. Having a common goal means resources can be shared thus prevents the duplication of resources (Perry, 1999).

Being part of a network with social resources promotes opportunity recognition (Danis et al., 2009, p.290). This means that the organization is given access to information that allows it to take advantage of business opportunities that would give it a competitive advantage. When organizations are familiar with each other they are more willing to disclose opportunities for business development to each other. Prior network alliances can be used to accumulate social resources by organizations (Huggins, 2010, p.518) and this affects the new alliances they form.
Organizations seeking social resources tend to be partner with organizations holding central positions (Cropper et al., 2008, p.292; p.296) within the network because they are well connected and have access to vast resources (Gulati & Higgins, 2003, p.128). Social resource can also be useful for organizations that are trying to build on their reputation. New comers to the network or newly formed organizations may gain credibility through their network associations (Sexton & Landstrom 2000, p.372). Such affiliations make these organizations seem more trust worthy as a potential partner because they are linked to organizations with valuable connections (Wiewel & Hunter, 1985, p.482; Huggins, 2010, p.524).

**Technical Resources:** These are in form of skills and expertise that are firm specific (Baum et al., 2000, p.319; Cropper et al., 2008, p.295). As the organization develops, its resource needs change (Hitt & Hesterly 2001, p.276). The organization needs to align itself well so that it can exploit (Gulati, R., 1999) the skills and knowledge (Huggins, 2010, p.515) that it requires to develop. Technical resource allows the organizational members to learn (Lundstrom & Stevenson 2005) and it promotes organizational competency. This resource provides the organization with new skills and knowledge that is relevant in their area of operations. Organizations seeking technical resources tend to specialize (Perry, 1999) in a given area thus contribute a particular resource to the network. This resource contribution increases organizational commitment to the network (Perry, 1999; Sexton & Landstrom 2000, p.53; Jack, 2005, p.1235; Blomstermo & Sharma, 2003). This resource also improves organizational efficiency (Provan & Milward, 1995, p.1-2).

**Commercial Resource:** These provide access to markets that are difficult to penetrate and provide access to financial investment (Gulati, 1999, p. 397; p.400; Ahuja, 2000, p.319; Swedberg, 2000; Sexton & Landstrom 2000, p.372; Lee et al., 2001, p. 621; Mair et al., 2006). Organizations are able to access and mobilize competitive economic resources that would otherwise take time to build up (Ahuja, 2000, p.319; Danis et al., 2009, p.290; Alvarez et al. 2012).

Commercial resources also offer market expansion opportunities that are especially beneficial to new firms or in cases where the current market has either been exhausted or offers limited resources (Deakin, 1999, p.88; Sexton & Landstrom 2000, p.53; Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004). This resource allows organizations to enjoy shelter from economic changes in the market (Chell, 2001, p.260; Huggins, 2010, p.524; Alvarez et al. 2012) as it offers financial support.

Organizations also enjoy economies of scale (Rugman & Hodgetts, 2000, p.251; Provan & Milward, 1995, p.1) as materials are available at lower costs (Ahuja, 2000, p.319). Risk is also shared (Ahuja, 2000, p.321-322; Sexton & Landstrom 2000, p.53; Chell, 2001, p.260; Dana, 2004; Mair et al., 2006) but this increases at a decreasing rate. The risk shelter diminishes beyond a given point because the greater the risk, the more cautious organizations become (Sexton & Landstrom 2000). The authors show that organizations do not want to share in large risk ventures so they may exit such networks or simply avoid them. This resource also reduces transactional costs (Provan & Milward, 1995, p.1-2). Financial resources are critical to developing innovation and improving organizational productivity (Hoopes et al., 2003, p.893).
Table 4: Network Capital Resource summary (Authors, 2013)

<table>
<thead>
<tr>
<th>Resources Gained</th>
<th>Social Capital</th>
<th>Technical Capital</th>
<th>Commercial Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>Knowledge, expertise</td>
<td>Physical and financial resources</td>
<td></td>
</tr>
<tr>
<td>Community based</td>
<td>Information and skills sharing</td>
<td>Equity investment and market access</td>
<td></td>
</tr>
<tr>
<td>Association benefits</td>
<td>Enhanced learning and competency</td>
<td>Economic shelter</td>
<td></td>
</tr>
</tbody>
</table>

Resources within the organization and those it chooses to combine with from the network need to complement each other (Baum et al., 2010, p.2095). There has to be a strategic fit between the organizations if their resources are going to combine well (Das & Teng, 2000, p.48), they also need to have a shared understanding and common goals. Das & Teng (2000, p.48) study suggests that when organizations are forming alliances, they need to do so with caution. The resources made available to the organization depend on its motivations for forming the alliances, the opportunities available for forming alliances and how attractive other firms consider the organization to be as a partner (Gulati et al., 2011, p.215).

IONs are formed when an organization’s motivations (potential benefits) are matched with alliance opportunities available (Ahuja, 2000, p.318). “Networks emerge and develop as a consequence of interactions” (Naude & Turnbull, 1998, p.102). For ION to work, some level of trust must be established among the partner organizations (Zaheer et al., 1998, p.145). ION rely on reciprocity and dependency and as such, the degree of reliance is high (Provan & Milward, 1995, p.1). Resource dependency is also critical for ION (Provan & Milward, 1995, p.1; Jap & Anderson, 2007, p., 262).

However, it is also important to consider the challenges that ION face. The overlapping functions and responsibilities tend to disable local autonomy (Perry, 1999) so in some regard, the organization is not truly free to operate if it had been independent. The author also mentions that the shared resources tend to restrict the organization’s mobility from one network to the next.

2.3.2. Network Formation

Gulati et al. (2011, p.207; p.209) suggest three elements when considering ION. Firstly, its reach; which is the degree of connection to diverse and distant partners which results from the network structure; secondly, its rich; which is the possible resource value of the connections; and thirdly, its receptivity; that is the access to network resources and capabilities through the relational quality of its connections.

When an organization is considering an interaction, it needs to consider its partners well. It needs to know who its potential associate’s partners are so that it can choose the alliance offering the elements that Gulati et al. (2011, p.207; p.209) mentions above. When organizations interact within a network they form connections known as ties (Podolny & Page, 1998, p.65; Sexton & Landstrom 2000, p.375; Katz & Green II, 2001; Capaldo, 2007, p.590). The importance of a
network tie is determined by the value it offers (Jack, 2005, p.1250; p.1254), if it has a high resource value then it is a rich tie and vice versa. Networks operate on a give and take system, so receptivity is essential to this process. With receptivity comes the need for trust and commitment.

### 2.3.2.1 Selecting a Network Partner:

The first aspect to consider when selecting a network partner is the position they hold within the network. Since the opportunities to form ties are not equally accessible to all organizations (Ahuja, 2000, p.318) within a network, we thought that it would be important to consider the factors that determine these opportunities. We will consider two factors. The first which is arguably the most critical (Granovetter 1973) factor is the position of the organization within the network. The position an organization holds in a network is determined by how it relates to other organizations within the association, their perception of the importance of its activities, the value of its connections and the significance of its resources to their activities (Blomstermo & Sharma, 2003). Halinen & Tonroos (1998, p.190) suggest that position is based on the function, role and identity of the organization in the network.

A centrally located organization is seen as an ideal partner because its position shows that it has experience in forming and maintaining beneficial ties (Cropper et al., 2008, p.292; p.296). This position also shows that an organization is reputable (Gulati & Higgins, 2003, p.128; Cropper et al., 2008, p.292; p.296) and has access to a lot of resources. An organization in this position is deemed as being an attractive partner thus increasing its opportunities for forming alliances (Ahuja, 2000, p.319; Cropper et al., 2008).

Centrally placed organizations tend to form ties with organizations of similar status (Swedberg, 2000, p.285; Cropper et al., 2008, p.292; p.296). It is also interesting to note that an organization’s position in prior and existing networks plays into its abilities to form new ties (Ahuja, 2000, p.317; p.318). Past network choices and associations determine current and future alliances (Jap & Anderson, 2007, p.264). Organizations with prior network alliances are seen as being able and willing to form networks, and this also shows that they have previous experience (Cropper et al., 2008).

Consequently firms in the periphery of the network are not so attractive. These organizations maybe new to the network and as such would rely more on referrals from other organizations (Ahuja, 2000, p.321-322). For such organizations, opportunities for tie formation depend more on the recommendations of other organizations in the network than on their reputation as in the case of centrally positioned organizations (Cropper et al., 2008, p.293; Ahuja, 2000, p.321-322; Swedberg, 2000). For partnering opportunities (Jap & Anderson, 2007, p., 264) to be presented (Gulati, 1999, p. 401; p.402; Swedberg, 2000), third party referral is only valued if that third party has had some form of previous interaction with the organization being referred to. Indirect referrals with the backing of previous partners give assurance of an organization’s reliability (Baum et al., 2010, p.2094).

Conversely, the more centralized the network, the fewer the opportunities to form new collaborative ties (Podolny & Page, 1998, p.64; Cropper et al., 2008, p.296). These organizations also tend to be picky because they have a lot to offer in a partnership. In partner selection, the organization is not only concerned with the initial tie but the access that it grants to other
organizations within the network and the associations that an organization forms affects how
erother organizations in the network view its capabilities (Cropper et al., 2008, p.618; Baum et al.,
2000, p.269; Ahuja, 2000, p.321-322). It is important to remember that, the significance of the tie
is dependent on the value of the connections it offers (Jack, 2005, p.1250; p.1254).

The second factor to consider when selecting a network partner is network embeddedness.
Network embeddedness can influence network formation. According to Cropper et al. (2008,
p.293) network embeddedness is when an organization prefers to interact with organizations they
know well and have interacted with in the past rather than with ‘new’ organizations. The authors
further suggest that previous interactions determine future interactions thus network
embeddedness considers the quality and depth of the tie (Halinen & Tornroos, 1998, p.187;
p.189; Cropper et al., 2008, p.293; Zaheer & Soda, 2009, p.5).

We have seen that for ION to occur there has to be an opportunity (Hite & Hesterly, 2001, p.282;
Cropper et al., 2008, p.293; Zaheer & Soda, 2009, p.5) also supports this opinion and shows that
just because an organization wants to interact and there is an opportunity to do so does not mean
that it will happen. We see that organizations are skeptical when it comes to new alliances and
that given an option, they would rather network with organizations they are familiar with than
new ones. We can however reasonably assume that network embeddedness may be overlooked
where the organization is in search of new innovative ideas or if the ‘new’ organization has
unique resources to offer.

An embedded network promotes co-operation among organizations within the network than with
those outside it (Cropper et al., 2008, p.296). Familiarity is important when choosing a partner
and in most cases, ‘new’ organizations are considered as partners if they offer rich information
and other valuable resource in exchange (Gulati, 1999, p. 400; Cropper et al., 2008, p.295). This
is known as the ‘network of prior alliance” (Gulati, 1999, p. 401) and the author considers them
as a reliable source of potential partner information.

Network embeddedness offers a good source of information about potential partner behavior,
credibility, reliability and capability. It is also important to note that network embeddedness
faces the danger of saturation (Ahuja, 2000, p.321-322). The author suggests that the greater the
network embeddedness the lower the organization’s absorptive capacity. Huggins (2010, p.518)
supports this view and states that strongly embedded relations inhibit organization development.
Ahuja (2000, p.321-322) further explains that when firms are over embedded, they may be
unwilling to form new links.

However, this can be remedied. Organizations can create inertia among the ties then form new
ties with their associates’ partners through third party referrals (Baum et al., 2010, p.2095;
Tortoriello et al., 2012, p.1026). Inertia means making some network interactions inactive until
those connections become relevant to an organization’s goals at which point they are reactivated.
Organizations need to be keen when interacting. The interaction, the function served by the tie
and how this tie can be used are all equally important (Jack, 2005, p.1254).
We shall consider network embeddedness under two categories; relational embeddedness and structural embeddedness:

Relational embeddedness is common among strong ties and is considered as forming ties with ‘friends’ (Gulati, 1999, p.402). Cropper et al. (2008) support this view by stating that organizations have information on current and previous partners because they are familiar with them. They propose that repeated ties give information on capabilities, reliability and interest of potential partners. The authors imply that organizations tend to form partnerships with organizations with which they have had previous experience with.

Trust and commitment are major elements of relational embeddedness (Gulati, 1999, p.402; Hooijberg et al., 2007, p.80; p.81). Trust is considered as relying on an exchange partner to reciprocate the organization’s efforts while commitment is considered as dedication to the network process (Wong & Sohal, 2002, p.36; p.38; Ryssel et al., 2004, p.201; p.203; Briones, 2009, p.21). When organizations are in a network with relational embeddedness they tend to rely on each other. Their close, frequent interactions allow them to depend on each other, in that each will do their part to help them achieve the common goals. This in turn develops trust.

Structural embeddedness is considered as forming ties with ‘strangers’ (Gulati, 1999, p.402; Podolny & Page, 1998, p.65; Lazer & Friedman, 2007, p.671). Structural embeddedness causes organizations to form ties more frequently and intensely but they mainly focus on a limited set of partners as new ties are mainly based on referrals (Baum et al., 2010, p.2107). Cropper et al. (2008, p.293) and Gulati (1999, p. 399; p.400) agree that the greater the structural embeddedness in a network, the greater the informational value which in turn leads to greater tie formation opportunities.

2.3.2.2 Making Connections:

Sexton & Landstrom (2000, p.371) propose that ION are intentionally constructed. Within a network, there are two kinds of connections or ties between actors: strong and weak (Perry, 1999; Cropper et al., 2008, p.291). These ties are based on mutual consent and reciprocation (Podolny & Page, 1998, p.65; Sexton & Landstrom 2000, p.375; Katz & Green II, 2001; Capaldo, 2007, p.590).

Ties can either be weak or strong as depicted by Figure 4. Strong ties are considered to have high levels of trust with close familiar relations (Baum et al., 2010, p.2094) and organizations are willing to transfer productive knowledge. They also have a shared perspective and an advance capacity to implement the knowledge transferred (Levin et al., 2011, p.923; p.925). Strong ties are thus relationally embedded (Gulati et al., 2011, p.209).

Weak ties are considered as being efficient (with information being accessible at low costs) and novel (Capaldo 2007, p.587; Cropper et al., 2008, p.298; p.619). It is easier for an organization to join a weak tie than it is for it to access a strong one because strong ties have close relations with tight bonds (Wickham, 1998, p.86). Weak ties are thus structurally embedded (Gulati, 1999, p.402; Podolny & Page, 1998, p.65; Lazer & Friedman, 2007, p.671).
Tie strength is the term that is used to determine whether a tie is weak or strong. According to Granovetter (1973, cited in Cropper et al., 2008, p.291; Granovetter, 1973, p.1361), tie strength is a product of the actor investment in terms of the time, emotional intensity, intimacy (mutual confiding), the frequency of interaction, duration of the relationships and the reciprocation of services between the organizations. The greater the investment the organization makes, the stronger the tie.

In ION, tie strength determines the quality of relations (Jack, 2005, p.1236). The attributes of tie strength are summarized in Table 5 below. In relation to Granovetter’s work, Cropper et al. (2008, p.291) suggest that ties can be considered not only in terms of strength but also depth, that deep ties require a lot of time investment while shallow ties do not. They suggest that deep ties are redundant because they have access to the same kind of information. Therefore, strong ties are deep and redundant while weak ties are shallow and non-redundant. Weak ties do not have a lot of time invested in them which make them shallow but their access to novel information makes them non-redundant. Tie strength can also be attributed to the closeness and frequency of partner interaction within the network (Levin & Cross, 2004, p.1478). Capaldo (2007, p.589; p.590) suggests an extension to Granovetter’s (1973) description by proposing that the longer the duration of the relationship, the higher the frequency of interaction, and the greater the intensity of collaboration, the stronger the tie.

<table>
<thead>
<tr>
<th>Information available</th>
<th>Strong Ties</th>
<th>Weak Ties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redundant</td>
<td>Non-redundant</td>
<td></td>
</tr>
<tr>
<td>Quality of relations</td>
<td>Close and deep</td>
<td>Distant and shallow</td>
</tr>
<tr>
<td>Partner interaction</td>
<td>Frequent</td>
<td>Infrequent</td>
</tr>
<tr>
<td>Relationship duration</td>
<td>Long-term</td>
<td>Short-term</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Intense</td>
<td>Less intense</td>
</tr>
</tbody>
</table>

Table 5: Attributes of Tie Strength (Complied by the Authors, 2013)

Strong ties promote relational attributes of commitment and trust with repeated (Huggins, 2012, p.518) and intensive partner interaction (Chell, 2001, p.259; Katz & Green II, 2001; Capaldo, 2007, p.588; p.590; Gulati et al., 2011, p.216; p. 218; Tortoriello et al., 2012, p.1026). In strong ties, reputations are maintained, extended through repeated interactions and enforced through referrals (Katz & Green II, 2001; Jack, 2005, p.1254; Jap & Anderson, 2007, p., 264). Organizations with strong ties tend to rely on each other based on past experiences and performance. These repeated interactions make the organization’s actions predictable (Briones, 2009, p.21) to its exchange partners so each knows what to expect from the other.
The closeness and familiarity among the organizations motivates them to share their knowledge and trust (Sexton & Landstrom 2000, p.371-372; Katz & Green II, 2001) with each other. Strong ties enjoy bonding ties as a result of their relational embeddedness (Gulati et al., 2011, p.209). Relational embeddedness provides trusted information channels which reinforce collaboration of its cohesive strong ties (Gulati et al., 2011, p.209). This encourages partner commitment towards achieving common goals for the network (Cropper et al., 2008, p586; Levin et al., 2011, p.925; Scherer et al., 2012, p.7). Organizations that share strong ties tend to have similar characteristics (Granovetter, 1983, p.204) thus have a broad social dimension.

The organizations in strong tied ION are familiar with each other, as such they are considered to be among ‘friends’. This familiar environment offers exploitation opportunities (Gulati et al., 2011, p.402) of these friendships. Since organizations are familiar with each other, they trust each other and they know what to expect from each other, this is what Gulati et al. (2011, p. 402) term as exploitation. The previous interactions that organizations had allow them to predict with some certainty what they can expect from the ION.

These ties are preferable for conveying complex knowledge (Cropper et al., 2008, p.619). According to Granovetter (1983, p.204) communication is simple because it has implicit meanings as speakers are familiar with each other and they share values and understanding (Levin et al., 2011, p.925; Baum et al., 2010, p.2094; Levin & Cross, 2004, p.1480; Hansen, 1999, p.82). Information in strong tied ION is readily available, cheap and trust worthy (Jack, 2005, p.1236; Hooijberg et al., 2007, p.80). Unfortunately the information shared here is redundant (Swedberg, 2000). This means that there is little information that is coming in that is new or useful for organizational growth. Therefore strong ties have limited innovation because being alike means that organization diversity is limited and new knowledge is rarely gained.

Strong tie networks also tend to be static in their structure (Huggins, 2010, p.518) because it is hard for new organizations to join them, so little changes (Halinen & Tornroos, 1998, p.187) in terms of partner organizations. The lack of information variety (Moller & Halinen, 1999, p.423) also makes them static.

Weak ties, according to Perry (1999, p. 18), allow for fresh and diverse ideas because the ties come from heterogeneous organizations. These organizations have access to different information since their ‘circles’ do not interact (Dana, 2004; Hooijberg et al., 2007, p.81). This independence allows the organizations to perform more autonomously (Sexton & Landstrom 2000, p.380) unlike in strong ties where the organizations are closely related.

Capaldo (2007, p.587) and Cropper et al. (2008, p.298; p.619) agree that weak ties are non-redundant. They suggest that these ties support knowledge transfer by providing unique information. Weak ties do not mean that the relationship is weak but rather that they are better able to reach other networks (Jack, 2005, p.1236).

According to Granovetter (1983, p.204) communication among weak ties is universal. He suggests that more reflection and consideration for what is being said is required as the speakers are not very familiar with each other. Interactions in weak ties are few (Hooijberg et al., 2007,
p.80) and they offer non-binding network positions (Hansen, 1999, p.99) meaning that commitment to the ION is low. The communication is universal standard so that it is understandable by any recipient. However the lack of familiarity can sometimes cause misinterpretation, misunderstanding or even misuse of information (Levin et al., 2011, p.925). Granovetter (1983, p.202) suggests that networks without weak ties tend to fragment and with that they become incoherent thus ineffective.

Weak ties are structurally embedded and Gulati et al. (1999, p.402) suggest that this offers exploration opportunities. Since structural embeddedness is considered as relations between strangers, the organization is said to be exploring this interaction because it has no previous encounter with this tie. According to Scherer et al. (2012, p. 23), exploration opportunities require bridging ties. Bridging ties bring these unfamiliar organizations closer together (Granovetter, 1973, p.1371; Jack, 2005, p.1238; Cropper et al., 2008, p586).

Bridging ties offer organizations brokerage opportunities (Jack, 2005, p.1238) and in turn these opportunities reduce resource dependability on the strong partners (Podolny & Page, 1998, p.64; Zaheer & Soda, 2009, p.7). All bridges, according to Granovetter (1983, p.217) and Capaldo (2007, p.587), are weak ties. Brokerage opportunities also increase network diversities because the flow of information is rich in content (Hansen, 1999, p.105; Swedberg, 2000; Hooijberg et al., 2007, p.80; p81). Weak tie networks are dynamic in their structure (Huggins, 2010, p.518) because it is easier for organizations to collaborate. The variety of partners allows for novel information that is used to develop the learning capability of the organization (Moller & Halinen, 1999, p.423)

When a network has more weak ties than strong ties, it is said to have structural holes. Structural holes are the “the degree of connectivity between a firm’s partners” (Scherer et al., 2012, p.4). According to Cropper et al. (2008, p.293), structural holes are the empty spaces or informational gaps (Ahuja, 2000, p. 431) in a network structure. Strong tie networks do not have structural holes (Scherer et al., 2012, p.6). However, we do not agree with these authors because no network can purely exist with only one kind of tie thus structural holes exist in all networks just that some have more than others. This sentiment is also shared by Jack, (2005, p.1236; p.1238) and Tiwana (2008, p.252) who call for a balance between the two ties.

Actors on either side of the structural hole have access to different information (Cropper et al., 2008, p.293; Ahuja, 2000, p. 431). In this case, the best position for an organization to hold is as a bridge over the structural hole. This position gives the organization access to unique information which it can broker to previously unconnected partners (Chell, 2001, p.260; Hite & Hesterly, 2001, p.276; Cropper et al., 2008, p.298; p.302; Baum et al., 2010, p.2107; Scherer et al., 2012, p.4).

Structural holes are successful in growing organizations that are fast-moving and dynamic (Granovetter, 1983, p.219; Scherer et al., 2012, p.9). The authors reason that organizations value the novel information that allows them to be innovative and competitive unlike for mature industries. It is important to note that a network with numerous structural holes has difficulty in developing trust because the broker determines whose interests his efforts are serving best
(Ahuja, 2000, p. 452). It is more opportunistic, firm specific, than community, the whole network, oriented.

According to Scherer et al. (2012, p.23) structural holes are best bridged through exploration. This view is also supported by other literature (Hooijberg et al., 2007, p.80; Jap & Anderson, 2007, p., 264; Lazer & Friedman, 2007, p.671; Tiwana, 2008, p.251) which states that the weak ties are used to bridge structural holes and as such offer exploration opportunities. The organization gets the opportunity to try out new ideas and practices; it gets to ‘test the waters’ and if opportunity arises, it becomes a broker. Brokerage opportunities mean that the organization bridging that hole has control over whose interests are served (Scherer et al., 2012, p.5). This gives the organization considerable control over the resources held by the various actors and is in a position to coordinate efforts accordingly. Exploration opportunities are more about risk taking, through weak ties, the organization can experiment and discover innovative ways of doing things (Lavie & Rosenkopf, 2006, p.798; p.799).

Bridging ties are however only efficient in the short term, that is, in the present and as such are short lived (Scherer et al., 2012, p.7). Having too many bridging ties may increase the network’s resources in terms of knowledge and capabilities but it also makes their integration difficult because of the diversity (Tiwana, 2008, p.251). However, weak ties have fewer constraints and they require less effort, in terms of time and energy, to be managed (Levin et al., 2011, p.925).

Weak ties bridge structural holes with novel information relevant for innovation but lack the uniting function that strong ties offer; while strong ties integrate the organizations but they lack new information required for novelty (Tiwana, 2008, p.251). Although weak ties generate innovative ideas, it is strong ties that are better suited for their implementation (Lavie & Rosenkopf, 2006, p.798; p.799). Strong ties should complement bridging ties (Tiwana, 2008, p.251; p252). Molm et al. (2012, p.161) propose that since weak ties are exploratory in nature, then they result from negotiation. They also suggest that since strong ties are based on organizations that are familiar with each other then they are reciprocal in nature (Molm et al., 2012, p.161).

Cropper et al. (2008, p.618) suggest that inter-organizational network efficiency is achieved when the redundant (strong) ties are shed off and links with ties that bridge (weak ties) structural holes are maintained, an idea that is supported by Granovetter (1973, p.726). However, this down plays the importance of redundant ties and for a network to be efficient and effective; it requires both types of ties. Each has a unique and integral part to play in the network and rather than shedding off redundant ties, the organization should strive to strike a balance between the two (Jack, 2005, p.1236; p.1238; Tiwana, 2008, p.252).

The tie interaction level is not as crucial as the value that the tie offers the organization (Jack, 2005, p.1250), it is possible to have a tie connection and miss out on its value. Alternatively, instead of shedding off redundant ties (Granovetter, 1973, p.726; Cropper et al., 2008, p.618), the organization can leave them dormant then reconnect over time so as to re-experience their benefits (Levin et al., 2011, p.923; p.926). It is also interesting to note that the structural holes that seem visible in a current network may be as a result of dormant ties and not a lack of ties. Reconnecting with these dormant ties is only beneficial if they would bridge a current structural...
hole, otherwise they are better left dormant (Huggins, 2010, p.522; Levin et al., 2011, p.935). Zaheer & Soda (2009, p.26) propose that the structural holes formed in the past can influence those formed in the future. Structural holes are short term. They can however be left dormant then reconnected in the future to offer renewed exploration opportunities. In Table 6 below we summarize the two tie strengths showing their key differences.

<table>
<thead>
<tr>
<th></th>
<th>Strong Ties</th>
<th>Weak Ties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational attributes</td>
<td>Commitment and trust</td>
<td>None</td>
</tr>
<tr>
<td>Partner interaction</td>
<td>Repeated and intensive</td>
<td>Less interactive and less intensive</td>
</tr>
<tr>
<td>Control measures</td>
<td>Reciprocity</td>
<td>Contractual</td>
</tr>
<tr>
<td>Tie relationship</td>
<td>Bonding ties</td>
<td>Bridging ties</td>
</tr>
<tr>
<td>Information</td>
<td>Redundant but cheap</td>
<td>Non-redundant</td>
</tr>
<tr>
<td>Partnership relationships</td>
<td>Close and familiar (friends)</td>
<td>Distant and unfamiliar (strangers)</td>
</tr>
<tr>
<td>Commitment</td>
<td>High and binding</td>
<td>Low and non-binding</td>
</tr>
<tr>
<td>Social dimension</td>
<td>Broad, very social with each other</td>
<td>Narrow, not very social with each other</td>
</tr>
<tr>
<td>Structural holes</td>
<td>Few</td>
<td>Predominantly</td>
</tr>
<tr>
<td>Opportunities</td>
<td>Exploitation</td>
<td>Exploration</td>
</tr>
<tr>
<td>Characteristics</td>
<td>Homogeneous</td>
<td>Heterogeneous</td>
</tr>
<tr>
<td>Informational role</td>
<td>Conveying and implementing complex knowledge</td>
<td>Idea generation and transfer of novel and innovative information</td>
</tr>
<tr>
<td>Communication</td>
<td>Implicit, shared values and understanding</td>
<td>Explicit, universal because they are not familiar with each other</td>
</tr>
<tr>
<td>Goals</td>
<td>Common shared goals</td>
<td>Autonomous each have their own goals</td>
</tr>
<tr>
<td>Embeddedness</td>
<td>Relational</td>
<td>Structural</td>
</tr>
<tr>
<td>Structure</td>
<td>Static</td>
<td>Dynamic</td>
</tr>
</tbody>
</table>

Table 6: Differences between strong and weak ties (Complied by the Authors, 2013)

2.4 Formulation of the Propositions on how Formal Organizational Structures and Inter-organizational Networks relate

From the literature (Greiner, 1972; Cosier, 1991; Daft et al., 2010) we have seen that organizations have both formal and informal organizational structures. The formal organizational structures are expressed by management and even documented while the informal ones are implied. Our study is focused on the formal organizational structure because there is not much literature done on it and it is a gap we aim to fill. The formal organizational structure is determined by two forms, it can either be mechanistic or organic. The choice between either form depends on the degree of interaction between three dimensions centralization, formalization and complexity. From the literature (Greiner, 1972; Cosier, 1991; Daft et al., 2010) we have seen convincing arguments that formal organizational structures (FOS) change as the organization develops over time. We have adapted a life cycle perspective to see how this change occurs. We realize that an organization adapts a structure as it starts off and as it grows it under goes some changes in this structure. It has also been discussed that mechanistic FOS forms tend to be
present in organizations at later stages of development while organic FOS forms are present in more recently established organizations (Greiner, 1972; Tolbert & Hall, 2009, p.42; Daft et al., 2010).

Our review of previous studies (Barney et al., 2001; Hite & Hesterly, 2001) has shown that organization have resource needs. These resources needs, like the formal organizational structure, tend to change as the organization develops. When the organization requires resources that it lacks internally they reach out to other organizations and they form inter-organizational networks (Jap & Anderson, 2007; Cropper et al., 2008). It is easier for organizations to develop over time when they share resources with other organizations.

Inter-organizational networks (ION) and the strength of the interactions (tie strength) change depending on the resource needs of the organizations (Burkhardt & Brass, 1990; Madhavan et al., 1998; Hite & Hesterly, 2001, p.276; Koka, 2006). According to Rindfleisch & Moorman (2001, p.15) tie evolution affects the larger network evolution. This outlook is also shared by Molm et al. (2012, p.161) who states that organizational ties can be converted depending on an organization’s requirements. A recently established organization is likely to have different resource needs compared to a more developed, earlier established one (Burkhardt & Brass, 1990; Madhavan et al., 1998; Koka, 2006; Huggins, 2010, p.523). These different resource needs requires different network interaction partners. Organizations will tend to seek out network interactions that will help them meet their resource needs thus it is logical to assume that as these resource needs change so do the interactions sought. Given this, we came up with our first proposition:

\[ P_1: \text{The formal organizational structure affects the inter-organizational networks formed by organizations as their resource needs change} \]

Organizations have different network connections depending on the benefits they seek from these network interactions. It is important to mention that organizations with either mechanistic or organic forms have strong tie networks but for different reasons. Organizations seeking innovation tend to have weak ties (Hite & Hesterly, 2001, p.278; p.279; Huggins, 2010, p.524) while those seeking to implement ideas seek strong ties (Hite & Hesterly, 2001, p.278; p.279). Mechanistic organizations have high centralization and high formalization but low complexity which makes them unsupportive for innovation (Tolbert & Hall, 2009). Authors (Hite & Hesterly, 2001; Huggins, 2010) also suggest that organizations that have been in existence for long tend to form network interactions with organizations that are familiar to it and as such have few new interactions. This combination hinders free and creative thinking within the organization. Mechanistic organizations require more weak ties if they are to remain competitive because these ties bring in new and innovative ideas that would help such an organization maintain its position. However, given the dimensions that make up the mechanistic form and the fact that mature organizations rarely network with new partners then mechanistic organizations are likely to be in mostly strong tie networks. This led us to our second proposition:

\[ P_2: \text{An organization with a mechanistic form will most likely have strong tie networks} \]

Organic organizations are considered as recently established (Tolbert & Hall, 2009; Daft et al., 2010). When organizations are established, they tend to form strong ties because in the
emergence stage, a firm relies on these ties as its newness makes other organizations feel uncertain about exchanging resources with it (Podolny & Page, 1998, p.64; Hite & Hesterly, 2001, p.275; p.277; Hite, 2003; Zaheer & Soda, 2009, p.29; Huggins, 2010, p.524). With decreased uncertainty comes increased search-ability (Hite & Hesterly, 2001, p.278; p.280) which makes the organization more willing to manage its network which is also motivated by increased reputation, experience and tie forming opportunities (Hite & Hesterly, 2001, p.282; Katz & Green II, 2001). However, this comes later in the organization’s life not in the early stages. This suggests that organic organizations are likely to have more strong ties because they are unable to form weak ones immediately after their establishment. This led us to our third proposition:

**P3:** An organization with an organic form will most likely have strong tie networks

Both forms of formal organizational structure have strong tie networks but the reason behind forming these networks is what differs. We believe that both forms would benefit more from having mostly weak tie network.

We believe that as the organization changes from an organic form to a mechanistic form, it cannot do so without going through some forms in between. It is unlikely that the organization can change from one form to another automatically but rather, we believe that since its development is progressive, so the change in its formal organizational structure form should also be progressive. Given this, we came up with our forth proposition:

**P4:** There are other forms between mechanistic and organic forms

We used these propositions to come up with a conceptual model shown in Figure 5 below which guided our research.

Fig 5: Conceptual Model of this study (Complied by the Authors, 2013)
Chapter Three: Methodology

In this chapter we shall deal with how we collected the data we used for our research. We will discuss the research strategy and design, the data collection methods and techniques we used. The validity and reliability of our research will also be shown here. We shall then conclude with how we will ensure our research is ethical.

3.1 Research Philosophies

We considered two philosophies of research namely epistemology and ontology. Epistemology is said to be what is or what should be the acceptable knowledge in a discipline (Bryman & Bell, 2007, p.16). It has three aspects within it; positivism, interpretivism and realism.

“Positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond” (Bryman & Bell, 2011, p. 15). It is aimed at collecting knowledge to develop hypotheses or propositions (Pugh, 1983 cited in Bryman & Bell, 2011, p. 15) which are then used to test theories. It can be either inductive or deductive (Bryman & Bell, 2007, p.16). Positivism is based on natural sciences and assumes that investigations into reality are done with a logical certainty (Brand, 2009, p.432; Morgan & Smircich 1980, p.492). Research in positivism is approached in a value-free manner and the researcher in this process is perceived to be external to the process meaning that it is very unlikely that they can alter the meaning of data collected (Saunders et al., 2007). According to Gill & Johnson (2002 cited in Saunders et al., 2007, p. 104), positivist researchers are said to use very structured methodology to enable duplication.

Interpretivism suggests that to understand reality the social actor must understand the subjective meaning of the social action (Bryman & Bell, 2007, p.16p.17; p.19). In this epistemology, researchers are perceived as having to adopt an empathetic position in research (Saunders et al., 2007). Saunders et al. (2007) argue that interpretivism is suitable for business especially in certain fields such as organizational behavior which are said to be complex and unique.

Realism suggests that there is another reality separate from the social description (Bryman & Bell, 2007; p.16p.18). According to Saunders et al. (2007) realism can either be direct where the World is viewed as constant or critical where the World is viewed to change frequently.

We find our research as having some elements of all the above explained epistemology philosophies. According to Saunders et al. (2007), a research will most likely contain all the elements of the three epistemological philosophies; although some elements or an element are more visible or characterized in a research which determines the philosophical stand a research adapts. Our research contains elements of positivism because we reviewed theory from existing literature and used it to formulate our research propositions; it also has some aspects or critical realism due to the fact that we view the Formal Organizational Structure (FOS) and Inter-organizational Networks (ION) as changing frequently due to various factors such as time and resources.
However, our research leans most towards the interpretivism perspective of epistemology. Due to the fact that we conducted six interviews on persons holding managerial positions in six organizations as opposed to observing objects such as machinery support the interpretivist perspective our research adopted (Saundes et al., 2007). We then used these interviews to observe the business world—the social world in this case—from the respondents’ point of view and interpreted their managerial-social roles—according to the meanings of our research (Saunders et al. 2007). In the cause of the research, we also believe that we were part of it and feel that we were somehow involved because we were dealing with people’s feelings, and the fact that we had to interpret the results from the interviews according to our analysis supports this (Saunders et al., 2007).

According to Olsen (2007, p.586), ontology is how scholars view the World, the nature of reality and existence. Ontology can either be objectivism or subjectivism (Saunders et al., 2007; Brand, 2009). Objectivism assumes that social phenomena and meaning are separate or independent from the actor as the external factors are beyond the actor’s reach and influence (Bryman & Bell, 2007, p.16p.22; p.23). In this ontological position, organizations are portrayed as tangible because of character traits they possess such as rules, hierarchical arrangements, mission statements and so on. Subjectivism suggests that social actors accomplish social phenomena and their meanings whereby social phenomena arise from social actor interaction and are constantly in revision (Saunders et al. 2007). Our research is on FOS and IONs where organizations and network structures are highlighted as independent to social actors when it comes to organizations and networks hence our research leans towards the objectivism approach (Bryman & Bell, 2011).

3.2 Research Strategy and Design

In our research we are considering FOS and IONs. We aim to find out the effects that FOS has on IONs. In FOS we considered two forms namely mechanistic and organic. We shall then examine these two forms using the three dimensions of FOS, that is; centralization, formalization and complexity which are the basis of determining whether an organization is either mechanistic or organic. In ION we considered the network interactions that organizations formed.

3.2.1 Research strategy

There are two main research strategies: the qualitative and quantitative strategies as shown on Table 7 below. Quantitative research is described as “research that usually emphasizes quantification in the collection and analysis of data” (Bryman & Bell, 2011, p. 717). Qualitative research is illustrated as “research that usually emphasizes words rather than quantification in the collection and analysis of data” (Bryman & Bell, 2011, p. 717).

Bryman & Bell (2011) point out that the difference between qualitative and quantitative research can easily be mistaken to be based only on how the measurement of the data is done. Bryman & Bell (2011) argue that there is more to this in regards to epistemological and ontological considerations and the link between theory and research. However some authors such as Eisner (1997) do not think that there should be a big difference between qualitative and quantitative strategies and argues that ideas generated from qualitative research do not differ too much from quantitative ones. Based on the table 7 by Bryman & Bell (2011), our research strategy has
elements of both qualitative and quantitative research. For instance, it is deductive because we generated propositions based on theory we reviewed and it is inductive because the results are generated from empirical data and contributes to theory. However, for the purpose of our research, we will conduct a qualitative study.

<table>
<thead>
<tr>
<th>Principal orientation to the role of theory in relation to research</th>
<th>Quantitative</th>
<th>Qualitative</th>
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<tbody>
<tr>
<td></td>
<td>Deductive; testing of theory</td>
<td>Inductive; generation of theory</td>
</tr>
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| Epistemology orientation | Natural science model, in particular positivism | Interpretivism |

| Ontological orientation | Objectivism | Constructionism |

Table 7: Fundamental difference between quantitative and qualitative research strategies (Bryman & Bell, 2011, p.27)

3.2.2 Research Design

“Research design is a master plan that specifies the methods and procedures for collecting and analyzing the needed information” Zikmund et al. (2012, p.64). According to Bryman & Bell (2011, p. 45) there are five types of design. These are “experimental which entails true field experiments; cross-sectional or social survey which entails collection of data on more than one case at a single point in time; longitudinal which is used to show change over time; case study which involves detailed and intensive analysis of a single case; and comparative design which entails research using more or less identical methods of two or more identical cases”.

We approached our research using a mix of different research designs. We collected data from six different organizations at a particular point in time and hence we conducted a cross-sectional research. Our research also entailed the collection of detailed information from the six independent organizations which means we focused on the six organizations one at a time, where we then analyzed the information thoroughly for our interpretation depicting multiple case studies in our research. We later compared the information collected from the six organizations to each other to determine the similarities and differences in reference to their FOS and ION. This is a comparative research design.

3.2.3 Research Approach

There are two kinds of research approaches, an inductive approach or a deductive one. A research can adopt either of the two approaches or mix aspects from each approach (Saunders et al., 2007). An inductive approach notes an observation by exploring a field then works its way back to theory while a deductive one reviews theory, develops hypotheses then tests them to see if they hold true or not (Zikmund et al. 2012, p.43; p.44).
According to Ketokivi & Mantere (2010, p.316; p.330) deductive reasoning makes a logical conclusion while inductive reasoning moves from a particular observable aspect to theoretical generalizations. Deductive research specifies how data can be collected in relation to the concepts that make up the hypothesis (Bryman & Bell, 2007, p.11). Bryman & Bell, (2007, p.11) also argue that “deductive research represents the most common view of the nature of the relationship between theory and research”.

Our study involved the reviewing of existing literature where we then deduced propositions. From our empirical results, we analyzed the findings and came up with conclusions which we use to determine whether the propositions we made earlier hold or not. We can argue that our research is a deductive one but with a qualitative study which brings us to the conclusion that it is of both a deductive and inductive approach.

Our research is based on a scientific method which according to Zikmund et al. (2012, p.44) is a “set of prescribed procedures for establishing and connecting theoretical statements and is used to analyze empirical evidence in an attempt to confirm or disprove prior conceptions”. We assessed existing knowledge and stated propositions. We then acquired empirical data, which we analyzed so as to test whether our propositions hold true or not. Hair et al. (2011, p.40) suggests that a scientific research compares theory to reality. We are attempting to understand how a change in FOS affects IONs. According to Murthy & Bhojanna, (2009, p.5) examining the relationship between the two is known as empirical research. Zikmund et al. (2012, p.41) agree with this and state that empirical testing measures a concept against the reality. This research required detailed information and therefore we chose to conduct a qualitative research. Qualitative research deepens our appreciation in this situation and helps us understand the situation better (Shank, 2006, p.347). “Qualitative methods are procedures for coming to terms with the meaning of a phenomenon by studying social context through the use of narrative interviews” (Marschan-Pikkari & Welch, 2004, p.6). It seeks to understand the meaning underlying observable behavior and action (Marschan-Pikkari & Welch, 2004, p.8). Our research aims at finding the effects of FOS on ION. In this regard we sought to find out what happens to IONs when an organizations FOS changes. To achieve this, we reviewed literature and interviewed the top managers in six organizations. This, according to Saunders et al. (2007) makes our research an exploratory one.

3.2.4 Selection Criteria

When we begun our research, we came up with certain guidelines that we would use in the selection of organizations for our research due to certain reasons which will be explained in the text. We set the following conditions:

The industry we chose for our research had to be one that had existed for a relatively long period of time since we intended to use the lifecycle perspective. Our choice would also need to show the changes that occur regarding the FOS of the organizations and IONs formed by the organizations over a period of time.

We identified the forest industry as one that met our first criterion we set; it was established a long time ago. We also realized that the forest industry in Sweden is well established with a
strong presence in the north particularly Västerbotten County which was a big advantage for our research. The convenience also came from the fact that most organizations have offices in this area so it was possible to hold face to face interviews. We selected companies within the Västerbotten Investment Agency (VIA) site which has a registry of all companies within the Västerbotten region cutting across various sectors.

Within the forestry industry we decided to focus on the forest technology sector, this was a personal bias as we were curious about forest machinery which we find quite interesting. Within the forest technology sector there are two kinds of organizations, original equipment manufacturers (OEM) and contract manufacturers. We chose to focus specifically on OEMs whom manufacture and assemble forest machinery. The contract manufacturers act as outsourcing agents and do not manufacturer their own machinery but rather source them from different OEMs.

The organizations also had to have been started as family businesses. This would enable us to gauge the changes that might have occurred over time within these organizations and we could compare how their network interactions changed as their formal structures changed with time.

We are aware of the fact that the selection criteria we have used for our research purpose might also place some boundaries to our study. For instance, our propositions are derived from the data and analysis of specific organizations in a specific industry. However we thoroughly document these criteria and the steps we followed making it possible for this research to be undertaken on other organizations in different industries such as the construction OEMs and in different geographic regions.

3.2.5 Sampling

Our population size consisted of companies that operate within the Västerbotten County. We used the Västerbotten Investment Agency website - which hosts information of all the companies registered within the region- to search for the organizations suitable for our research.

We chose to do our research on organizations in the forest industry and specifically the original equipment manufacturing companies in this sector as documented in our selection criteria. The number of OEM organizations in the forest industry in the Västerbotten region is eight in total. The fact that we specifically chose the eight organizations involved in OEM in the forest technology industry in Västerbotten categorizes our sampling method as non-probability sampling and to be specific purposive sampling. Non probability sampling is the art of selecting a research based on “subjective judgment” (Saunders et al., 2007, p. 226) and purposive sampling is a type of non probability sampling where a researcher “uses their judgment to choose a case that will enable them to answer their research questions and meet their objectives” (Saunders et al., 2007, p. 230). This is due to the fact that we chose to do our research on organizations that were of certain specific characteristics that would enable us to answer our research questions in the best way possible (Saunders et al., 2007).

We sent emails and made phone calls explaining our intentions and purpose of research to all the eight companies involved in the manufacturing of original equipment in the forest industry in the
region. We got six affirmative answers from the six organizations documented in our research, one negative answer and one organization did not respond at all.

We requested to interview top managers in the six organizations and where the top most managers were unavailable, we got to interview their colleagues who also held managerial positions. Our decision to interview the management personnel in these organizations was due to the fact that we required detailed information regarding the leadership and structure of the organizations. We felt that managers within the six organizations were the best equipped (as compared to other workers) and authorized to assist us in our quest of retrieving such information from the companies.

3.2.6 Data Collection Techniques

We generated our propositions based on the literature we reviewed from books, articles, journals, conference papers and theses. In an effort to find out whether the propositions held true or not, we came up with a semi-structure interview guide (see appendix II) that we used to collect primary data from the organizations we selected for our research.

We gathered secondary information from the Västerbotten investment agency website on the companies found in the manufacturing industry in Northern Sweden, specifically in the forest technology sector. We used the information from the agency’s website to guide us in the formation of the criteria that we used to choose the industry we concentrated on in our research. Furthermore, we gathered secondary data from the websites of the six organizations we interviewed so as to clarify some issues such as the number of organizational branches, amount of job titles and number of employees the organizations had. We also used the websites to confirm the types of interactions the six organizations had when it came to networking.

Interviews: According to Kvale (2006, p. 483) an interview is a “meeting where a reporter obtains information from a person; a meeting with another person to achieve a specific goal, and more generally, a conversation with a purpose”. Interviews are classified as structured and unstructured. There are other forms of interviews such as in-depth interviews, qualitative, intensive and so on but they are all synonyms with either structured or unstructured interviews (Corbin & Morse 2003).

“Structured interviews entail the administration of an interview schedule by an interviewer. Questions are usually very specific and very often offer the interviewee a fixed range of answers” (Bryman & Bell, 2011, p. 202). In an unstructured interview, “the interviewer typically has only a list of topics or issues often called an interview guide. And the style of questioning is usually informal” (Bryman & Bell, 2011, p. 205).

There is a third form of interview however which is neither fully structured nor unstructured, the semi-structured interview which we used in our research. “This is a term that covers a wide range of instances. It refers to a context where an interviewer has a series of questions which are in the general form of an interview schedule but is able to vary the sequence of questions” (Bryman & Bell, 2011, p. 205). This method will give us a sense of control (Kvale 2006) during the interview and at the same time allows the interviewee to express their views without being too restricted and without straying away from the topic. Another important point to consider,
according to literature (Bryman & Bell, 2011; Cobin & Morse, 2003) is that this kind of semi-structured interviews enable the interviewer to get detailed information from the interviewee, unlike structured ones which limit the amount and quality of information given by an interviewee.

The interview guide we developed (see appendix II) is semi-structured enabled us to have some form of control over how the interviews went and also gave us new aspects that we may not have considered; some of the respondents brought to light other issues that determine how they conduct their operations, some of which are industry specific. This guide also helped us tap into respondents’ individual experiences to enhance some meanings from the information we got out of the interviews (Haggis, 2008, p.162).

We used an audio recording device to record the interview sessions which we transcribed afterwards. The advantage of using this device is that we captured the sessions without missing out on key things as we might have if we only relied on taking notes. The interview sessions ranged between forty five minutes and an hour.

We conducted our interview using different communication mediums. One interview was face to face with a manager, four interviews were over the communication medium skype and one interview was over the phone. The reason we used these different mediums were mostly due to time constraints and geographical locations of the managers we interviewed. For example, some respondent opted for early morning Skype calls while others opted to hold the interviews while they were travelling. Furthermore, we took some brief notes when it came to marking points of the conversations where there were non-verbal communication signs such as the tone of the voice and facial expressions in the case of the Skype calls and face to face interviews (Ghauri and Grønhaug, 2005 cited in Saunder et al. 2007, p. 334).

We ensured reliability of our research by being transparent in the way we analyzed our raw data (Saunders et al., 2007). We sent the analysis we made back to the six managers we interviewed for scrutiny and for them to add or remove any information they deemed necessary, we then made conclusions afterwards after their approval. We also believe that our research would give similar results if it was done at a different time and industry and that similar observations would be made if different researchers were to conduct a similar experiment. We also ensured reliability by basing our research on facts from literature and by conducting it objectively (Murthy & Bhojanna, 2009, p.18; Hair et al., 2011, p.8; Hair et al., 2011, p.40). The mentioned authors also suggest that an objective research would draw the same conclusions if another researcher was to undertake it supporting the point we made earlier in this text.

Validity occurs when a measuring instrument meets its objective by measuring what it set out to measure (Murthy & Bhojanna, 2009, p.8; p.1). Our interview guide was able to measure different aspects from the three elements of FOS and give us a clear vision of what happens in the six organizations. We ensured validity in the first place by pre-testing our semi-structured interview guide (Hair et al., 2011; Jick, 1979). We pre-tested the questionnaire by interviewing a manager from the Västerbotten investment agency to ensure we would get the results we were aiming to test for. Internal validity of our research is ensured by the fact that we chose a specific industry and within this industry we were able to pin point specific organizations suitable for our research
(Sunders et al., 2007). Our research also ensures external validity due to the fact that the research is conducted on existing organizations and on a practical industry rather than in a laboratory or classroom (Saunders et al., 2007). Table 9 below summarizes our methodology for this study.

3.2.7 Data Management

According to Saunders et al. (2007), there are a number of different ways to conduct qualitative data analysis including software such as CAQDAS and there is also the manual way. In our case, we conducted a manual analysis of the data we collected.

First of all, we categorized the six organizations into three (Eisenhardt & Graebner, 2007): X (organizations C and E), Y (organizations A and B) and Z (organizations D and F), with each category having two organizations for comparison purposes as shown on Table 8 below. For the purpose of our research we considered category X to be organizations established between the early 1970’s and the early 1990’s; category Y to be organizations established between the early 1950’s and the early 1970’s and; category Z to be organizations established between the late 1920’s and the late 1940’s. This is a relatively old industry that was established in the 1920’s with the most recent organizations being in the 1990’s. The upcoming organizations within this sector are mainly outsourcing and IT firms because original equipment manufacturing is a capital intensive operation so most new organizations prefer to offer services rather than products. As such we expected all the six organizations we considered for our research to be in the late stages of development according to the organizational life cycle perspective. According to literature (Tolbert & Hall, 2009; Daft et al., 2010) this would suggest that all these six organizations are mechanistic.

We carefully listened to the recordings we made immediately after the interviews (Bryman & Bell, 2007) so that we could avoid the risk of losing some information and made notes in this process. We deduced the meanings of the respondents in reference to the literature we had reviewed in chapter two of our research. We also used our interview guide to aid us in the transcription process, we matched each and every answer from the respondents to the questions we had on the guide. Moreover, we took in to consideration the notes we made on the nonverbal communication signs we observed from the interviews. We took time to reflect and put meaning to what the signs might have meant and to whether they added or reduced weight to the phrases or comments they were tagged on (Saunders et al. 2007).

We sorted the information we gathered in two categories depending on whether information was on ION or FOS. We then proceeded to match the data we had collected with the concepts we derived from our literature review (Saunders et al. 2007). In the case of our research, these concepts are the different elements of FOS and ION we used for our research, that is, centralization, complexity and formalization for FOS and rich, reach and receptivity for ION.

We compared data collected from the six different organizations in order to point out the similarities and differences since all the organizations involved were considered mature and hence mechanistic by theory (Tolbert & Hall 2009; Daft et al., 2010). We did the comparison by selecting various dimensions of FOS and ION from literature and checking if there were any patterns in how the FOS affected ION; we also paired up organizations in the three categories we
came up with for the purpose of our research and checked for the similarities and differences on
data collected from the three pairs of organizations (Eisenhardt & Graebner, 2007). According to
Eisenhardt & Graebner (2007), the pairing of subjects for the purpose of comparison results may
lead to a better understanding of the subject under research. We also compared the data we had
collected to the secondary data that we obtained from the organizations’ and VIA websites in
order to verify some information and capture anything the correspondents or we might have
missed during our interviewing process (Curran and Blackburn, 2001).

During this whole process of transcription, we had to summarize some answers to be precise and
to the point due to the reason that some respondents gave more lengthy explanations when giving
their answers than others. The interview language we used during our interviewing process was
English and other than doing some minor grammar corrections, we were not required to do any
translations.

We believe that our research purpose affected the way we transcribed the information gathered
from the interviews we took (Lapadat, 2000; Davidson, 2009) because as we specified earlier,
we filtered the data we collected and chose the most important and relevant information for our
research.

We then wrote down the empirical results in a way that they are understandable but at the same
time we were careful not to compromise the original meanings. In some cases, we quoted the
exact words that were said by the respondents for support to our arguments (Easterby-Smith et al. 2002). To ensure that what we had transcribed what the interviewees meant to say, we sent
them the transcriptions for approvals. They gave us the go ahead and we proceeded to analyze
the data.

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Categorization</th>
<th>Established</th>
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<tbody>
<tr>
<td>C &amp; E</td>
<td>X</td>
<td>1970s – 1990s</td>
</tr>
<tr>
<td>A &amp; B</td>
<td>Y</td>
<td>1950s – 1970s</td>
</tr>
<tr>
<td>D &amp; F</td>
<td>Z</td>
<td>1920s – 1940s</td>
</tr>
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Table 8: Organization Categorization (Complied by the authors, 2013)

3.2.8 Self Critical Discussion

In the course of our research work, we considered and reflected upon some critical issues which
would have affected our research in one way or another. These kind of issues are common in
research work but the question is just how much impact do they have on the credibility of a
research (Saunders et al. 2007)

To start with, we shall mention the issue of our sampling method. Fast of all we used a non-
random sampling technique and to be particular purposive sampling. This could affect the
generalization of the research as Saunders et al. (2007) argue. However, we conducted our
interviews on six different managers from different organizations, and furthermore these managers were not all on the same level or they did not all have the same title and functions. These differences in the managers can be said to be a degree of randomness and hence the research can be generalized to other organizations. According to Eisenhardt & Graebner (2007) and Gersick (1988 cited in Eisenhardt & Graebner, 2007, p. 537) multiple cases allow findings to be replicated within categories which improves generalizability of results. However we are aware that due to the theory propositions we came up with, supported by the literature and cases we reviewed, our research would best be applicable to mature OEMs in industries similar to forest technology, for example; OEMs in, mining, manufacturing among others.

Another issue we encountered when conducting our research work was the question of time. Our research seeks to find out how the change of Formal Organizational Structures affects Inter-organizational Networks over time, Bryman & Bell (2007) suggest that a longitudinal case study would be most appropriate for this kind of research since it seeks to find out the change of FOS and how it affects IONs over time. We tried to overcome this limitation by collecting longitudinal data whereby we asked our respondents questions that sought to find out how their organizational structures and network formations looked like in the past and also find out what kind of changes occurred over time and the reasons why they took place. We also used multiple organizations for our research purpose and paired up companies in each category which we collected data from (Eisenhardt & Graebner, 2007). We then cross-checked the data we gathered among the organizations to enable us capture information that would have been missed or was unavailable in one organization and available in another (Eisenhardt & Graebner, 2007).

The information we collected and used for our research can be said to be the managerial perspective of the six organizations and hence there is a bias in this. The employee point of view might have added information or given a new perspective to the research and it would have been good to do a comparison. Never the less, we considered the management to be the best source of the kind of information we were seeking due to certain formalities and confidentiality in the organizations. Non-managerial employees may also not be very familiar with the changes that occur in the formal structure over time but this is information that management is conversant with.

| Research Design | Mix (Cross-sectional, Comparative and Multiple Case Study) |
| Research Approach | Combined (Deductive and Inductive) |
| Research Strategy | Qualitative |
| Data Collection Techniques | Interviews (semi structured) |

Table 9: Methodology Summary (Complied by the Authors, 2013)
Ethical Concerns

In research, ethical issues are a concern of how respondents are handled during and after the course of the investigations (Bryman & Bell, 2011). According to Diener & Crandall (1978), there are four main ethical principles that should be upheld in the course of research: the researcher should ensure that a respondent’s privacy is not breached; that the participant is not brought to any harm during and after the research; the researcher should not deceive a participant in any way; and that there should be informed consent from parties participating in the research.

Our research upheld the ethical standards. We treated the data with discretion and have maintained respondent anonymity. Respondents were informed clearly of the purpose of this research and the value of their contribution. We made it clear that participation was voluntary and we have presented our findings objectively and without bias or prejudice. The respondents were informed of the recording prior to the interviews and we only used these recordings for the purposes of our research. We are willing to share the results of our research with the respondents upon request.
Chapter Four: Empirical Data

*In this chapter we will present the empirical data we got from our findings. The data collected is considered in regards to the propositions that we use in attempting to answer the research questions. We introduce the organizations then consider our areas of study.*

Our study is aimed at seeing whether the propositions we put forward in chapter two hold or not. Based on our propositions we drafted an interview guide that would allow us to gather more information about particular areas of our study. The interviews were transcribed and made available to the organizations upon request.

4.1 Company Backgrounds

Our research considers six organizations within the manufacturing industry in Sweden. Our particular focus is on organizations that are in the forest technology sector within Västerbotten County in northern Sweden, specifically original equipment manufacturers (OEMs). According to an investment manager at Västerbotten Investment Agency, organizations involved in the production of machinery are collectively considered as OEMs. Some of the organizations have branches across Sweden but all have their head offices in Västerbotten County.

In our research, we interviewed six top level managers from the different organizations. It is however important to note that not all the respondents we interviewed were in the same managerial positions; some were more senior in their companies than others. This could lead to some bias in the information given by the interviewees since they do not have equal managerial mandate in their various organizations.

Out of the six organizations we interviewed, four wished to remain anonymous while the other two allowed us to mention them in our research. We however deemed it necessary to make all the organizations anonymous so as to achieve consistency in our research. However, it is important to note that for the two organizations that gave permission to be mentioned, more descriptive information about them was included in the research. Conversely, descriptive information about the other four organizations that wanted to remain anonymous was restricted.

Organization A

Our first organization develops manufactures and markets equipment and accessories and is a pioneer in the field of mechanical forestry. It is headquartered in Umeå Sweden. This organization has some 20 fixed sites in addition to 90 mobile devices around the country.

Organization B

This organization deals with light weight forest machinery and currently has five models. This organization has retailers in 11 European countries, one in Japan and another in Canada. Organization B currently has 15 employees, 6 in the office and 9 in the workshop. This organization is situated in Vindeln in northern Sweden.
**Organization C**

This organization is a family business with two main products - harvesters with five models, and forwarders with six models. This organization manufactures loaders/harvesters and forwarders. Currently, they have 5 models of harvesters and 6 models of forwarders. This organization is located in the southern part of Sweden and employs 225 people.

**Organization D**

This is a group of four separate companies that all specialize in various areas in the wood producing industry. The group is based in Bygdsiljum Västerbotten and Organization D is the holding company. It is one of Sweden’s largest family-owned wood processing businesses. The company collectively employs about 400 people across the four companies. We will consider the group of companies as one organization but with separate parts (the four companies act like branches).

**Organization E**

This organization, a family business, is the world leader in rotators for construction equipment and rotators for forestry, general cargo and materials handling with accessory attachments for the same. It prides itself in being the leading supplier and development partner of rotators and system solutions (control system and accessories). According to the manager, it offers the best products and the strongest brand providing customers with significant added product value. This organization employs 200 employees and is located in the northern part of Sweden.

**Organization F**

This is a leading supplier of machinery for agriculture and forestry. This organization has extensive industry experience as a producer and as a whole seller. It is located in the northern part of Sweden but has operations all over the country. Organization F also has a manufacturing facility outside Sweden so as to improve on the production process.

4.2 Formal Organizational Structure

In this section we are going to discuss the various aspects of centralization, formalization and complexity in regards to the information we gathered from the six managers we interviewed.

4.2.1 Decision Making

**Organization A**

Organization A has clear guidelines for all their employees in leadership roles regarding their responsibilities and the criteria to use when it comes to decision making. The leaders in the organization make decisions within the frame of mandate allocated to them. “…when needed, issues are leveled up based on the authorization process” (Manager, Organization A, personal
communication, April 10th 2013). According to the manager of Organization A, decision making is made at all levels of the organization. However, he adds that decision making all over the organization is dependent on directions given by management in the upper level. The manager goes ahead and adds that if the decision involved affects the organization slightly then employees may have the mandate to make a decision on whatever level but if changes are significantly major then the top management comes in and takes over the decision making role in this case.

“…sometimes but top management will always be involved for consultation” (Manager, Organization A, personal communication, April 10th 2013). In this case, the manager is responding to the question of whether sensitive decisions could be made by other management employees other than managers. He addresses the fact that sensitive decisions are mostly made by top level management and points out that top level management is always involved when it comes to sensitive decisions affecting the entire organization.

The decision making processes and communication procedures in the various branches of Organization A are similar to those in the main branch; “…since they are part of the structure in our organization” (Manager, Organization A, personal communication, April 10th 2013).

**Organization B**

The decision making system of Organization B involves a few employees within the organization, mostly those with positions of leadership. The manager of Organization B states that he delegates some decision making roles to other managers in the organization but notes that major decisions involving the Organization are made by him. He goes on and emphasizes that sensitive decisions are strictly his to make and may sometimes involve the board if the matter is too significant to the company. In the case of decision making that needs immediate attention, the manager points out that they are made depending on the impact they have on the organization. Other staff members can make an immediate decision without consulting the manager if it is not of great significance to the organization. However, big immediate decisions are again made by the manager as he explains in the interview.

**Organization C**

“…mostly managers but there are delegation” (Manager, Organization C, personal communication, April 15th 2013). This is the response of Organization C’s manager regarding who is in charge of decision making in the organization. The manager goes on and adds that sensitive decisions are made by the head of departments and the manager. The decision making system in the company is done in a way that smaller decisions are left to the employees but crucial ones are handled by top management.

The manager asserts that the decision making processes and communication procedures in the different branches is not similar to the head office. Training is also done at individual branches depending on who require it.
**Organization D**

At Organization D decision making is not solely left to the top management. According to the manager at Organization D, other managers and team leaders are involved in the process depending on the kind of decisions to be made. She however notes that decisions that are considered sensitive to the organizations are either made by the manager or under the managers’ guidance.

The decision making system at Organization D involves quite a number of people and is not central to the top management due to the fact that decisions vary in magnitude and significance according to the manager.

**Organization E**

According to the manager at Organization E, decision making is spread within the organization but it depends with the degree of the decision to be made. He acknowledges that although mid managers have some jurisdiction when it comes to sensitive decisions, top executives handle the most sensitive ones.

Every branch of the company has their way of doing things making decision making and communication different from the head office.

**Organization F**

According to the manager at Organization F, decisions in the organization are mostly made by management, especially when it comes to sensitive matters that affect the organization. The manager also acknowledges that the decision making system at Organization F involves a few personnel.

The decision making and communication procedures in these branches are mostly the same as the ones in the head office.

**4.2.2 Hierarchy**

**Organization A**

Organization A has quite a wide range when it comes to job titles. According to the manager, organizational A’s structure has increased in levels over time. He attributes this change mostly to the new shareholders of the organization.

**Organization B**

According to the manager, Organization B has got a flat hierarchical structure which is composed of three levels, the manager, department heads and factory shop staff. The departments in the Organization are “finance, purchase, design, production and after market” (Manager, Organization B, April, personal communication 12th 2013).
Organization C

The range of job titles in Organization C is not very extensive and the manager points out that their hierarchy does not have a lot of levels. According to the manager at Organization C, employees can perform various tasks within their department and are not restricted to a particular activity.

Organization D

The range of job titles at Organization D is not too extensive. According to the manager, Organization D has acquired some companies over the years and this has altered the levels of the organization with time. When considered as a whole, the organization has two level of top management where there is a group manager under who there are two other managers who are in charge of the companies. One is in charge of three companies and the other is in charge of one company.

Organization E

The manager at Organization E claims that the organization’s hierarchical level is quite low and that it has additional levels compared to ten years prior. The manager also states that tasks in Organization E can be performed by various employees except in the technical manufacturing area where tasks are more specific to individuals.

Organization F

“...the range is a bit extensive” (manager, Organization F, personal communication, April 17th 2013), by this he refers to job titles within the Organization and acknowledges that it has changed over the years due to various factors. When it comes to tasks performed by employees at Organization F, they are specific to individuals in various departments but a bit flexible in the factories.

4.2.3 Job Descriptions and Roles

Organization A

In reference to employee tasks being permanent or flexible, the manager of Organization A admitted that roles are mostly permanent; “all employees have a clear role in each process” (Manager, Organization A, personal communication, April 10th 2013). He then added that the Organization Encourages employees to be knowledgeable on internal customer and supplier processes so as to enable some task flexibility.

Organization B

“...written in black and white” (Manager, Organization B, personal communication, April 12th 2013). In reference to how job roles are communicated in Organization B, the manager says that the tasks of each employee are written down on paper indicating the use of job manuals in the organization. This especially applies to office employees, however, the employees in the
workshop have job manuals but are not followed too strictly because workshop tasks entail a bit of flexibility from time to time.

According to the manager at Organization B, every employee has specific tasks to perform depending on which department they are involved in. He adds that employees at Organization B can be called to perform other duties within the organization showing flexibility in tasks. “I sometimes work in the workshop if there is need for it” (Manager, Organization B, personal communication, April 12th 2013).

**Organization C**

Job roles in the organization are written down. The manager however notes that this is more of a requirement but that employees do not necessarily do everything by the book. According to the manager of Organization C, employees can perform various tasks within their department and are not restricted to a particular activity.

**Organization D**

The manager at Organization D explains that tasks performed by employees at the Organization are not very rigid and permanent. She says that people help each other within departments and rigidity would only occur when it comes to crossing to another department. “…workers in the factory do job rotation; they do not sit at one place the whole day” (Manager, Organization D, personal communication, 16th April, 2013).

**Organization E**

Job roles at Organization E are mostly written down in manuals although some are communicated by word of mouth which mid-level managers are responsible for. This way all employees have access to the information pertaining to their roles and where an employee is not sure, then they seek clarification from their immediate managers.

**Organization F**

Job roles at Organization F are clearly written down on manuals. This makes it easy for the Organization employees to know what is required of them and how they are meant to perform them. Also, this helps with the assigning the work within the organization.

**4.2.4 Rules and Regulations**

**Organization A**

Rules and regulations at Organization A are communicated to the employees through leaders, in meetings and training on site. The importance of doing it in this way is that should the regulations change, every employee is made aware in person by their leaders.
**Organization B**

When it comes to rules and regulations in the organization, the manager admits that they have a written manual communicating these to the employees. However they are not too strict on these. The organization allows some flexibility when it comes to the implantation of these rules and regulations.

**Organization C**

Rules and regulations are written down according to the manager of Organization C. However, he admits that they are not very strict on the rules and that they can be bent once in a while and that managers are also responsible for communicating rules to employees.

**Organization D**

According to the manager at Organization D, job descriptions as well as rules and regulations at the Organization are written down for the employees. She clarifies that rules and regulations are not the same for every employee in the organization, “…rules and regulations at the factory are different from the ones at the sales department” (Manager, Organization D, personal communication, 16th April, 2013). She also adds that the rules and regulations are not followed too strictly in the organization.

**Organization E**

The manager at Organization E says that company rules are written down and that every department has their own set of rules. These regulations are however not very strictly followed but act more like guidelines.

**Organization F**

Rules and regulations are written down in the organization. These are mainly communicated through manuals and written documents. The manager points out that they are a bit flexible but are considered very important to the organization. The flexibility ensures that the rules are implemented on a case by case basis but a general guide applies to all.

**4.2.5 Communication**

**Organization A**

According to the manager of Organization A, communication within their organization is “…mainly through leaders in daily/weekly/monthly and quarterly forums” (Manager, Organization A, personal communication, April 10th 2013). He adds that they also have some additional modes of passing information in the form of bulletin boards and an intranet within the organization.

In the case of new recruits in Organization A, managers are tasked with the responsibility of explaining job roles to the new staff including what they are responsible for and what they are
authorized to do. The new employees are then appointed to guides in the form of experienced workers to help them integrate in to Organization A’s processes.

Department heads within Organization A are tasked with communicating organizational rules and regulations to employees. This is reinforced through employee meetings held within the Organization and trainings accorded to the employees. The manager acknowledges that Organization A’s rules and regulations are strictly adhered to; he explains the cause of this to be the process oriented structure the organization holds which requires employees to uphold the organizational standards.

Organization B

“…we are a small company, we are familiar with each other in the Organization and we see each other in the corridors everyday” (Manager, Organization B, personal communication, April 12th 2013). The manager states that daily communication in the organization is not that formal due to the fact that employees are used to interacting each other on a daily basis. He goes ahead and makes it clear that the organization still has got formal communication procedures; he gives instances that occur regularly such as board meetings which are held four times in a year, management leadership meetings held once a month and production meetings which take place weekly.

Organization C

Communication procedures in Organization C are through e-mails and managers speak face to face with the employees. Employees can also go direct to their head of department with issues.

Organization D

“…top management tells us what to do during the year” (Manager, Organization D, personal communication, April 16th 2013). This is in reference to the communication procedures at Organization D. The manager acknowledges that the top management gives instructions of goals and targets to be met within a year. The various teams in the organization then are left to communicate within themselves on how to achieve these with the guidance of team leaders.

Organization E

When it comes to communication at Organization E, information is passed from top managers to mid-level managers who in turn pass it to the employees although some times the top-level managers engage the employees face to face. “…sometimes top executives hold meetings with all employees” (Manager, Organization E, personal communication, April 19th 2013).
**Organization F**

“…managers give instructions to employees” (Manager, Organization F, personal communication, April 17\(^{th}\) 2013). The manager says that goals and targets are given to the employees by the management at the Organization and expectations are set.

### 4.2.6 Training

**Organization A**

“…we have training in three perspectives” (Manager, Organization A, personal communication, April 10\(^{th}\) 2013). Organization A puts a lot of time and emphasis in training their employees. This shows how significant employee training to their processes. The organizations has training centers that are responsible for practical and theoretical training as well as test employees, they have on job trainings and when need arises employees are sent for external training programs.

When new employees join the organization, they undergo a routine training which lasts for a week and covers what the organization is all about including their philosophies. This is done prior to new employees undertaking their roles in the organization.

The manager points out that additional training within the Organization are held in regards to process needs. He adds that no matter the time trainings in the organization take, they are all focused on the long term.

Organization A’s manager agrees that the organization values good academic back ground when recruiting new employees. He further argues that, although good educational background is important to them, the right attitude and commitment is also very significant in employee quality. However, having the right attitude and commitments seem to be a more preferable trait in Organization A. “…the hard truth is that we would rather employ a person with low academic training but with the right attitude and commitment and build the competence ourselves over time compared to employing the right academic level but with bad attitude and commitment toward the work and company” (Manager, Organization A, personal communication, April 10\(^{th}\) 2013).

The manager noted that training in Organization A is branch specific and not general to all branches. He adds that training will be wide in reference to Organization A’s branches in the near future.

**Organization B**

New recruits are appointed to an experienced employee who guides them through their tasks practically for a certain period.

Organization B offers training to new employees, especially those that are recruited to work in the organization’s workshop main reason being that the assembly steps of their products are specific to their organization. They mainly have internal training specific to their organization which is continuous due to new technology and upgrades within the organization.
“…two to three months if one has good back ground” (Manager, Organization B, personal communication, April 12th 2013). According to the manager, employee training at Organization B is mostly short term which he claimed to take two to three months for one to be fully integrated. This however depends on an individual’s professional background.

In regards to the qualifications potential employees at Organization B are required to have, the manager categorizes it in to two depending on departments. He says that when it comes to office work, the organization goes for high qualified personnel where as in the workshop, they may employ people with some knowledge that is related to their assembly line and train them to the organization’s standards.

**Organization C**

“…yes, both on and off the job” (Manager, Organization C, personal communication, April 15th 2013). This is in reference to whether the organization offers training to employees. The manager adds that training is done when it is required for instance, when there is introduction of new technology in the Organization but there is mandatory training four times in a year. Long term training in the organization takes three to six months while short term training takes two to three months. The longevity of the trainings depends on the type of training being held by the company.

The manager of Organization C says that they mostly prefer professionally trained potential employees but in some departments they accept basic training though these employees would receive some additional training from the organization. New employees are appointed to senior employees who act as guides and help them integrate. Training is also done at individual branches depending on who require it.

**Organization D**

In regards to training at Organization D, the manager says that it is both internal and external. She adds that they hold training after every two to three months in their Organization and that the organization values long term training more than short term. When it comes to qualifications of potential employees, the manager notes that some fields and departments require high and relevant qualifications while some just require basic knowledge and one can be trained on the job.

Training in the organization however is branch specific. The manager points out that this is due to the fact that different employees within the organization require different kinds of training and at different times.

**Organization E**

The manager at Organization E asserts that the organization has training both off and on the job. He adds that training is especially common with the arrival of new employees. According to him, training is done quarterly in a year and every time there are new recruits. For Organization E,
short term training is considered to take two to four months while long term takes four to nine months. The manager acknowledges that the organization hires both professionally trained employees and basic academic trained employees depending on where an employee is posted. He adds that training in the organization is specific to branches.

**Organization F**

The manager of Organization F acknowledges that training is offered to employees. This training is mostly on the job. The organization holds training approximately four times in a year as the manager explains. He adds that short term training in the organization takes two to three months while long term training takes three to six months. Organization F employs personnel with both basic and professional academics and experience. The training at Organization F is branch specific as the machinery in each is different.

4.2.7 Departments

**Organization A**

In regards to departments, Organization A has separate offices for most of their departments. However, there are some few departments within the organization who share an open office landscape. The different departments however also share the same social areas within the Organization and so the degree of departmentalization is not too intense in Organization A.

Organization A has notably numerous branches all over Sweden and internationally. According to the manager, Organization A has opened the various branches within Sweden and around the world progressively with time. He adds that the main reason for choosing areas where to open new branches is the demand of their products in these markets. The functions of these branches are “distribution and after market perspective” (manager, Organization A, personal communication, April 10th 2013).

**Organization B**

The different departments in the organization sit in different offices within the Organization but have common social rooms such as the cafeteria. The manager of the organization points out that Organization B does not have other branches in different geographical locations and specifies that they only have sales agents and dealers and notes that they do not plan to open other branches.

**Organization C**

The organization consists of five departments which have increased within the past decade. These departments sit in separate offices but share the same social places such as coffee areas. Organization C has got different branches in Sweden and in fifteen other different countries. The manager says that these branches especially the ones in Sweden have specific roles in manufacturing while the ones that are international are mostly for sales though they might be used to find new markets.
Organization D

According to the manager, the number of departments at Organization D is seven. These departments sit in an open office system in some branches while at other branches they operate from different offices. They however have common social places where employees interact, such as cafeterias.

Organization D has got various branches within Sweden. According the manager at Organization D, these branches have no specific roles and are all for the sake of expansion of the organization. However, we noted that most of the branches were close to the resources that the organization needed. For example the branch at Umeå was located there so as to get high qualified employees. These branches have been opened with time and the manager acknowledges that decision making and communication processes are similar in all the branches of the organization. The organization makes a conscious effort to streamline its processes across the four companies.

Organization E

“…six and yes they have increased in number” (manager, Organization E, personal communication, April 19th 2013). According to this statement, the manager says that the Organization consists of six departments and that they are increasing by the years. The departments at Organization E sit in separate offices but have common cafeteria where they have meals together.

According to the manager at Organization E, the company has various branches in the northern part of Sweden and around the world. These branches serve specific purposes for the organization. Some were established for manufacturing while some are for product sales. The manager claims that these locations were chosen due to the fact that they are closer to the market and resources needed by the organization.

Organization F

The manager says that the organization has got twelve departments and that they have increased within the years passed. The departments sit in separate offices but have common social areas and eateries. Organization F has got other branches within Sweden and a few across the borders. These different branches have specific roles in the organization. The manager says that the locations chosen to open the branches are either close to the market or resources. The branches have been opened over a stretched period of time. The purpose of the branches is to bring the product closer to the consumers and to be close to company resources. In Table 10 below we have a summary of the Formal Organizational Structure of the organizations we considered.
Table 10: Summary of the Formal Organizational Structure among the organizations

<table>
<thead>
<tr>
<th>Decision Making</th>
<th>Org A</th>
<th>Org B</th>
<th>Org C</th>
<th>Org D</th>
<th>Org E</th>
<th>Org F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hierarchy</td>
<td>Tall</td>
<td>Flat</td>
<td>Flat</td>
<td>Flat</td>
<td>Flat</td>
<td>Tall</td>
</tr>
<tr>
<td>Job description and roles</td>
<td>Decentralized and permanent</td>
<td>Documented and flexible</td>
<td>Documented and flexible</td>
<td>Documented and flexible</td>
<td>Documented and flexible</td>
<td>Documented and flexible</td>
</tr>
<tr>
<td>Rules and regulations</td>
<td>Documented as guidelines</td>
<td>Documented as guidelines</td>
<td>Documented as guidelines</td>
<td>Documented as guidelines</td>
<td>Documented as guidelines</td>
<td>Documented as guidelines</td>
</tr>
<tr>
<td>Communication</td>
<td>Formal, Periodic forums, bulletin boards and intranet</td>
<td>Informal, face to face, periodic meetings</td>
<td>Formal, emails, face to face</td>
<td>Formal, meetings</td>
<td>Formal, face to face, periodic meetings</td>
<td>Formal, periodic meetings</td>
</tr>
<tr>
<td>Training</td>
<td>Long term and short term, branch specific</td>
<td>Short term and on the job</td>
<td>On and off the job, long and short term</td>
<td>On and off the job, long term</td>
<td>On and off the job, long and short term</td>
<td>Short term and long term branch specific</td>
</tr>
<tr>
<td>Departments</td>
<td>Few departments, several branches</td>
<td>Few departments, no branches</td>
<td>Several departments, several branches</td>
<td>Several departments, several branches</td>
<td>Several departments, several branches</td>
<td>Many departments, several branches</td>
</tr>
</tbody>
</table>

4.3 Inter-organizational Network

In this section we investigate the interactions that organizations form and how these contribute to their networks. We consider interaction partners, the initiators of these interactions, the frequency of the interaction, how the interaction occurs, reciprocity, new interactions and mobility between networks.

4.3.1 Interaction Partners

**Organization A**

This organization has several network partners. These partners include customers (who may be both final customers and other businesses), suppliers, non-profit organizations, non-governmental organizations and even politicians. Network partner selection is dependent on the brand name. Organization A seeks to partner with organizations that would help build its brand so as to enable growth and also in cases where they want to address certain issues that come up with the brand building process such as corporate social responsibility (CSR) activities.

**Organization B**

Organization B has a broad network. It has one branch in Sweden but it interacts with other organizations internationally who act as their dealers. However, the manager of this Organization explains that interactions can take a long time to be established. He gives an example of how their Belarus interaction was established. Organization B participated in a forestry exhibition in
Germany in 2008 where they exhibited their machines and made contact with the potential dealer from Belarus. It took a year for that contact to engage Organization B and another year for the first machine to be delivered to Belarus. It took two years from the first encounter and show of interest to this interaction actually materializing to a business deal.

Organization B is mainly a production company and develops customized and unique designed machinery. A great percentage of its budget is dedicated to research and development. It relies on its dealers to reach markets outside Sweden. To facilitate this process, the organization trains these dealers on how to use and service these machines. This training ensures that machines can be maintained in the various markets without delaying productivity unnecessarily. The training is carried out once or twice a year and can be conducted in the dealer’s country (known as domestic training) or in Sweden. These dealers act as sales agents or workshops who promote Organization B machines in their various markets and they offer service warranties, spare parts and servicing.

Within Sweden, Organization B has service or mechanical workshops but this are considered as low level interactions thus network partners who hold periphery positions within the network. However, Organization B dealers act as export interactions and they have one for each country they deal in.

According to the manager, a network partner should be good at communicating, honest with genuine intentions and good skills and should be knowledgeable in the business and machines that Organization B produces. This way, these dealers will be better placed to market, sell and service the machines that are sold in their countries. Organization B has dealers in Scandinavia, most of northern Europe, Japan and Canada.

Organization C

The head office is involved with product development, manufacturing and final assembly. Given this specialization determines the kind of network interactions that the head office makes. This branch also serves more of an administrative role than the other two branches. It interacts with research and development organizations which can aid its efforts in product development. Although the organization keeps the vital elements of research and product development in house, they interact with technical institutions that would help it better place itself in the market. Organization C aims to have the best machines in Europe and have their brand identified internationally.

The head office is also a spare parts warehouse, a service department and a training centre. These areas of operations also extend the network interactions that the head office can engage in. The organization interacts with customers who need servicing for their machines and also relies on other organizations to help train its employees in new processes. This training centre is also extended to other organizations that need to understand how Organization C’s products work. Often times, this centre is used to show new customers how to best utilize the machines. New technical employees are also trained here then they can be sent off to either one of the two branches.
The other two branches are mainly focused on manufacturing. The branch in the southern part of Sweden is tasked with the manufacture of loaders, different types of wagons and tractor frames. In this regard the interactions are mainly with suppliers who supply the machines required for manufacturing these machines. There are also network interactions with mechanics and customers in the far south east area of Sweden. The main interactions are on the sales front and this branch is mostly used to support the head office in this way. However, it is still free to form its own interactions. It is much smaller than the head office and only employs 25 people.

The branch in the northern part of Sweden is tasked with the manufacture of forwarders, different types of single-grip harvester heads, loader arms and cabs for all machine models. This facility is twice the size of the one in the south east and it employs 50 people. The reason that this branch is larger is because other than the manufacturing, it also serves the sales in the northern part of Sweden. It also services the machines distributed to this region. This branch can also form its own network interactions but like the one in the south east area, these interactions are mainly sales related in nature. Given the location of this branch, one unique network partner it has is farmers who are specialized in tree falling within the Västerbotten region. New interactions that have recently come to the Organization are other machine manufacturers. These organizations get harvester heads and loader arms from Organization C to supplement their machines.

In general, the network interactions are customers (individual farmers and other organizations), suppliers, mechanics and service centers. There are no set criteria for selecting network interactions; Organization C is free to form interactions as the opportunities present themselves as long as the said interactions are beneficial to the bottom line. The network interactions entered into are sought for various reasons. Suppliers are sought for resources which are in form of parts, customer network interactions are formed so as to achieve the goals the organization has set, forming network interactions with technical companies help Organization C to remain competitive by coming up with innovative designs and more efficient procedures.

Organization D

The Organization D has four separate companies which work independently of each other but they are making efforts to streamline their processes. In an effort to make this possible, the employees are empowered to make certain decisions such as the organizations that they will interact with. This is more common for the sales companies as they bring in both the customer interactions and the regulatory institutions such as municipalities and government institutions. Employees know the goals and objectives that the Organization hopes to achieve and this helps in the partner selection.

Organization E

Organization E is keen on forming network interactions with like minded organizations. It uses trade fairs and exhibitions to make contact with potential interactions. An example that the manager gave us was the Bauma 2013 that will bring together players in the forestry industry together. The organization is also currently taking part in an exhibition in Stockholm, the capital
city of Sweden. This is another opportunity for the organization to form new contacts and potentially get network partners.

When selecting network partners with whom to interact with, Organization E seeks organizations that would aid its product development in terms of innovation and creativity. Organization E is associated with high quality products and as such it expects the same from the interactions it makes. Having an ultra modern manufacturing plant allows Organization E to have world class manufacturing abilities but it requires alliances with other organizations so as to facilitate the delivery of its products.

Organization E has worked hard to build a strong brand which is now established and recognizable within the forestry sector in Sweden. This success has led to a demand in its products in other nations. Although manufacturing is mainly done in the north of Sweden where the organization is located, it relies on its network partners to ensure its products are available in these markets thus making dependable deliveries. Organization E is determined to lead the market for the foreseeable future and as such it invests considerable resources in product design and development. These efforts are facilitated by working closely with the world’s leading manufacturers of forestry equipment and machinery.

**Organization F**

Organization F has been in operation for a very long time. It relies on network partners to help spread its reach. It is located in the northern part of Sweden. Within the country itself it has a network of dealers spread out according to the market demand in the given area. The northern part has 10 dealers including the head quarters while the southern part has 55 dealers. Demand in the south is quite high and having more dealers there ensures that there are facilities near the customers to not only provide the machinery for sale but also to service it when maintenance is required. This dealership also extends to other nations within Europe where Organization F has 25 dealers.

Organization F also interacts with customers, both individual and institutional, government institutions and suppliers. To be able to meet the growing demand for its products, Organization F has opened up a facility in a country in Eastern Europe. This facility serves the organization in two folds; it manufactures the products at lower costs than in Sweden and it services the east European market. To be able to establish this facility here, the organization interacts with government institutions within that country. The government institutions vary from the environmental agency, to the labor agency to the quality control board. Organization F has received ISO certification for its environmental policy in Sweden and this recognition has opened quite a few doors for it in the foreign markets. Regarding the ISO certification, Organization F also interacts with the Swedish governmental agency responsible for ensuring the environmental safety procedures in organizations. This interaction is regular so as to make certain that the guidelines put in place are strictly adhered to.
4.3.2 Interaction Initiator

**Organization A**

Most interactions with this Organization are initiated by the other network partners who approach the organization. However Organization A can also initiate the interactions depending on the circumstances.

**Organization B**

The manager is the contact person for network interactions but he also consults the board when the interactions have potential access to huge markets. Being a small Organization and having one person as the point of contact makes the network interaction process faster. He is often open to contributions from his staff for potential network partners. If someone in his staff has found a potential dealer, he is open to exploring the possibility of the interaction.

Network interactions can be approached by either Organization B or the potential dealers. In the case of potential dealers, it is most common where Organization B machines are in demand in these markets thus the potential dealers approach Organization B with the opportunity to work together. If this opportunity is viable then the interaction negotiations begin like in the case of the network partner from Japan, if not, for example if Organization B is not ready to service the new market (maybe because the market is too far from Sweden) or if Organization B feel they do not have the right product for that market, then they put the opportunity on hold until they are better suited for it. In the case of Organization B, the organization realizes an opportunity for growth in a certain market and they actively search for dealers who can support their entry into this country of export. When Organization B participates in exhibitions, the option of forming interactions is open to both parties; the product meets the market on an even platform.

**Organization C**

The interactions can be initiated by either Organization C or by the network partner depending on the need at hand. Sometimes Organization C approaches potential and or existing network partners so as to achieve a predetermined end and other times the network partners seek interactions with Organization C so as to consume its products. When a contact is interested in the products that Organization C is offering, the interactions become more personal, face to face, email and telephone.

**Organization D**

The Organization D has come a long way and has established itself in most major areas of the wood production industry. This has been done by joining forces with other organizations that can help bridge the gap between their current position and their desired one. Such interactions that would affect the whole Organization are usually the responsibility of top management. These interactions have seen the company merge, acquire or partner with other organizations. The non-managerial staff, such as those in the sales department, is tasked with the responsibility of creating awareness. The head of the sales is in charge of identifying the customer interactions to be made then together with the sales team they divide the customers and each member of the
team is assigned a customer thus oversees the interaction process – becoming the contact person with that customer.

These awareness interactions see the organization partner with government agencies and regulatory bodies which are required to ensure that the structures put up by Organization D meet the required standards. They also interact with various educational institutions such as the architects’ school that provide potential future employees. The organization takes advantage of these network interactions to share information about changes in the business of wood and also to advocate for the benefits, especially the environmental ones, of using wood over steel and concrete.

Network interactions such as those with competitors help the organization determine market trends. The head of manager sales is assigned a position on a board that brings together the participants in the wood industry and here they get to share expertise in their various areas. Other interactions offer training opportunities for customers and other concerned stakeholders on how Organization D’s products work. Thus these network interactions share both knowledge and information but they are also company specific. This means that each of the four companies within the Organization D is free to make their own interactions. Either way, network interactions are aimed at securing more customers.

**Organization E**

Interactions can be initiated by either Organization E or its network partners depending on the need for the interaction. Organization E is open to making new contacts but is keen to have the regulations put down in writing so that each party explicitly knows what it brings to the interaction and what it gets out of it. This ensures that both parties have their objectives met without one being disadvantaged in the process hence reciprocity. Interactions once established are mainly done over email and telephone especially with interactions with network partners who are abroad. The local interactions are frequently face to face and over the telephone.

The organization considers one of its most important interactions to be with suppliers. For this organization to consider partnering up with a supplier, the supplier must conduct their business in an ethical and environmentally responsible manner. Organization E sets out policies to guide its interaction with network partners. Should the network partners fail to comply with the agreed rules and guidelines of interaction, then it may result in the termination of the business. However, these interactions are considered on a case by case basis.

**Organization F**

The head office in northern Sweden serves an administrative role in addition to the production function. This means that administration related network interactions are centered on this office. Although the head office is also a sales point, a majority of the customer interactions occur at the dealership set out all over the country. To make certain that the product and service delivery is the best and is replicated all over, the dealers meet in the head office regularly to attend product and product technical training. This training is done sometimes by Organization F but there are
times when they invite technical experts to introduce them especially to new technical advancements in the industry.

Interactions can be initiated by either party. If, for instance, Organization F is interested in getting training, it will approach the organizations who offer the expertise it seeks. Should a customer be in need of a product that Organization F is producing then the customer will approach the organization or the dealers who then act as the contact points for interaction. The manager explained that network interactions are two way and are consistently changing depending on the level of association among the organizations.

4.3.3 Frequency and Modes of Interactions

Organization A

These interactions are frequent and can be on a weekly basis with some of the partners such as suppliers and customers. The interactions are done in face to face meetings, over the telephone and email. Exhibitions give Organization A the opportunity to interact with new potential customers.

Organization B

Organization B keeps a close contact with its network partners and they interact very often. Czech Republic has the most interactions with Organization B and they communicate almost on a daily basis. However the contacts within Sweden are more on a weekly basis. These interactions are through email and telephone.

Organization C

The interactions have different frequencies depending on the network partners. Some are more regular than others but they are mainly done in a similar manner. For the head office, some of the initial interactions can be done in conferences, seminars, forestry trade fairs and exhibitions. The branches have interactions in two regards, sales and service. According to the manager, they prefer to have more sales interactions than repair and service because they pride themselves in having high quality reliable and durable products.

Organization D

The main network partners that the Organization D has are customers (who can be both individual and organizations or institutions), government agencies such as municipalities, competitors and educational institutions. Customers are both in Sweden and internationally. For instance, Japan has the most interactions on the export market. Organization D interacts with competitors in an effort to present a united front against the steel and concrete industry. Either party can initiate the interactions depending on the need to do so. For instance, if Organization D has a new project then they will approach the municipalities for permission to set up the structures but when customers require putting up wooden constructions then they approach Organization D.
Interactions change from time to time. For instance, in the recent past Organization D has provided farmers with wood for building animal sheds but this year, the European Union did not offer the farmers’ money to build sheds so Organization D has had to suspend interactions with these customers until they are able to build again. This shows that network interactions are determined by the events at hand and as such may not always be consistent. However, the government regulatory agencies more so the municipalities, architects and customers (both new and repeat) are the most frequent network interactions that the Organization D has. All network partners are considered as being vital to the process and as such they want to interact with them as often as possible.

**Organization E**

Organization E has interactions around the world and to meet customer requirements for high functionality and product value, it teams up with other organizations that facilitate its constant development in design, product value and functionality. This organization aims to maintain its lead in the production of rotator systems by remaining innovative. It does this by forming network partnerships with organizations that would help it achieve these goals. It exports about 65% of its production to over 40 worldwide markets. These interactions are mainly over the telephone and email although from time to time, they do visit the various markets. The manager also explained that the frequency of interaction was varied and it depended on both the purpose of the interaction and the type of network partner. For some it was more than for others.

**Organization F**

Organization F draws a wide range of benefits from its network interactions. These include training and development, a wider market reach and approval for operation by the regulation bodies. For instance, having a wide network of dealers’ means that the organization is near the customer and thus offering the best possible service. Maintenance is also possible in a timely and efficient manner. Organization F has spares departments attached to all its dealerships making them ideally one stop shops in regards to sales. These dealerships are free to form their own network interactions but they are responsible to ensure that these interactions adhere to the standards that Organization F is used to having. The interactions involved here are mainly of low levels like with delivery companies who transport the products to the customers’ locations and with mechanics who are involved in the servicing of the products.

Interactions occur in various ways, face to face, over email or over the telephone. Organization F is fond of participating in trade shows across Europe. These give it a chance to show case its products and to make new contacts which often materialize into actual sales. Organization F has high performance standards that it adheres to. These also guide the kind of interactions it forms. The network partners have an understanding of what the other brings to the interaction and this ensures reciprocity.
4.3.4 Reciprocation

**Organization A**

Organization A enters networks with the understanding that the exchanges will not always be equal. They aim to build long term relationships and in the cases where the interactions are not reciprocated evenly, they focus on strengthening their relationships by engaging in dialogues and value adding activities. Organization A feels like the network exchanges are a give and take process so “sometimes you give sometimes you receive so in the long run it is a win-win puzzle” (manager, Organization A, personal communication, April 10th 2013).

To ensure that they get as much out of the interactions as they put in, Organization A ensures that there is good planning and straightforward dialogue in their interaction process. Organization A feels like it has the right network partners but acknowledges that with time, this might change “due to market demand or legislations that makes us establish other interfaces toward external partners” (Manager, Organization A, personal communication, April 10th 2013).

**Organization B**

The manager explained that some network partners are better than others. Some are more active than others and that those that those who are more active are more successful in terms of sales performance and results. He also stated that organizations join and leave the network over time but when they do, they inform their interactions that their intentions have changed. “…sometimes dealers tell us that they want to do something else …” (Manager, Organization B, personal communication, April 12th 2013). In this case, Organization B will search for other dealers in that market. However, this is quite rare. It is more common that opportunities to interact are sought rather than ended.

**Organization C**

The interactions are not always ideal, some are better than others but Organization C works on the policy of one good turn deserves another. It might not always get the best deal in all interactions but it believes that perhaps the next time it will be getting the upper hand thus ensuring reciprocity.

**Organization D**

According to the manager, the customer interactions are doing quite well and they have no complaint in this regard. The municipalities and government regulatory bodies are also easy to deal with and they tend to contribute their part to the interaction. The network partners on the education front also meet Organization D half way because they allow their architect students to participate in the projects when they are undertaken. In this regard, the reciprocation is clear and according to the manager both Organization D and their network partners are happy with their current interactions.
**Organization E**

This organization forms interactions to serve a specific need whether an immediate one or a future anticipated one. Either way, it goes into these associations with clear motives and according to the manager, they also require the same from their partners. The roles and contributions are expressed though not always in great detail, but they are clearly explained and agreed upon by both Organization E and its network interaction partners. Then the manager also pointed out that should the requirements of the interaction change, the partnership is reviewed and the relevant changes are expressed and agreed upon.

**Organization F**

According to the manager, what you give is what you get. He explained that if you do your part in a network interaction then you have the right to require the same from your partners and that if this is not what you receive then you should ask for what you need. The manager also told us that network interactions are relationships and although they are business in nature, they are conducted by individuals. He says that Organization F’s approach to network interactions is give and take “… when you are short on the receiving then strategically place your needs that the next time you interact, you will have an advantage because you over looked the situation last time …” (Manager, Organization F, personal communication, April 17th 2013). He mentioned that interactions are not to be formed lightly; they have repercussions as well as benefits.

**4.3.5 Repeat and New Interactions; and Mobility within networks**

**Organization A**

In the last five years, this organization has formed over fifty new interactions going up to two months ago. They also have over twenty other interactions being repeat interactions going back several years.

Organization A has never had difficulty joining a network that they wanted to join as they suggest that it is easy to move from one network to another. The manager of Organization A also noted that the organization is “often involved in several networks covering different issues and interests that cover the full scope of the organization’s interests” (manager, Organization A, personal communication, April 10th 2013).

When asked about how easy it is to enter new networks or to form new interactions, the manager explained that Organization A takes on an active approach. The manager suggests that the only way to get what you want is to dare. He further explains that attitude and commitment go a long to ensuring that the interaction is established and a network formed. “You can never blame the other party for a bad interaction” (Manager, Organization A, personal communication, April 10th 2013).

**Organization B**

According to the manager new interactions are easy to form as long as you remain open to the opportunity. However, in remaining open, the potential of new network interactions must be
viable. Before Organization B turns down an opportunity, they consider it extensively from all angles and this may include travelling to that country and visiting the potential dealers. Organization B aims to establish contact with at least one new export country a year. This may not seem like much but considering the costs in terms of time (spent in meetings, discussions and other communications) and financial investment (spent on travel and set up costs) commitment required to open up these markets, then one market for their machines a year is quite an achievement.

These dealers who form part of Organization B’s network usually present Organization B with opportunities for other potential interactions. The manager explained that the forestry industry is small and forming new interactions is easy because most organizations know each other. This familiarity makes it possible to enter into new networks easily. The manager also credits the internet for further facilitating the interaction process. However, when Organization B decides to form an interaction, they ensure that this decision is communicated to the staff thus they work towards strengthening the interaction with a united front.

**Organization C**

Organization C has interactions both within Sweden and in other countries. They are sales and service offices in 15 countries including Canada, USA, and Australia with the rest spread out across Europe. Export market is big for Organization C however all production is done within Sweden. About 50% of Organization C is exported to Europe, Russia, North America and Australia. The organization has a good dealer network in Sweden and abroad. In this way, Organization C finds it easy to move from one network to another. The manager informed us that since their network is quite extensive, it is also easy to join up with attractive organizations. This organization seeks interactions with network partners who may be present in markets that have potential for their business. This is in fact how the organization was able to penetrate markets in Denmark, Norway, Chile and even Tanzania where they used United Nations agents to help deliver their machinery.

According to the manager we spoke to from Organization C, forming new interactions is not difficult. As long as both parties are willing to have a give and take relationships then the formation of network interactions are not only possible but they can also be successful. Organization C has made over one hundred new network interactions in the last five years with repeat interaction of about two hundred in the same period. These interactions, new or repeated, are considered as part of Organization C’s network.

**Organization D**

The best attitude to have when it comes to establishing network interactions is that they can always be convinced to join the network. For instance, Organization D goes to great lengths to educate its stakeholders on the value of using wood in construction and this has brought in a lot of new customers. In the last year alone, the new contacts made by the sales department in one of the four companies were two hundred and fifty with one hundred repeat interactions. This organization takes opportunities of events such as the ‘Wood 2012’ exhibition which brings together people from municipalities who work together to find ways to increase the use of wood
among the customers by informing them of its benefits. However, this is not always the case. Sometimes, the customer could have previously used steel and concrete thus convincing them that wood is a better alternative thus change their buying habits can be an uphill task though not necessarily an impossible one.

Organization E

In the last five years, Organization E has made over three hundred new interactions with over one hundred fifty repeat interactions. These figures are attributed to Organization E’s extensive network both locally and internationally. Organization E has an extensive international distributor network in addition to two subsidiaries one covering Germany, Austria and Switzerland and the other covering North America. This worldwide network of distributors and service centers offers servicing and maintenance of the products Organization E sells.

According to the manager we spoke to, Organization E enters into long term interactions which have proven to be very fruitful and beneficial to the organization. He said that the organization values these interactions because they are part of its network and as such does not engaged in them lightly, it is a well thought out process.

Organization F

In the last five years, the organization has made up to eight hundred new interactions with over five hundred being repeat interactions. The manager explained that if you offer a quality product and you treat your customer well then they are not only likely to return but they are also likely to recommend your product to others.

4.4 Formal Organizational Structure and Inter-organizational Network Interaction

Organization A

In Organization A the interactions formed and networks entered into are not decided centrally but rather branch based. The individual who decides the interaction formed with a potential partner is connected to the role and responsibility of that aspect within the organization. This means that there are several contacts for the various interactions within the network. Being a large organization this task is decentralized so as to achieve efficiency.

Once the decision to join a given network is made, the decision is communicated in meetings so that the whole team is on board and aware of whom they are associating with. This also helps streamline processes in that the organization. Knowing which organizations are network partners and in what areas, allows the future interactions with the said organizations to flow through one point of interaction. This gives the organization a united front when approaching the external interface.

Part of the benefits derived from the network interactions include the trainings that are centered on the corporate social responsibility (CSR) activities. Organization A is involved in CSR
activities such as supporting human resources development in Senegal and offering a social rehabilitation program for young Chileans. According to the manager of Organization A, these trainings give them the opportunity to “use our internal resources for social contribution” (Manager, Organization A, personal communication, April 10th 2013). He further explains that this adds value to both organizations.

The management structure of Organization A does not hinder how it interacts with other organizations because the decision making of this aspect is decentralized. The manager of Organization A also explained that the internal decision making system does not influence how the organization interacts with other organizations because interaction decisions are separate and are determined at the branch level. Organization A can make interactions at any of the various management levels it has however, when decisions pertaining to these network interactions become sensitive and directly affect the brand image of the organization, then top management take over.

The office plan at Organization A is open and as such it is easier for departments to collaborate, share ideas and even extend their network interactions to other departments of the business. For instance, if a network interaction was brought in by the marketing department, it does not mean that the production or design section cannot benefit. Ideas and contacts are shared freely. The organization also has several branches both domestic and international which are free to form their own network interactions so in this regard, the organization structure broadens the organization’s network reach.

The internal set up of rules and regulations also do not affect how the organization interacts with other organizations because each interaction is dealt with individually. Although the network interactions are mainly centralized to the head office, there are cases where the branches foam networks at their different locations. The manager of Organization A explained that the different branch sites having different cultures and traditions specific to that location can better form network interactions at those points as opposed to doing it from the head office. This organization considers personal interactions among employees and when forming inter-organizational networks as being of great significance to it.

When considering the formal organizational structure of Organization A and how this interacts with its inter-organizational networks we consider the resource needs changes. Organization A has a decentralized decision making system and the branches are free to form network interactions that suit their needs. In this way, we see that when the resource requirements change within a branch, then it reaches out to the potential network partners who would best meet these needs. Interactions are seen to be formed so as to meet specific needs and it is acknowledged that the needs vary among the branches. This means that since the resources needs are different in each branch their network interactions will also be different.

Organization B

According to the Organization B manager, he decides on the interactions the organization will get involved in. He then adds that if network interactions need more considerations, the board members of the company are then involved in making the decision. The employees in the
Organization are then informed of the intention of forming new interactions once the decision has been made by top management. The decision on whether and how to interact with another organization in this case is centralized.

Organization B holds some training sessions with the organizations they interact with. The manager specifically points out that they usually offer sales training and product training to their dealers once or twice a year. He adds that the reason for these trainings is for their interactions to understand how Organization B products work and learn how to service them. He points out that these products are somewhat expensive and so they want the end users to get the best services possible from their dealers hence building and maintaining a good reputation for Organization B within the networks they are involved in.

“…partly yes…” (Manager, Organization B, personal communication, April 12th 2013). This statement is in reference to whether Organization B’s management structure affects how they interact with organizations. The manager notes that the fact that most decisions are made by him makes the process faster; he goes on and gives an example of a larger company he worked with before and notes that the time difference in decision making in his former company compared to Organization B was significantly different. The rate of making decisions at Organization B was faster. He also notes that the system they have of decisions being made by one person or a few people might sometimes lead to poor decisions.

The internal decision making system of Organization B affects the interactions they make with their dealers. The manager of Organization B points out that they do not work with companies that have complicated structures. Being that Organization B has a clear simple structure, they prefer to interact with network partners who have similar structures. This preference of network partners also has to do with the frequency of the interaction. Organization B interacts a lot with its partners and as such the easier the communication channel the more efficient the process.

According to the manager, Organization B’s interaction with other organizations is central to their head office. This is due to the fact that Organization B has no branches elsewhere. They instead have a system where they use dealers to supply their products. This means that having a lean formal structure requires that Organization B rely on other organizations so as to expand its reach.

Organization B’s manager states that he listens to ideas of employees within the Organization and that he encourages them to speak their mind. He admits that personal interactions among his employees and other employees in different organizations are significant to the organization when it comes to forming networks. He also adds that he is responsible for all interactions formed outside the Scandinavian borders and that the sales manager at Organization B is in charge of interactions within the Scandinavian region.

In Organization B, the decision making is centralized at the top. This means that interactions with other organizations are determined by the manager and he determined how the resource need changes are going to be met. He determines which interactions are best suited for meeting which needs. If the needs change, for example training needs, then the manager is the one to source the best network interactions to match those needs.
**Organization C**

Organization C has three branches, two in the southern part of Sweden and one in the northern part of Sweden. These branches have specific tasks and as such are responsible for their own interactions subject to their areas of specialization. The head office has 150 employees; the second branch in the south has 25 employees while the third located in the north has 50 employees. This means that due to the different sizes of the three branches, the number and type of network interactions in each will be different. The head office has a broad range of network partner interactions because it serves an administration role and as such, it has more departments than the branches which are mainly sales and service oriented.

The decision making process is decentralized and the different levels have more discretion as to the interactions they form. This also adds to the diversity of the interactions with Organization C’s network. Also, the branch in the north has more interactions than the one in the south east because of its larger size and the fact that it serves this region alone while the south east branch supports the head office.

Organization C has three branches with specific roles meaning that the resource needs for these branches differ from each other and at different times. This is also shown by the decentralized decision making system because the management understands that the people who best know the need requirements are those who are on the ground. As the resource needs change, the branches form the required inter-organizational networks necessary to meet these needs.

**Organization D**

When it comes to forming interactions at Organization D, team leaders have the mandate to make these decisions. The manager says that team leaders have the leading role but they discuss with their teams before making the final decision. The decision is then communicated to the team via meetings before the interactions take place.

The manager at Organization D says that contacts can be made by employees in the Organization and not necessarily by team leaders and managers. She adds that contacts made can be maintained by the employee who made them. However, the making and maintaining of contacts also depends on the size and amount of business they bring to the organization. Decisions regarding contacts considered to be major are taken to the manager who then decides who is best fit to make the deals and maintain them. The manager also points out that they do not encourage employees to be the contacts for interactions with which they have personal relations with, like friends or family, to avoid misunderstandings and to keep it professional.

The Organization D manager points out that they do not hold trainings within their interactions. She however notes that they offer instructions to their network partners when it comes to product use. She says that the organization values the instructions they offer a lot since they are meant to lead to better use of their product which in turn leads to a good reputation for the organization.
According to the manager at Organization D; the management structure, internal decision making system and the internal set up of rules and regulations within the Organization do not affect their interactions with other organizations. “… not at all…” (Manager, Organization D, personal communication, April 16th 2013).

Organization D interaction with other organizations is not central to the head office. The manager says that branches of the organization can form networks on behalf of the organization. She also adds that the location of their branches influences Organization D’s interactions with other organizations.

Personal interactions among employees at Organization D and those of other organizations are considered significant to the organization. The manager says that they encourage the employees to make contacts on behalf of the organization. She adds that this though depends on the department an employee works in.

Organization D is a collection of four companies and this affects the kinds of interaction they choose to have in their networks. The group joins forces with other organizations that already have reach in markets it is interested in, but has no direct access. The company has a well-developed contract network in the countries in which it operates. Collaboratively, these joint-owners are able to run a structured and efficient sales operation including cost-effective logistical solutions and joint marketing initiatives.

As the collaborative marketing initiatives are entered into, the organization has different goals that it aims to achieve. Different goals means different resource requirements thus the network interactions formed for each initiative is different from the last. This goes to show that as the resource needs change so do the inter-organizational networks formed.

Organization E

According to the manager at Organization E, heads of departments are mostly responsible for deciding which interactions should be formed however, other employees especially sales personnel can also be involved in these decisions. The decisions are made through consultations with team members in a department but if a decision is considered too big then the manager of the organization is involved. The decision is then communicated through a meeting with the personnel involved. The manager acknowledges that employees in the organization can make contacts depending on the department they belong to and that the person who makes a contact can maintain it.

“…yes, there are trainings…” (Manager, Organization E, personal communication, April 19th 2013). He explains that the organization educates its customers on how to use and maintain its products. The manager notes that this is very important to them since it gives them a good name and customers refer others to them.

The manager at Organization E admits that the organizational structure of Organization E may somehow affect how they interact with other organization in terms of decision making. He adds
that their decision making system is usually fast. The manager also states that they like to do business with well organized companies.

Organization E’s internal set up of rules and regulations does affect how they interact with other organizations. The manager claims that organization’s branches can form networks on behalf of the Organization and that the location of their branches influences the organization’s interactions in those areas. Employees at Organization E are also encouraged to form personal interactions and are considered important for the organization.

This organization has several trainings. These are conducted in a decentralized manner as and when need arises. This change in resource need—skills is met in an efficient manner because the decision making to form the relevant network interactions is decentralized to the department heads. In Organization E the change in resource needs is solved relatively fast.

**Organization F**

According to the manager, decisions of interactions at Organization F are mostly done by managers. After the management decides on what interactions to make, they then involve the employees and communicate of the decision to them.

The manager of Organization F asserts that contacts with other organizations are mostly made by team leaders who are also responsible for maintaining the contacts. The manager acknowledges that sometimes Organization F holds training sessions for its interactions to train them on how to use and maintain their products. He claims that the company gets a good reputation through the trainings they offer.

The manager admits that the management structure of Organization F might affect their network interaction with other organizations. Decision making might take long since it has to be taken to and made by the management staff. He however says that the internal decision making system of the Organization and its internal set up of rules and regulations do not affect Organization F’s interaction with other organizations.

The manager explained that branches of Organization F can form networks on behalf of the whole organization. However, he points out that in the case that large organizations are involved, then the head office deals with that interaction. The location of these branches also influences organization F’s interaction with different companies. According to the manager of Organization F, personal interactions among their employees and employees of other organizations are considered important to the organization.

The manager in Organization F mentioned that the decision making is centralized at the top. This means that inter-organizational network interactions are determined and regulated by a few people. This means that even as the resource needs change, the possible solutions to meeting these needs are limited to a few sources. This also means that the changes in the resource needs may not change the interactions as much as in the case of a decentralized organization where these interactions have several potential points of interrelating. For instance, if the training needs change in one part of the organization, the required network interactions to meet this change may occur slower because the decision to form this interaction is restricted to a few people.
below shows a comparison among the organizations we considered and it shows the common elements among these cases.

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<tr>
<th>Org A</th>
<th>Org B</th>
<th>Org C</th>
<th>Org D</th>
<th>Org E</th>
<th>Org F</th>
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<td>Network partner contacts are handled by the team leaders</td>
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<td><strong>Open office sitting spaces</strong></td>
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Table 11: Comparison of common elements between the six cases
Chapter Five: Analysis and Discussion

According to the literature we reviewed, organic and mechanistic organizations are said to possess certain characteristics. In this section, we shall revisit the dimensions that determine the classification of organizations in to either mechanistic or organic.

5.1 Formal Organizational Structure Form Analysis

5.1.1 Mechanistic Organization

Mechanistic organizations are said to be more centralized in their decision making processes. Making decisions is limited to a few people and departments in the firm. The job diversity and workers who participate in decision making is low and the decision areas they are involved in are also few (Hage, 1965). According to Daft et al (2010), top management has the last word when it comes to decision making in a firm. The hierarchy of command is also considered to be tall since information has to pass through different levels before it gets to the end user (Tolbert & Hall, 2009).

Mechanistic structures are portrayed as highly formal. They are characterized by detailed written job descriptions, procedure manuals and written rules and regulations, instructions and communication (Pugh et al. 1968). According to Hage (1965) mechanistic organizations have jobs that are somewhat permanent as they are written down and workers are limited to a few tasks.

Mechanistic organizations are depicted to have low complexity. They have few training opportunities for their employees and less job specialty within the organization (Hage, 1965). According to Tolbert & Hall (2009) mechanistic organizations are not sub-divided into numerous departments that perform various tasks but rather are concentrated into a few departments.

5.1.2 Organic Organizations

Centralization is considered low in organic organizations. These organizations are characterized by high proportions of job occupants being involved in making decisions in a firm (Hage, 1965). The decision making is delegated to staff members so it does not just lie with top management. There is the absence of tall hierarchies in this structure since power is spread throughout the departments.

Organic organizations are considered to be less formalized. The proportion of codified duties is little in an organic firm while the amount of variation is high (Hage, 1965). This structure has little or no formal rules and they operate on a basis of shared understanding among the employees (Tolbert & Hall, 2009). The two authors add that organic firms might have written rules but how strict they uphold them distinguishes them from mechanistic organizations.

Organic organizations are said to be highly complex. They are highly divided into various sub parts that are appointed different responsibilities and jobs within an organization (Daft et al 2010). This means that these organizations have high complexity (Tolbert & Hall 2009). Various
kinds of people performing diverse jobs in different locations are involved including those located at different geographical areas. Employees in this kind of structure have high job specialty and as such undergo long periods of training (Hage, 1965).

5.2 Organization FOS-ION Analysis

In this section, we shall do an organization by organization analysis using the dimensions mentioned above to compare the formal organizational structure forms of the organizations in question and then analyze the inter-organizational network aspects considered in the previous chapter. Finally, we shall do an analysis of the formal organizational structure and the inter-organizational network interaction then discuss the results.

5.2.1 Organization A

5.2.1.1 Formal Organizational Structure

Centralization: Organization A as portrayed by the respondent in the interview has got clear procedures guiding employees in regards to decision making in the organization. Decision making in the organization is delegated to all levels in the organization but top management is dominant. Major decisions are solely left to the top level managers of Organization A.

When it comes to job titles within the organization, it is clear that there are numerous job titles held by employees. The hierarchical level is high and has increased in number due to new shareholders over time.

Formalization: Organization A has got clearly defined job descriptions for every employee to adhere to while the tasks performed by employees in the organization are also permanent. The rules and regulations of the organization are strictly followed by employees and the interviewee explains this to be due to the fact that the organization is process oriented. The communication process in the organization is mainly formal, it is done via leaders in the organization, managers pass information to the employees they are in charge of supervising.

Complexity: The interviewee at organization A stresses the fact that they value training in their organization a lot. Organization A holds a number of training sessions in a year but the training periods are not long. For instance, organization A trains new recruits for a week. This organization also values good educational background from new recruits but the respondent makes it clear that they are not too keen on it and that sometimes they would rather train personnel than acquire already trained ones. Organization A has a number of branches all over the World. These branches however have a few departments within themselves.

Conclusion: Although the organization portrays some organic characteristics such as the fact that it holds many regular training sessions per annum, in regards to the three dimensions of organizational structure, organization A leans more towards the mechanistic structure.
5.2.1.2 Inter-Organizational Networks

Interactions Partners: From the empirical data we collected in the previous chapter, it is possible to analyze the inter-organizational network for Organization A. This organization has several kinds of interaction partners with whom it chooses to engage with from customers, both individual and organizations, to government agencies. This is also supported by literature (Halinen & Tornroos, 1998, p.190; Naude & Turnbull, 1998, p.45; Cropper et al., 2008, p.46; Farooqi & Miog, 2012, p.6) which considers connected exchange relations that affect business activities as networks. These interactions are mainly aimed at building and strengthening the organization’s brand. Organization A can be said to seek a social resource (Huggins, 2010, p.520; p.525) because a network has organizations with access to valuable interpersonal connections that can build its brand and a commercial one (Deakin, 1999, p.88; Sexton & Landstrom 2000, p.53) because the network offers market expansion opportunities. The brand reputation has value creation potential for Organization A, as such its brand strength improves its position relative to its competitors and thus is considered a resource (Das & Teng (2000, p.31; Baraldi et al., 2012 p.267) for the organization. In seeking to improve the brand position, the organization deliberately and strategically chooses the interactions in which it will engage. Sexton & Landstrom (2000, p.371) support this by proposing that inter-organizational networks are intentionally constructed.

Interaction Initiators: Network interactions are initiated by both Organization A and other organizations but mainly the initiation comes from other organizations. According to literature (Gulati & Higgins, 2003, p.128; Capaldo (2007, p.587; Cropper et al., 2008, p.292; p.296), this desire by other organizations to want to network with Organization A, means that Organization A holds a central position within the network. Cropper et al. (2008, p.292; p.296; p.298; p.619) suggest that organizations seeking social resources tend to network with organizations holding central positions. However, the organization also actively seeks networks, regardless of sector, that will help it meet its resource needs and as such is committed to establishing and forming the most ideal network for its requirements at that particular point in time. Previous research indicates that this is possible because networks are not industry specific (Das & Teng, 2000, p.36) meaning that organizations are free to network and share resources with other organizations that are not affiliated to its industry.

Frequency and mode of interaction: There are various platforms that Organization A uses for interaction with its network partners. These include email, telephone conversations, and face to face meetings common for repeat interactions and exhibitions which are mainly used to initiate new interactions. These interactions, particularly the repeat interactions, are frequent and are mostly done on a weekly basis. This according to literature (Baum et al., 2010, p.2094) shows that the organization has strong network ties with its interaction partners and due to the high frequency of interaction (Huggins, 2010, p.515; p.518) are familiar with the other organizations that it engages with. The repeat interactions also influence the new interactions formed by the organization because the familiarity brings with it trust (Wiewel & Hunter, 1985, p.482; Zaheer et al., 1998, p.145; Huggins, 2010, p.524) an attribute considered, by this literature, as present in strong ties. Research (Gulati, 1999, p.400; p. 401; Cropper et al., 2008, p.295) has called this influence the network of prior alliance meaning that current network partners can determine which organization are selected as future interaction partners. This according to other research (Gulati, 1999, p.402; Hooijberg et al., 2007, p.80; p.81) means that Organization A is relationally
embedded with its network interaction partners. Gulati et al. (2011, p.209) also support this by suggesting that strong ties are relationally embedded.

**Reciprocation:** Not only is choosing to network a strategic and deliberate activity, it is also voluntary (Wickham, 1998, p.85; Gulati, 1999, p. 397; Oliver, 2001, p.470; Madhok, 2002, p.544). Organization A understands that not all transactions with its network partners will be reciprocated on equal or similar grounds. However, given that it has long term goals of building or strengthening its brand, it continues to participate with the intention of balancing off the odds in the long run. The organization also chooses to continue because it believes that based on the straight forward dialogue that it has with these partners, it has chosen the right organizations. The organization believes that these organizations will help meet its resource needs thus those that will help it achieve its overall goals. Literature (Sexton & Landstrom 2000, p.53; Oliver, 2001, p.470; Huggins, 2012, p.518) also supports this straight forward dialogue and calls for contractual agreements between the organizations within a network. Even though the organization does not get direct reciprocation, the agreements allow for this to be balanced out in another way. However, this literature also suggests that contractual agreements are mainly for weak tie network interactions because the partners are unfamiliar with each other; while it suggests that reciprocation is mainly for strong tie networks as trust and commitment are predominate attributes. It is not clear how exactly the organization will ensure that there is fair exchange during the interactions. Nonetheless, since these interactions are voluntary, then the organization can leave the partnership when its interests are no longer being met.

**Repeat and new interactions; and mobility within networks:** Organization A forms networks and engages in them for several years. We can see this from the repeat interactions who also, according to literature (Ahuja, 2000, p.317; p.318; Jap & Anderson, 2007, p.264), affect the new interactions formed. This is also confirmed by other research (Gulati, 1999, p.400; p. 401; Cropper et al., 2008, p.295) showing that network of prior alliance is where organizations prefer to interact with familiar organizations. This literature states that new interactions are chosen on the basis of offering rich information and other valuable resource in exchange and that recommendations from past interactions go a long way in securing new interactions. This shows that it is comfortable with the interaction partners it has and as such rarely leaves networks. However, its mobility among networks is determined by those that are better placed to help achieve its brand building and strengthening goal. Given that this organization has several products, its need to constantly improve its brand position can see it move from one network to another as it seeks new information that would allow it to do so. In this way it looks for exploration opportunities by forming weak tie networks (Gulati et al., 2011, p. 402) where information is novel and innovative (Granovetter, 1983, p.219; Moller & Halinen, 1999, p.423; Lavie & Rosenkopf, 2006, p.798; p.799; Scherer et al., 2012, p.9). This information can help improve (Capaldo (2007, p.587; Cropper et al. 2008, p.298; p.619) not only the brand but also the organization’s competitiveness.

**Conclusion:** Organization A is said to have predominantly strong tie networks making it relationally embedded but also actively seeking weak tie networks which means it is also structurally embedded. Given this, the organization is not seen to have a need for bridging ties. Rather than seeking brokerage opportunities which would be required for the bridging ties, the organization seeks exploitation opportunities among its strong ties and exploration opportunities
among its weak ties. This also means that there are no structural holes to speak of. Probably because of its position, the organization does not need to strategically place itself so as to get access to certain resources but instead, other organizations seek interaction with it based on its size and reputation.

5.2.1.3 FOS-ION Interaction

The network interaction decision making in Organization A is decentralized and it has a tall hierarchy. This means that network interactions can be initiated from several points within the organization. However, the organization has clear and permanent job titles which clearly shows who deals with which kinds of potential network interactions. This works in the favor of the organization because when other organizations that are interested in partnering with Organization A, they know where to direct their communications. This makes the interaction process fast and efficient. The communication within Organization A is process oriented and formal thus with clear job titles, employees know who has the mandate to make interaction on behalf of the organization. The different network interaction partners that the various departments bring extend the network reach and hence offer variety in terms of the participants. This diversity is equally promoted by the numerous branches around the world which also enables easy mobility within networks. Also since inter-organizational networks are not industry specific (Das & Teng, 2000, p.36) Organization A is free to network and share resources with other organizations that are not affiliated to its industry.

Organization A is also seen as having a tall hierarchy this means that the interaction partners are of a wide variety. Gulati et al. (2011, p.207; p.209) consider this variety as the reach which is the degree of connection to diverse and distant partners which results from the network structure. Each department head can initiate the exchanges with different organizations that would help their department meet its own goals which in turn would contribute towards realizing the organization’s main goals. This is also supported by literature which states that when organizations network, they aim to exchange relations among business units so as to affect business patterns and activities (Halinen & Tornroos, 1998, p.190; Naude & Turnbull, 1998, p.45; Cropper et al., 2008, p.46; Farooqi & Miog, 2012, p.6).

Organization A has rules and regulations that are communicated officially, in forums, on bulletin boards, through the intranet and in face to face meetings. These are also passed on to new employees through orientations led by experienced current employees. These coupled with the need to build it brand can, at least to some extent, influence the network interactions that the organizations seeks. The manager did not think that the internal structure affected its selection of partners but from literature (Podolny & Page, 1998, p.64; Cropper et al., 2008, p.296) we see that centrally located organizations tend to seek interactions with organizations like itself.

Network mobility for Organization A is promoted by its large network reach. The frequent training sessions especially the external ones allow it to seek exploration opportunities (Gulati et al., 1999, p.402) that can improve its access to new information (Granovetter, 1983, p.219; Scherer et al., 2012, p.9) necessary to improve its brand position. Training can be both long term and short term which also indicates the level of interaction with certain network partners. The interactions tend to be more for the long term trainings making them more likely among the strong tie partners (Granovetter, 1983; Scherer et al., 2012) and less frequent among the weak tie partners.
partners (Granovetter, 1983, p.219). Trainings are branch specific which means that this organization can have access to both novel information and diverse network contacts at the same time. Continuous training is required to remain not only relevant in the industry but also competitive. Being competitive is deemed as a motivator for joining networks (Sexton & Landstrom 2000, p.53; Oliver, 2001, p.470). Das & Teng (2000, p.36) also support this by proposing that more often than not, if organizations are to improve performance and remain competitive, they require more resources than they have available. In this case, Organization A seeks training expertise within its current, strong tie, networks and also from other, weak tie, networks that it may not be a part of yet. According to literature (Lundstrom & Stevenson 2005) this resource need is technical in nature because it helps the organization to learn new ways of operating. This shows that Organization A aims to network so as to access resources of value that it currently lacks which aligns with what Das & Teng (2000, p.31) suggest. These authors state that from a resources based view, the idea behind networking is the value creation potential of the resources.

Given the above characteristics of this organization, its interaction with its network partners is seen to be affected by various aspects of the three dimensions of FOS such as decision making, job descriptions/titles, communication, hierarchy, rules and regulations, training and division of the organization in to various branches.

5.2.2 Organization B

5.2.2.1 Formal Organizational Structure

Centralization: Decision making at Organization B involves a few personnel who are mostly in leadership positions in the organization. There is some delegation of decisions in the organization but most of them are done by senior management. The organization has got only four hierarchical levels. This means that the organization has got a flat structure.

Formalization: At Organization B, the job descriptions of every employee are clearly defined on manuals. The respondent however explained that some employees are meant to follow their job descriptions strictly while others are not depending on the department. Tasks performed by employees in the organization are flexible; one employee can perform various tasks in the organization.

Organization B’s rules and regulations are written down for employees. However, they are not too strictly followed and can be altered depending on situations. Communication in the organization is mostly informal among employees; however Organization B also has some formal communication procedures which they adhere to.

Complexity: Organization B’s trainings of their employees are continuous throughout an employee’s working period as per the respondent. The organization has got long training durations; short term training to them takes about two to three months. The organization employs both employees with and without professional backgrounds depending on the department they will be involved in. Organization B is said to be divided in to various departments but the interviewee noted that they do not have other branches within or without the country.
**Conclusion:** Organization B’s formal organizational structure consists of characteristics from both the organic and mechanistic forms. The organization does not seem to be extremely lying on either side of mechanistic or organic and so we shall conclude that Organization B has a mixture of both organic and mechanistic forms.

**5.2.2.2 Inter-organizational Networks**

**Interaction partners:** Organization B has both local and international network interaction partners. Since these interactions affect the business activities (Farooqi & Miog, 2012, p.6) of the organization they are considered part of its network. These interactions take a very long time to establish and are used to reach the market on behalf of this organization. Literature (Moller & Halinen, 1999, p.423) supports this process by stating that network relationships require an investment in form of time and financial resources, and since resources are scarce, these relationships should be considered carefully. Gulati et al. (2011, p.207; p.209) also contributes to this by suggesting that before an organization chooses an interaction partner it should know the reach of that other organization so as to know the degree of connection to diverse and distant network structures. In selecting its network interaction partners, who act as its marketers/dealers as they are the sales outlets, Organization B needs to consider the reach of those organizations. According to literature, when an organization connects with other organizations it does so to exchange resources in an effort to achieve common goals (Halinen & Tornroos, 1998, p.190; Cropper et al., 2008, p.46). Organization B trains its network partners on the use of and repair of the equipment that they are going to sell. This exchange of the equipment is considered as a technical resource (Baum et al., 2000, p.319; Cropper et al., 2008, p.295) to Organization B’s network partners. This resource is also enhanced by the trainings both short and long term. Research (Briones, 2009, p.19), states that networks allow organizations to access resources that they may not have otherwise been able to get on their own. Organization B is very selective of the organizations it chooses to interact with. The organization aims to network with organizations that are similar to it especially in relation to structure. This ability to pick and choose whoe to interact with, according to literature (Ahuja, 2000, p.319; Cropper et al., 2008) shows that Organization B holds a central position within the network.

**Interaction initiators:** This organization has one point of interaction and that is by top management. The manager welcomes suggestions from his staff about potential network interaction but only he can initiate and/or accept interactions on behalf of the organization. In as much as Organization B is at the center of its network, interactions are both ways. The organization seeks interactions with organizations that have reach in market it has interests in showing that it aims to meet commercial resource needs (Deakin, 1999, p.88; Sexton & Landstrom 2000, p.53; Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004). In this case, it takes advantage of exploration opportunities (Gulati et al., 1999, p.402) which are common among weak tie networks unless it is seeking growth in current markets then it takes advantage of exploitation opportunities (Gulati et al., 1999, p.402) which its current strong tie networks offer. By offering Organization B access to the market, then its network partners offer value creation (Das & Teng, 2000, p.31) potential for the organization’s products. However, because of the uniqueness of its products, interactions are sort by organizations that are interested in the kinds of products that it offers. When other organizations seek interactions with it because of the uniqueness of its product, then this is considered as Organization B meeting their technical resource (Baum et al., 2000, p.319; Cropper et al., 2008, p.295) needs. These
products are hard to imitate and costly to replicate as such literature (Baraldi et al., 2012 p.267) considers them as a resource to the organization.

**Frequency and mode of interaction:** Interactions with network partners is frequent and happens through email and telephone. This is more common among repeat interactions but for new interactions these are done mostly in exhibitions. This frequency of interaction shows that the organization has strong ties (Wong & Sohal, 2002, p.36; p.38; Ryssel et al., 2004, p.201; p.203; Briones, 2009, p.21). This high frequency shows that Organization B and its network partners are familiar with each other. This then suggests that the opportunities sort by this organization with its current network partners are exploitation opportunities (Gulati et al., 2011, p.402). However, when seeking new markets, exploration opportunities (Scherer et al., 2012, p. 23) are sort but once these interactions are established they become exploitation opportunities. However, this is not always the case because not all network interactions – even after being established as partners become strong tie; some serve the organization best as weak tie networks. This means that the frequency of interaction determines the tie strength (Granovetter 1973, cited in Cropper et al., 2008, p.291; Granovetter, 1973, p.1361) rather than the length of interaction.

**Reciprocation:** Like in all transactions, reciprocation is expected and even required but not necessarily received. However, given that the interactions that Organization B has are within strong tie networks, reciprocation is considered as a control measure (Podolny & Page, 1998, p.65; Sexton & Landstrom 2000, p.375; Katz & Green II, 2001; Capaldo, 2007, p.590). All in all, the organizations that reciprocate the interactions tend to have a better relationship and are more productive especially in terms of sales revenues. To ensure that both parties get the best out of the interaction, Organization B takes time to search for interaction partners, establish the network and agree on the terms of operation. According to Das & Teng (2000, p.48), there is need to have a shared understanding and common goals among network interaction partners. Trust and commitment (Zaheer et al., 1998, p.145; Newell & Swan, 2000; Ryssel et al., 2004, p.201; p.203) is paramount for these interactions to succeed because Organization B relies heavily on its network interactions. Literature (Provan & Milward, 1995, p.1) states that inter-organizational networks rely on reciprocity and dependency and as such, the degree of reliance is high. These attributes are also characteristic of strong tie networks (Tomkins, 2001, p.165; Briones, 2009, p.20). Having strong tie networks means that Organization B is relationally embedded to its network partners (Gulati, 1999, p.402; Hooijberg et al., 2007, p.80; p.81). For Organization B, reciprocation is vital because these network interaction partners offer an exit for its products so the give and take needs to be done well.

**Repeat and new interactions; and mobility within networks:** This organization continuously seeks opportunities to form new interactions. However, it seems to maintain strong tie networks predominantly. This is contrary to literature (Wickham, 1998, p.86) which suggests that strong tie networks are harder to penetrate than weak tie networks. What the literature suggests maybe possible in organizations that do not necessarily require their network interactions to access the markets but in the case of Organization B, it does not seem to apply. Since the organization relies on these interactions so as to sell its products, it readily accepts opportunities to interact and network with new partners despite already being part of a strong network. This means that mobility across networks is easy for this organization. New interactions are communicated across the organization so as to facilitate the transactions between the organizations.
**Conclusion:** This organization networks so that it can access the markets and ensure that it remains competitive. Despite this reason, it takes a long time to establish interaction partnerships because this choice is not only strategic so as to meet its target market but also wants to ensure that its partner organizations are similar to itself. This goes to show that it does not seek to fill structural holes in the network but rather, being centrally positioned picks which interactions would be beneficial in the long run. It is however not clear how the organization ensures reciprocation with its weak tie network partners but it seems to be keen to make its interactions strong tie network partners. This makes the organization relationally embedded, rather than structurally embedded, as this is characteristic of strong tie networks.

5.2.2.3 FOS-ION Interaction

The decision making is centralized (Tolbert & Hall, 2009) meaning that there are limited points of network interaction. The organization believes that this makes the process fast as there are not many people to consult about the decision. However, given the lengthy consideration it takes to decide which organizations to interact with, this actually makes the process slower and could actually see the organization miss out on opportunities to grow.

There are clear job roles and descriptions (Pugh et al. 1968) and communication (Hage, 1965), though done in a less formal manner, is processed across the organization making interactions easier. Having clear job roles mean that it is clear who is dealing with what within the organization. This way when the decision to interact has been made and communicated, the other organization knows who to contact about what issues. In this regard the interaction itself maybe initiated at the top level of management but any of the other managers are welcome to interact with existing partners.

The organization communicates its rules and regulations in manuals (Ambrose & Schminke, 2003, p.297) but these are considered more as guidelines than as strict directives. Thus the internal decision making system of Organization B affects the interactions they make, only with regards to the other organization’s structure. This is however a preference not necessarily a deal breaker. The organization can network with organizations having structures different from its own but prefers not to.

For Organization B, the attributes of the formal organizational structure that affect the inter-organizational network are decision making, hierarchy, job descriptions and roles, communication, rules and regulations.

5.2.3 Organization C

5.2.3.1 Formal Organizational Structure

**Centralization:** Decision making in this organization involves a few personnel. There is some delegation within the organization but big decisions are taken care of by top management. The hierarchical level in the organization is quite flat as per the interviewee and the range of job titles is not extensive.
**Formalization:** Organization C has got clearly defined job description manuals but the respondent notes that this is mostly procedural and that these manuals are not strictly followed. Tasks in the organization are flexible and employees can perform various errands within the organization. At Organization C, rules and regulations are written down but the organization is quite lenient in administering them. They can be overlooked from time to time. Communication is mostly informal, employees at Organization C correspond with each other in an open manner, managers hold face to face conversations when addressing employees and vice versa.

**Complexity:** Training is a continuous activity at Organization C. The organization offers trainings at least four times in a year and some additional ones when need be due to changes in technology and so on.

Organization C prefers professionally trained recruits when hiring though they hire a few unprofessional recruits but train them on and off the job. When it comes to departments, the organization is not widely departmentalized within but it has different branches in Sweden and across the Swedish borders.

**Conclusion:** Organization C’s characteristics are quite mixed; the organization possesses both mechanistic and organic tendencies. For instance, in centralization, Organization C leans towards the mechanistic form when it comes to decision making on one hand, while on the other it leans towards organic when it comes to hierarchy levels. However, the organization leans more towards the organic form of organizational structure when it comes to formalization and complexity although it is not vastly departmentalized. So in our conclusion, we shall classify Organization C as leaning towards the organic form.

**5.2.3.2 Inter-organizational Networks**

**Interaction partners:** Interaction partners depend on the branches. Each branch is free to make its own network interactions. Organization C has three branches with specific roles meaning that the resource needs for these branches differ from each other and at different times. As the resource needs change, the branches form the required inter-organizational networks required to meet these needs. According to literature, a network is a set of connected exchange relations (Cropper et al., 2008, p.46) among business units (Halinen & Tornroos, 1998, p.190) or the pattern of relations (Naude & Turnbull, 1998, p.45) that affect business activities (Farooqi & Miog, 2012, p.6). One branch deals with product development, manufacturing, final assembly and training so it focuses more on administrative interactions. The management of the company prefers to join or create networks mostly with organizations that are technical due to the importance of resource and development to the organization. In this case, the resource that the organization seeks is a technical one. Literature (Lundstrom & Stevenson 2005) explains that this kind of a resource allows the organizational members to learn and it promotes organizational competency. The other two branches focus on manufacturing and sales interactions making them more like outlets for the organization. The resources that these two branches seek are commercial in nature. These resources offer market expansion opportunities (Deakin, 1999, p.88; Sexton & Landstrom 2000, p.53; Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004). The interaction partners are customers both individual and organization and they are also private and government. This organization has several points of interaction and these interactions are made whenever they suit the needs of the organization.
Interaction initiators: Interactions are initiated by both Organization C and by other organizations depending on when an opportunity presents itself. Organizations join networks so that they can access resources that they need so as to remain competitive and improve their performance (Das & Teng, 2000, p.36; Huggins, 2010; Baraldi et al., 2012). This shows that the organization is neither in a central nor in a peripheral position. Research (Ahuja, 2000, p.319; Cropper et al., 2008) supports this view because organization C does not seem to have more offers for interaction than it makes which means it is not central and also it does not need referrals (Ahuja, 2000, p.321-322) so as to get interactions meaning it is not peripheral. It aims to seize opportunities whenever they arise thus meaning they seek exploration opportunities which are characteristic of weak ties (Granovetter, 1973, p.1371; Jack, 2005, p.1238; Cropper et al., 2008, p586). Organization C has predominantly weak tie networks (Gulati et al., 2011, p.402), thus structurally embedded (Gulati, 1999, p.402; Podolny & Page, 1998, p.65), because it actively searches for network interactions that would suit its resource needs and if these were available in its current markets it would not search so keenly. This according to (Granovetter, 1983, p.219; Scherer et al., 2012, p.9) shows that there are structural holes present in Organization C’s networks. This means that it can take up brokerage opportunities (Jack, 2005, p.1238) that present themselves and thus place itself strategically so as to meet its resource need change. These opportunities are mostly found in weak tie networks (Granovetter, 1983, p.217) which makes organization C relationally embedded. It seeks both technical resources (Baum et al., 2000, p.319; Cropper et al., 2008, p.295) such as novel ideas and commercial resources (Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004) such as access to broader markets.

Frequency and mode of interaction: Organization C prides itself in being innovative and competitive in terms of its technical advancements in product development. In wanting to remain ahead of the pack, this organization seeks opportunities that will offer new information on market changes and developments. This shows that the organization seeks to meet a technical resource need (Perry, 1999; Lundstrom & Stevenson 2005) where it can improve on its research and development, innovation and creativity. This need for novel information (Granovetter, 1983, p.219; Scherer et al., 2012, p.9) further shows its search for weak tie networks. As such, it participates in conferences, seminars, forestry trade fairs and exhibitions. Once these interactions have been set up, then the communication becomes more personal, face to face, email and telephone making these strong tie network interactions. According to Granovetter (1973, cited in Cropper et al., 2008, p.291), tie strength is a product of the actor investment in terms of the time, emotional intensity, intimacy (mutual confiding), the frequency of interaction, duration of the relationships and the reciprocation of services between the organizations. The greater the investment the organization makes, the stronger the tie. These interactions are frequent both for the local and the international market but the frequency itself varies based on the tie strength being more for the strong tie networks. In this case, the ties can be said to be strong (Granovetter, 1973, p.1361).

Reciprocation: We found that this organization has a good relationship with its interaction partners when it comes to reciprocation. This organization works on the policy of one good turn deserve another. Although it might not get a good deal every time, the organization is currently satisfied with the reciprocation. The weak tie networks are controlled by contractual agreements
Repeat and new interactions; and mobility within networks: Organization C has a huge export market and as such there are a lot of repeat and new interactions (Cropper et al., 2008; Huggins, 2010, p.515; p.518). This has led to a broad international network which has both weak ties and strong ties. This makes it easy for the organization to move from one network to another based on its current resource needs. Weak tie networks offer exploration opportunities (Scherer et al., 2012, p. 23) where the organization tries to see what new information it can gain from forming new interactions while strong ties offer exploitation opportunities (Gulati et al. (2011, p. 402) where the organization uses the connections it has to meet the changes in its resource needs. This organization actively seeks interactions with network partners who may be present in markets that have potential for their business. Thus it seeks to meet a commercial resource need (Lee et al., 2001, p. 621; Mair et al., 2006).

Conclusion: Organization C is neither in the center of its network and neither is it at the peripheral. This means that it can take up brokerage opportunities between other organizations in an attempt to meet its resource needs and thus fill the structural holes; however, this is a short term measure as these holes are temporary. Nonetheless, this makes the organization mobile within networks which mean it accesses a lot of new, useful information while still extending its network interactions. This organization is also more structurally embedded than relationally embedded.

5.2.3.3 FOS-ION Interaction

Interaction decisions are decentralized (Greiner, 1972 p. 60-62) and each branch is free to interact as it deems fit as long as the overall goals are met. The structure of the organization allows for networking from various points within it. Decision making is decentralized; the management understands that the people who best know the need requirements are those who are on the ground. The three branches and departments are free to interact with network partners as needed on behalf of the organization.

There are also clear job roles (Halinen & Tonroos, 1998, p.190) and communication (Levin et al., 2011, p.925) on the interactions are done systematically this way, everyone knows who to contact about what kind of interaction. The communication is also different for every branch but is done formally whether through emails or face to face meetings. This means that even the interaction with the network partners differs among the branches.

Organization C aims to remain ahead of the curve when it comes to technology. To ensure that it has access to the latest technology, it conducts continuous trainings and actively searches for new and innovative information. This is done by joining weak tie networks (Granovetter, 1983, p.217) both locally and internationally. Trainings are both branch and department specific they can also be done onsite or off the job depending on whether they are long term or short term.
Some trainings are carried out frequently and it that regard then the interaction is in strong tie networks because the organizations become familiar with each other. However, especially for the head office branch, trainings regarding product development are mostly done in weak tie networks because of the access to novel information that maybe pertinent to product advancement. Network partners are used to help the organization to remain competitive (Ahuja, 2000, p. 452) and innovative in its use of technology.

For Organization C, the elements of formal organizational structure that affect inter-organizational networks are decision making, job descriptions and roles, departments, communication and training.

5.2.4 Organization D

5.2.4.1 Formal Organizational Structure

Centralization: Decision making at Organization D is not central to top management and involves quite a number of people. Decisions are made by leaders and managers in the organization but major and sensitive decisions are made by the top management only. Job titles are not extensive at Organization D but hierarchical levels have increased with time according to the respondent.

Formalization: Every department has its own job descriptions clearly defined and written down in manuals at Organization D. However, the tasks performed are flexible within departments but become rigid interdepartmentally. Rules and regulations of the organization are clearly defined at the organization. Different employees have different sets of rules and regulations as noted by the respondent which she adds are not strictly adhered to by the organization. Communication at Organization D is formalized as managers communicate what they expect of leaders who in turn discuss it with employees in the organization.

Complexity: At Organization D, they mostly value long term training according to the respondent. The organization holds frequent trainings within the year and hires both highly qualified and average personnel as it depends on the field of work. The organization has got quite a number of departments and also has various branches in Sweden.

Conclusion: According to the characteristics we observed, we conclude that Organization D has got a mixture of organic and mechanistic characteristics in all the three dimensions of organizational structure. For each and every dimension, the organization does not completely lean on either side of mechanistic or organic forms but is rather balanced. We think that this organization should be classified as a mixture of both organic and mechanistic forms.

5.2.4.2 Inter-organizational Networks

Interaction partners: Organization D has four companies that act like branches. Each has the freedom to interact on behalf of the organization but these interactions are company specific. The organization communicates the overall goals and targets then these are relayed to the individual companies who then develop their own goals so as to contribute to the organization’s goals. This according to literature (Naude & Turnbull, 1998, p.102) means that the organization engages in
inter-organizational networks. In this way, the network interactions are guided by these goals. As the company resource needs change, the interactions change so as to meet them. This means that the organization has a diverse network. The company has a well-developed contract network in the countries in which it operates. The partners are government and private organizations, individual customers and educational institutions. There are instances that the organization also interacts with competitors. These interactions allow it to form a united front against competitors offering substitute products such as steel and concrete. It also helps the organization reposition itself within the wood market helping it to remain competitive (Perry 1999, p.39; Ahuja, 2000, p.319; Hoopes et al., 2003, p.892) which is a motivator for networking. This shows that the organization seeks to place itself accordingly so as to achieve its goals, this shows that there are brokerage opportunities (Zaheer & Soda, 2009, p.7) within this networks and as such there are structural holes (Scherer et al., 2012, p.9). This also means that the organization has predominantly weak ties as these are characterized by structural holes (Granovetter, 1983, p.219). It also indicates the position of the organization as being neither in the center nor in the periphery of the network.

**Interaction initiators:** Organization D allows the various companies to make their own interactions as and when they deem it necessary. The location of the companies also contributes to the type of network interactions formed. Each company has different goals which mean different resource requirements thus the network interactions formed for each initiative is different from the other. This goes to show that as the resource needs change so do the inter-organizational networks formed (Halinen & Tornroos, 1998; Cropper et al., 2008). Once a network interaction has been established, the one who initiated it within the organization becomes the contact person for that interaction. This is then communicated within the organization and so as to ensure efficiency in operations. Interactions can be done both ways by Organization D and by other organizations that are interested an interaction with the organization. This organization offers training to its interaction partners. This means that it offers a technical resource (Baum et al., 2000, p.319; Cropper et al., 2008, p.295). Organization D also seeks to expand its market share and according to literature (Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004) this means that the resource it seeks is a commercial resource.

**Frequency and mode of interaction:** The government, and some private, interactions are frequent and familiar with each other. These are done over the phone, email and face to face. In this regard, these networks are considered as strong tie (Baum et al., 2010, p.2094) thus relationally embedded (Gulati, 1999, p.402; Hooijberg et al., 2007, p.80; p.81). When seeking new markets, Organization D uses exhibitions and conferences. These interactions are considered as weak tie networks (Hansen, 1999, p.105; Swedberg, 2000; Hooijberg et al., 2007, p.80; p81), thus structurally embedded (Cropper et al., 2008, p.293; Gulati (1999, p. 399; p.400), as such the frequency of interaction varies with the tie strength (Granovetter, 1973, p.1361). Some interactions, depending on market conditions, are can be made inactive and then reconnected when the conditions become more favorable. For instance, if customers such as the farmer example given earlier where the EU suspended funding for animal shelter, access funding, then Organization D can reactivate the interactions otherwise these are left inactive up to and until these conditions change.
Reciprocation: This depends on the reason behind the interaction. Some have more direct reciprocation while others are considered as long term investment without necessarily having immediate reciprocation. However, these interactions without instant reciprocation are mainly strong tie network interactions because not only are they familiar with each other, trust and commitment (Newell & Swan, 2000; Wong & Sohal, 2002, p.36) based on previous interactions usually guide the process. For the weak ties, which literature considers as interaction between strangers (Gulati et al., 1999, p.402), there is not much interaction so contractual agreement are used as control measures (Sexton & Landstrom 2000, p.53; Oliver, 2001, p.470; Huggins, 2012, p.518) to ensure that all parties get a fair dealing. However, it is good to note that weak ties do not mean that the organizations are necessarily strangers as the literature indicates above, it could be that the rate of interaction is not high. Familiarity is one indicator of tie strength (Granovetter, 1973, p.1361) but not the only one.

Repeat and new interactions; and mobility within networks: Organization D is keen to increase awareness on the use of its product as such it aims to form as many new interactions as possible with the intention of eventually developing a customer. We have seen that this organization takes advantage of brokerage opportunities (Jack, 2005, p.1238); this indicates that it has more weak ties than strong ones meaning that it is quite mobile within networks. Organization D according to (Gulati et al., 2011, p.209) is thus more structurally embedded than relationally embedded. There are also a lot of repeat interactions but these are not as many for customers because the products offered are of high quality and are durable for long periods of time. Nonetheless because of the quality of the product, the customers prefer using Organization D for new projects. There are also new interactions that come as a result of reference using word of mouth. This also supports what literature (Huggins, 2010, p.518) calls network of prior alliances where previous network interactions can determine future network interactions.

Conclusion: Organization D makes a strategic decision when choosing who to interact with because networks are not only voluntary they are also constantly changing. It needs to take advantage of opportunities to interact and meet its resource needs in a timely manner because the brokerage opportunities in networks are usually temporary. These opportunities need to be either created or anticipated but either way, they are short term.

5.2.4.3 FOS-ION Interaction

Decision making on the interactions that the organization is to make are decentralized (Tolbert & Hall, 2009). The communication is top-down especially regarding overall goals then each team plans its own objectives which then guide the interaction process. This not only makes the process fast but also diversifies the networks that the organization is a part of. Each of the four companies brings with it a different kind of interaction partner.

When interactions are made, the network partners are communicated (Courtright, Fairhurst, & Rogers, 1989; Hatch, 1997) across the whole organization. This makes it easy for both the employees and those who are outside the organization who are interested in partnering with Organization D to know who to approach for what kind of interaction.

The organization has both short term trainings which are held internally and externally whether locally or internationally, these help the organization access new information (Moller & Halinen,
1999, p.423) and thus keep it not only competitive (Ahuja, 2000, p. 452) but also technically (Baum et al., 2000, p.319; Cropper et al., 2008, p.295) relevant. For Organization D, decision making, communication and training are the formal organizational structure aspect that affect the inter-organizational networks.

5.2.5 Organization E

5.2.5.1 Formal Organizational Structure

**Centralization**: Organization E’s decision making is delegated to employees in the organization. Mid level managers also have the mandate to make some sensitive decisions though the most sensitive ones are made by top level management. The hierarchical structure is flat in this organization.

**Formalization**: Job roles are written down in manuals at this organization which depicts a form of codification. Employees at the organization can perform various tasks meaning that tasks are not strictly individual specific.

Rules and regulations are written down at this organization insinuating that procedures might be clearly defined. However, the degree of strictness to which employees adhere to this rules is low depicting informality in the organization.

There is some structure of formal communication within the organization but it is not commonly used by the employees. Mid level management are mostly responsible for word of mouth communication within the Organization depicting informality.

**Complexity**: Organization E values training a lot according to the respondent. They have multiple trainings in a year and always train new employees upon arrival. The organization also hires both professional and average employees depending on the department they join. This organization has got quite a number of departments within it and has various branches in Sweden and other parts of the World.

The fact that Organization E is associated with high quality products leads to them holding different training sessions with their interactions. The frequency of these trainings vary due to different issues, some require more training than others. This creates a repeat contact with interactions the organization is involved with.

**Conclusion**: According to the information we collected on Organization E, most leans strongly towards the organic form of organizational structures. Although there are some few cases such as in communication where the organization follows some form of official structure, the organic still outweighs the mechanistic characteristics and hence we term this organization organic according to the literature we reviewed.

5.2.5.2 Inter-organizational Networks

**Interaction partners**: This organization interacts with a variety of organizations but it has a set out criteria for which it chooses who to partner with in a network. According to the data we
collected, Organization E requires that its partners conduct their business in an ethical and environmentally responsible manner. It uses a set out policies that guide network interactions. This organization is keen on product development so it seeks interactions that would help it become innovative and creative. This means that Organization E is active in weak tie networks (Hansen, 1999, p.105; Swedberg, 2000; Hooijberg et al., 2007, p.80; p81) where information is new and innovative as it tries to meet its technical resource needs (Baum et al., 2000, p.319; Cropper et al., 2008, p.295). Nonetheless, the interactions are considered on a case by case basis where they potential to meet the resource need are evaluated against the individual organization’s characteristics and the policy. Organization E seeks a broader market reach and in doing so, it seeks commercial resource (Sexton & Landstrom 2000, p.372; Lee et al., 2001, p. 621).

**Interaction initiators:** Interactions can be initiated by either Organization E or the other organizations. However, this organization prefers to have regulations put down in writing so that each party explicitly knows what it brings to the interaction and what it gets out of it. Weak tie networks are said (Hansen, 1999, p.105; Swedberg, 2000; Hooijberg et al., 2007, p.80; p81) to be controlled by contractual agreements that dictate the requirements of each party.

**Frequency and mode of interaction:** Interactions are frequent done over the telephone, email and sometimes through trade fairs and exhibitions which lead to visiting the various markets especially when new interactions are being considered. In an effort to facilitate its constant development in design, product value and functionality, Organization E keeps close contact with its partners. This goes to show that this organization has predominantly strong ties (Gulati et al., 2011, p.209), which are characterized by a high frequency of interactions.

**Reciprocation:** Contrary to literature (Wickham, 1998, p.85; Gulati, 1999, p. 397; Oliver, 2001, p.470; Madhok, 2002, p.544) which suggests that strong ties are controlled by trust and commitment while weak ties are controlled by contractual agreements, Organization E controls all its interactions using contractual agreements. So from the very beginning both parties know what is expected of them and what they expect from the other. The roles and contributions are expressed though not always in great detail, but they are clearly explained and agreed upon. Should the requirements of the interaction change, the partnership is reviewed and the relevant changes are expressed and agreed upon.

**Repeat and new interactions; and mobility within networks:** This organization has an extensive network both a local one and an international one. There are numerous new interactions and many repeat interactions. This makes it easy for the organization to move from one network to another. However, this mobility maybe slowed down by the restrictions that the organization puts to the organizations it chooses to network with. It also shows that there are weak ties, new interactions (Hansen, 1999, p.105; Swedberg, 2000; Hooijberg et al., 2007, p.80; p81) thus structurally embedded (Podolny & Page, 1998, p.65; Lazer & Friedman, 2007, p.671), and strong ties, repeat interactions (Huggins, 2010, p.515; p.518) thus relationally embedded (Gulati et al., 2011, p.209), present in this organization’s network. Having a wide network allows for easy mobility form one network to another which would not be possible if all the ties are strong.
Conclusion: It is unclear if organization E’s contractual agreements are standardized for all interactions or if these change depending on the interaction. It seems unlikely also that this organization seeks to fill structural holes and given how selective it is, it likely holds a central position within the network.

5.2.5.3 FOS-ION Interaction

Interactions with this organization are decentralized (Greiner, 1972 p. 60-62) this means that the departments and branches are free to make interactions that will help them meet their current resource needs and as such achieve overall organizational goals (Podolny & Page 1998, p.66). The overall organizational goals are communicated top-down and then the branches and the departments within them; determine which interactions are most likely to help them realize these goals.

Organization E has rules and regulations that are written down in manuals but that act as guidelines rather than strict directives. These however do affect the network interactions that the organization forms because it favors partnerships with organizations that are like minded.

This organization has clear job roles which helps potential interaction partners to know who to approach within the organization so as to establish network contact. Organization E has long and short term trainings which are department and branch specific. These trainings mean that the organization has access to a wealth of new information (Moller & Halinen, 1999, p.423) at the same time and also that it remains competitive (Briones, 2009, p.3) by meeting its technical resource need (Lundstrom & Stevenson 2005)

For Organization E, the formal organizational structure aspects that affect the inter-organizational networks are decision making, communication, rules and regulations, job roles and descriptions, departments and trainings.

5.2.6 Organization F

5.2.6.1 Formal Organizational Structure

Centralization: When it comes to decision making at Organization F, a few individuals who are mostly in the top management are involved. Delegation of making decisions is not common in this organization. The hierarchy level in this organization has a tall structure and job titles are quite extensive at Organization F.

Formalization: At Organization F, job descriptions are written down in manuals and strictly followed showing codification. Tasks in the organization are clear for all employees and rigid such that it is uncommon for an employee to perform multiple tasks in the organization. Rules and regulations at this organization are clearly noted down for the employees. The rules and regulations are also of much importance to the organization. Communication in the organization is mostly top-down when it comes to interaction between management and employees.

Complexity: Training at this organization is done on the job only. They have a number of trainings for their employees per annum also. The organization employs both professional and
average employees and this depends on the tasks to be performed. Organization F has many departments within it and it also has different branches within Sweden and internationally. These departments each play a specific role for the organization.

**Conclusion:** Organization F’s characteristics portray high levels of centralization, formalization and complexity. This organization depicts mechanistic characteristics when it comes to centralization and formalization and portrays organic characteristics when it comes to complexity. We shall categorize it to lean more towards the mechanistic form due to the fact that it has more mechanistic characteristics than organic.

### 5.2.6.2 Inter-organizational Networks

**Interaction partners:** The head office in Sweden is more focused on administrative, production and sales interactions while the other branches focus on sales and customer related interactions. Organization F often seeks product training to ensure that its service delivery is exceptional and replicated across all its branches internationally. This, according to Lundstrom & Stevenson (2005) is considered as a technical resource because the organization seeks to learn new ways of doing things. It also seeks a wider market reach thus aims to meet a commercial resource need (Danis et al., 2009, p.290; Alvarez et al. 2012). This organization also tries to get the best out of its networks by positioning itself accordingly. Thus Organization F seeks brokerage opportunities (Jack, 2005, p.1238) which would strategically place it to receive the best outcome from network transactions. From this we can see that these networks have structural holes (Granovetter, 1983, p.219; Scherer et al., 2012, p.9) meaning that its networks are predominantly weak ties (Capaldo, 2007, p.587). It is also clear that the interaction process is intentional and strategic (Das & Teng, 2000, p.36; Briones, 2009, p.8). However, despite this strategic positioning, Organization F is also quite reputable and it can be argued to be centrally located (Cropper et al., 2008, p.292; p.296). This argument comes from the fact that this organization holds an ISO certification meaning that its products are credited as being of exceptional quality. This would mean that other organizations would be attracted (Gulati et al., 2011, p.215) to forming a partnership with this organization.

**Interaction initiators:** The network interactions are two way and are consistently changing depending on the level of association among the organizations. There is one point of interaction where network partnerships can be formed. These interactions must contribute to the overall goals of the organization and they must adhere to the standards that the organization is used to having. To ensure that the customer is serviced in the shortest time possible, the organization seeks exploitation opportunities, (Gulati et al., 2011, p.402) which are common among strong tie networks, with its dealers. It uses these interaction partners to ensure that the service delivery is what the organization promises the customer. When seeking training and technical advancement, then Organization F will initiate the interaction but when the other organizations are interested in these products, then they initiate the interaction. However, there are times when this organization seeks auxiliary services such as repair and maintenance in which case interactions can be either way. Organization F offers product training meaning that it offers its interaction partners a technical resource (Baum et al., 2000, p.319; Cropper et al., 2008, p.295).

**Frequency and mode of interaction:** Having to broad network means that the organization is close to the market. This means that for it to remain efficient it needs to constantly be aware of
what is required by its customers. In this way, the organization is in contact with its partners frequently. This means that its network with dealers is strong tie (Baum et al., 2010, p.2094) making it relationally embedded (Gulati et al., 2011, p.209) however, it also has weak tie networks (Capaldo, 2007, p.587) where interaction is not as frequent like the ones used for trade shows and fairs which make it structurally embedded (Lazer & Friedman, 2007, p.671). These shows and fairs are mostly used as a platform to meet new network partners. The mode of interaction with the weak ties is similar to the one with strong ties that is, over the phone, through email or face to face meetings. The main difference is the frequency of interaction which is higher in strong tie networks (Baum et al., 2010, p.2094) than in weak tie networks (Cropper et al., 2008, p.298; p.619).

**Reciprocation:** Organization F draws a wide range of benefits from its network interactions. These include training and development (Meyer & Rowan, 1977; Daft et al., 2010), a wider market reach (Deakin, 1999, p.88; Sexton & Landstrom 2000, p.53) and approval for operation by the regulation bodies. This shows that the resources sought are technical (Perry, 1999) and commercial (Baum et al., 2000, p.286; p.287; Oliver, 2001, p.473; Dana, 2004). This literature states that … Given the reliance that this organization has on its partners, reciprocation goes a long way. These network interactions are relationships and although they are business in nature, they are conducted by individuals so it is important to be ready to offer and also be willing to ask for what you require in exchange. Given the closeness of the interaction partners which literature (Gulati et al., 2011, p. 402) considers as friends, trust and commitment (Ahuja, 2000, p. 452) are used as control measures. However, Organization F believes strongly that reciprocation is two-way that it is asked and it is received. As such its reciprocation is guided by the expectation of performance standards.

**Repeat and new interactions; and mobility within networks:** This organization not only actively seeks new interactions, it is also keen to maintain contact with repeat interactions. The organization believes that when a customer is treated well not only do they return but they also recommend you to others. This is considered by literature (Huggins, 2010, p.518) as a network of prior alliances. So for Organization F, every repeat interaction can actually influence a new interaction (Sexton & Landstrom 2000, p.372) and thus build the network further. This organization aims to place itself in the best position so as to achieve the full benefits that a network offers. It aims to fill in structural holes (Granovetter, 1983, p.219; Scherer et al., 2012, p.9) that are prevalent in weak-tie networks (Granovetter, 1983, p.217; Capaldo, 2007, p.587). In this way, the organization is quite mobile within its networks.

**Conclusion:** Organization F is seen as being both in a central position in the network yet still seeking brokerage opportunities in a network with structural holes. It is unclear as to whether this strategy is in an attempt to maximize the benefits that both positions offer or if it results from having several branches with different mandates. It is also unclear as to how the organization is able to maintain both strategies yet decision making is centralized at the top. It may be possible that the interaction decision is centralized at the top but once this decision is made then the interaction is passed on to the various branches and departments who then determine the strategy. Nevertheless, literature does not provide an explanation for when both strategies are applied.
5.2.6.3 FOS-ION Interaction

Decision making is centralized (Hackman & Oldham, 1976) to the top management. Ideally, the tall hierarchy would act as multiple points of interaction for the organization but since decision making is limited to only a few individuals then the rate of forming network interactions is slowed down and the diversity of the partners is limited.

Communication is top-down and the expectations are set for the various departments and branches as such they are not free to make their own interactions. The network partners these divisions can access are those established by the top management. This restricts mobility across networks to some extent though not entirely.

Organization F conducts department and branch specific trainings both locally and internationally. These trainings are done both on the job and off-site and can be either long-term or short-term. This means that the organization has access to technical network interactions offering new information that can help improve its product development and ensure creativity and innovation is maintained.

5.3 Discussion

In this section we will discuss the data we collected and analyzed above. We will also answer our research questions by highlighting the aspects we used for the formal organizational structure then see how each individually affects the inter-organizational network.

In the background of our study, we learnt that the forms of the formal organizational structure are determined by the interaction of three dimensions; centralization, formalization and complexity (Burns & Stalker, 1967). We also saw that these forms can either be mechanistic or organic (Tolbert & Hall, 2009; Daft et al., 2010). However, these structural forms are not static but rather as they develop over time, the forms change (Tolbert & Hall, 2009; Daft et al., 2010). This change is often necessitated by a change in the resource needs that the organization has which in turn affects the network interactions that the organization chooses to make (Burkhardt & Brass, 1990; Madhavan et al., 1998; Hite & Hesterly, 2001, p.276; Koka, 2006).

5.3.1 Decision Making

Organizations should have clear guidelines when it comes to decision making. Although the sensitive decisions are left to top management, some managers have the power to make decisions within their specific (departments) areas of expertise (Meyer & Rowan, 1977; Tolbert & Hall, 2009). Top management delegates (Meyer & Rowan, 1977) the decision making to managers at all levels within the organization. This decentralization of the decision making process makes it easy to ensure efficiency and effectiveness. Decisions are made faster. Organizations with branches also practice the same principles within those branches. The branch managers are free to make their own decisions specific to their branches as long as they align with the organization’s overall direction and towards a common end. When the network interactions have the potential of affecting the whole organization then top management is consulted and usually takes over the negotiations but otherwise, the various managers are free to make their own network connections. In flatter organizations the same applies where the top management is
responsible for making the major decisions affecting the organization but the more minor ones are left to the specific managers. Here the decision making system is more centralized and remains with the top management (Tolbert & Hall, 2009). This may make the decision making process faster but since it lies with one person it may sometimes be flawed but it is a learning process. According to Ambrose & Schminke (2003) this characteristic where some of an organization’s decision making depend on the top management while some depends on mid level management shows that an organization cannot be entirely mechanistic or organic.

Decision making and Inter-organizational networks

The decision making process does affect the inter-organizational network that the organization can form. The more departments and the more management levels an organization has, the more potential it has to increase its network interactions (Huggins, 2010, p.515; p.518). This means that an organization with a decentralized decision making system has access to more interaction partners within its network, it can initiate several interactions simultaneously. This also means that as the resource needs change (Halinen & Tornroos, 1998, p.187; Huggins, 2010, p.518), there are more potential solutions to meet them when the decision to form network interactions is decentralized (Greiner, 1972 p. 60) as opposed to when the decisions are centralized (Greiner, 1972 p. 62). The reasoning behind this is that the individual who decides the interaction formed with a potential partner is connected to the role and responsibility (Halinen & Tornroos, 1998, p.190) of that aspect within the organization. Thus there are several contacts for the various interactions within the network.

Also, since the various managers are free to make their own interactions then they can initiate the network interactions if they feel they suited towards achieving their goals (Podolny & Page 1998, p.66). Decisions to join networks are communicated in meetings so that the whole team is on board and aware of whom they are associating with thus stream lining processes in that the organization. As we saw in the empirical chapter, knowing which organizations are network partners and in what areas, allows the future interactions with the said organizations to flow through one point of interaction. This gives the organization a united front when approaching the external interface.

For some organizations, the internal decision making system affects the interactions made with their network partners. Organizations prefer to work with organizations that have structures similar to their own. This preference of network partners also has to do with the frequency of the interaction. Organizations with many repeat interactions tend to have easier communication when their partners have similar structures. Decision making can affect an organization’s choice to move from one network to another. When it is decentralized then it is easier for the individual department manager can choose to move to any network that offers it the resources it requires as and when its resource needs require external network sources to meet them. Whether an organization is centralized or decentralized, reciprocation needs to be agreed upon at the initial stages of establishing the interaction because this is crucial when determining the terms of interaction (Sexton & Landstrom 2000, p.53; Oliver, 2001, p.470; Huggins, 2012, p.518).
5.3.2 Hierarchy

Organizations with wide ranges of job titles have multiple levels of management within their hierarchy and portray a mechanistic form of organization (Tolbert & Hall, 2009; Daft et al., 2010). These organizations have extensive positions within them. Organizations with a few levels of management in their hierarchy a characteristic of organic organizations (Tolbert & Hall, 2009; Daft et al., 2010) have a narrow range of job titles. Mobility is not restricted to job roles within the departments. In this case employees are likely to rotate from one role to another within the organization. Courtright et al. (1989) and Joshi et al. (2010) argue that employee rotation is a characteristic of organic organizations and that jobs overlap in this case. Employees are free to consult with others in departments outside their own. According to Nadler & Tushman (1997), this kind of employee freedom is also associated with organic organizations.

Hierarchy and Inter-organizational Networks

The hierarchy of the organization affects the inter-organizational networks that an organization forms. An organization with a tall structure has more levels of management (Tolbert & Hall, 2009, p.42). This may suggest that the potential to form network interactions (Huggins, 2010, p.518) are more than for flat organizations with few management positions.

The network partners are arguably more in taller hierarchies if there are more departments than in a flatter one and if the decision making is decentralized. This is because there are more points of network interactions thus more new interactions can be formed and it is also easier to move from one network to another. However, if a hierarchy is tall but has the same number of departments and a centralized decision making system, then it has no advantage over an organization with a flatter structure with regards to inter-organizational networks.

Nonetheless, it can be argued (Ambrose & Schminke, 2003) that flat organizations with many management positions also have a high potential of initiating network interactions, this also increases the variety of interaction partners because each department has its own partners. Having a wider variety of networks means that an organization has more avenues to meets its resource needs when and as they change. The interaction contact positions within the organization are responsible for ensuring that there is reciprocity when it comes to network interactions. This applies for both the decentralized and the centralized organizations.

5.3.3 Job Descriptions and Roles

It is common for some organizations to describe and document in a manual the job descriptions and roles, characterizing a mechanistic characteristic (Tolbert & Hall, 2009; Daft et al., 2010). These are however flexible and act as more of guidelines rather than strict directives, characterizing an organic organization (Tolbert & Hall, 2009; Daft et al., 2010). Roles are clearly stated and considered permanent but since employees are expected to be knowledgeable on the internal processes, the actual performance of tasks is relatively flexible. This again documents a mixture of both mechanistic and organic characteristics (Ambrose & Schminke, 2003) In other organizations, when new employees join the organization, the job descriptions are communicated either by management or by other more experienced employees. This is in addition to the documented manuals.
Job Descriptions and Roles and Inter-organizational Networks

With regards to network interaction partners and initiators, clear job descriptions and job roles do not independently affect the inter-organizational networks without considering the decision making process. If it is decentralized, then the various department managers are free to form interaction on behalf of the organization thus they can initiate the process and even choose the interaction partners.

However, if the decision making is centralized to a few individuals then the job descriptions and roles with regards to network interactions, only affect those individuals because they are mandated to network on behalf of the organization at least for the new interactions. The documented job descriptions and roles act as guidelines and as such, they give direction within the organization so that it is clear who does what. The rest of the job roles within the organization are not affected.

This is also the same for mobility within networks. Organizations with centralized decision making tend to be less mobile across networks than organizations with decentralized decision making, the latter are free to form network interactions as and when needed.

Job descriptions and roles affect the inter-organizational networks for repeat interactions and frequency (Cropper et al., 2008, p.291; Granovetter, 1973, p.1361) of interaction directly. This is because once an interaction decision has been made and the interaction established, the actual interaction is often passed on to the relevant departments. This way these interactions are assigned to the individual departments by the top management. People within the organization are better placed to know who is in charge of what and in what regard. These departments are also responsible for ensuring a proper exchange thus they ensure reciprocity (Provan & Milward, 1995, p.1).

5.3.4 Rules and Regulations

Rules and regulations are communicated to employees within organizations although it may differ on how it is done from one organization to another. In some organizations department heads communicate in meetings and during trainings while in others the rules and regulations are communicated through manuals though in some organizations, manuals are only used as guidelines. The use of manuals is documented as being common in mechanistic structured organizations (Ambrose & Schminke, 2003; Tolbert & Hall, 2009; Daft et al., 2010) while the fact that they are not strictly followed in some organization characterizes an organic organization (Ambrose & Schminke, 2003; Tolbert & Hall, 2009; Daft et al., 2010). The managers are usually responsible for the dissemination of the information. Often the rules and regulations for the office staff are different from those of the factory staff. In some organizations, each department sets its own rules and regulations to guide their operations although these are also not adhered to strictly but are considered very important.

Rules and Regulations and Inter-organizational Networks

When considering organizations to partner with for network interactions, organizations are more likely to partner with organizations similar to them especially when they have been approached
with an opportunity. One such thing to consider is how the other organization operates internally. Rules and regulations are guidelines on what is expected from the employees within the organization. It is important to note that these may not always be visible externally and as such when the organization is the one initiating the interaction, it may overlook certain differences because then it seeks to meet a specific resource need (Provan & Milward, 1995, p.1; Jap & Anderson, 2007, p., 262).

With regards to mode of interaction, repeat and new interactions, reciprocity and mobility within networks the effect of rules and regulations on inter-organizational networks cannot be considered independently. For these aspects of inter-organizational networking, the effect is considered alongside the decision making process and the roles and job descriptions. The decision making process decides who can do what while the roles and job descriptions assign those responsible then the rules and regulations guide these interactions and follow up on the reciprocity.

5.3.5 Communication

Communication of the goals and targets in organizations comes from the top, an attribute of mechanistic organizations according to (Hage, 1965). This is done through leaders in periodic forums, face to face meetings, email, employee trainings, bulletin boards and intranet. In addition to this, experienced employees are tasked with showing new employees the way around. Flatter organizations have less formal communications (Hage, 1965) although they also use formal channels (Tolbert & Hall, 2009). However, in all organizations, communication on the goals and objectives comes from top management then the various departments are free to decide how exactly to achieve these goals.

Communication and Inter-organizational Networks

In this regard, the formal organizational structure does affect the inter-organizational networks that organizations join. By knowing the direction that the organization is going in, then the various departments know the kind of interactions they need to form. Also by knowing the targets that the organization aims to meet, each department is better placed to plan its own targets (Das & Teng, 2000, p.48). The various departments know their role in achieving the overall objective of the organization. They then know what they require to meet these goals and what connections they need to access resources they lack to bridge the gap between where they are and where they need to be.

Communication within the organization may affect how the organization communicates with its network interaction partners. This means that the organization’s ability to find solutions to its resources needs (Newell & Swan, 2000; Wong & Sohal, 2002, p.36) changes may depend on how it communicates which in turn may affect how it forms inter-organizational networks. Communication affects the inter-organizational network on all fronts. When a choice is made on the interaction partners, it is communicated, when new interactions are established it is passed on to the relevant departments via communication. In the case of repeat interactions and mobility to other networks, this is also communicated. How these interactions are done, that is, their mode and benefits, that is, the reciprocity are also communicated within and across the organization.
This ensures for a smooth flow of the processes and operations within an organization because everyone is onboard with what is happening and with whom.

5.3.6 Training

All organizations have some kind of training, some long term and others short term, some internal and others external. Organizations that have branches may have branch specific training because they serve specific roles for the organizations and the branches have specialized needs. It is common to find that current employees are responsible for training new employees on how things are done within the organization. Tolbert & Hall (2009) and Daft et al. (2010) associate long term training to organic organizations and short term training to mechanistic ones although some organizations have both long term and short term trainings depending on departments.

Training and Inter-organizational Networks

When considering training as an aspect of formal organizational structure, it does affect the inter-organizational networks formed by organizations. Organizations train both internally and externally, on the job and off the job. When they train externally, they require making connections with other organizations that specialize with these areas of expertise. In this way it affects the interaction partners, the interaction initiation and the frequency as the organization in need for training sets out to meet a technical need (Baum et al., 2000, p.319; Cropper et al., 2008, p.295). When they conduct the trainings off the job, it means that they require making connections with partners who have the facilities required to offer these services. The interaction partners here are specialized in their technical fields.

They also interact with the dealers that they train on the use, sale and repair of their machinery. In this way it would be offering a technical resource. When the trainings are off the job and external then the interaction initiators are these organizations. The frequency and mode of interaction is determined by the type of training. Given that training is periodic, the interactions are repeated over time however, when the training is new then new interactions may need to be established. Training is considered as a resource (Lundstrom & Stevenson 2005) to the organization as it equips the organization with relevant skills (Perry, 1999) that enable it to remain competitive (Ahuja, 2000, p.319; Danis et al., 2009, p.290; Alvarez et al. 2012). When these needs change, the organization will most likely change its network interaction partners so as to accommodate these changes.

Mobility across networks may be promoted by the search for technical expertise which if not available within the network then the organization will move to another network. However, this also depends on the decision making process and how free the different departments are in moving from one network to another. Reciprocity in training interactions also depends on the decision making and who the contact is. Thus the roles and job descriptions determine who is responsible for ensuring that when an organization offers this technical resource, its reciprocated accordingly.
5.3.7 Departments

Some organizations have open office spaces. Various departments are seated in the same area and they can easily see what the others are doing. It is an informal arrangement and makes employee interaction easier and more relaxed. This form of arrangement is mostly common in organic organizations as documented by Courtright et al. (1989). Other organizations have separate offices for each department depicting high specialization. This set up is more formal which according to Soutarlis et al. (2012) is attributed to mechanistic organizations.

Organizations have both national and international branches. Organizations expand their branches because of the demand in these markets. The national branches have specific roles like manufacturing and production while the international ones are more sales based. Branches are often chosen based on their proximity to the market with high demands and the resources required by the organization. This kind of branch specialization is associated with a mechanistic form of organization (Souitaris et al., 2012).

Departments and Inter-organizational Networks

Where decision making is similar across the branches as it is the main offices, then branches affect the inter-organizational networks in the same way as they do the decision making process. In this case, then the reciprocity (Provan & Milward, 1995, p.1; Jap & Anderson, 2007, p., 262) is likely to be conducted in a similar manner. The departmental seating can also be similar to that of the main office. This means that regardless of how the departments are seated within the organization, whether open office or in separate offices, the various departments work towards a common end. However, it is easier to share information about the network interaction partners when the office plan is open because people are less formal (Burns & Stalker, 1967) towards each other.

Since branches are role specific, the managers in-charge of them get to interact with network partners in these specific areas. These managers are free to form new interactions if and when the need arises. In these interactions, either party can initiate the process depending on what it is that they seek. The reason behind the interaction also determines the frequency and mode of interaction thus determines the rate and number of repeat interactions. The wider the networks reach of an organization the easier it is for the organization to move from one network to another. Thus, if the organization has several branches, then they are better positioned to move from one network to another. It is thus logical to assume that organizations with a number of branches are more likely to have more potential sources of meeting resource needs as they change with the organization’s development. This is because the network initiation points are increased. It is common to find that organizations with branches have decentralized decision making processes so as to facilitate efficiency in their processes but this is not always the case.

Conclusion: All the organizations we interviewed started off as family businesses and have developed over the years to have presence in several countries both within and outside Sweden. In this regard, all the organizations changed their structures over time. Decision making is decentralized as the organization hierarchy becomes taller. This allows for efficiency and effectiveness. Also, it means that the various managers can form interactions relevant to their departments and make decisions regarding who to partner with and when. The communication
procedure also changes over time. Smaller organizations with flatter hierarchies have more informal communication processes but as the organization becomes larger, there is need to make the communication more formal. This means that the lines of communication and reporting are clear cut and as such the potential network partners know who to approach about what. Training requirements also increase as the organization develops and as such the organization requires making more connections that have expertise in the specific areas. Larger organizations have more departments and this means that they have more access to network interactions. We have also seen that each of these aspects affect the inter-organizational network of organizations but in different ways. We have also seen that this effect is sometimes dependent on other aspects of the formal organizational structure like decision making which cuts across the board. We shall now see how these findings contribute towards our research questions.

Our first research question aims to investigate the elements of the formal organizational structure that affect inter-organizational networks. In an effort to answer this question, we looked at the different elements that make up the three dimensions of centralization, formalization and complexity. The elements we considered were decision making, hierarchy, job descriptions and roles, rules and regulations, communication, training, and departments.

Based on the literature we reviewed, we made some propositions to help us support the answers to our research questions. We find that our first proposition holds and that the formal organization structure does actually affect the inter-organizational network as is shown in Table 12. This also fulfils the purpose of our study, answers the first research question and thus supports that our first proposition holds.

The effect of the formal organization structure on inter-organizational networks is determined directly by its decision making processes, its hierarchy, communication procedures, training needs and departments. The effect is also determined by the job descriptions and roles and the rules and regulations but not independently, they also rely on the decision making process. These affect, though not to the same degree, the inter-organizational network which change depending on the resource needed by the organization at that time.

**RQ:1. What elements of formal organizational structures affect inter-organizational networks?**

**P1:** The formal organizational structure affects the inter-organizational networks formed by organizations as their resource needs change

Our second research question aimed to investigate the effect of change in resource needs on the formal organizational structures. When the organizations wanted to develop they opened branches where they had potential markets and also where resources in terms of raw material and labor were readily available. The organizations’ change in resource needs actually affected the formal structure of the organizations. The administration offices are mainly located in the major cities while the manufacturing and production offices are located close to the sources of the materials the organizations use as their raw materials. The change in resource needs can cause the organization to relocate some of its operations closer to the source of these resources thus altering its formal structure. These new markets and new locations meant that the organizations has access to more inter-organizational networks and thus the more the formal organizational
structure changed, whether in terms of decentralization, hierarchy or branches, the more variety it got with regards to its inter-organizational network interactions. These partnerships became more diverse in nature.

**RQ:2** How does a change in the formal organizational structure, caused by a change in the resource needs, affect the network the organization forms?

<table>
<thead>
<tr>
<th>FOS</th>
<th>ION</th>
<th>Interaction Partners</th>
<th>Interaction Initiator</th>
<th>Frequency &amp; mode of Interaction</th>
<th>Repeat &amp; New Interactions</th>
<th>Mobility within networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision Making</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Job descriptions &amp; roles</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rules and Regulations</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Communication</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Training</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Departments</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 12: Interactions between Formal Organizational Structure and Inter-organizational Network attributes

To further our research we made three additional propositions. We investigated the formal organizational structure forms in relation to the strength of their ties and relative to their ages. Being a relatively old industry, our earliest organization goes back to the late 1920’s and our latest one in the early 1990’s. We earlier categorized the organizations into three; the first was organizations established between the late 1920’s and the late 1940’s (Z), the second was organizations established between the early 1950’s and the early 1970’s (Y) and; the third category being organizations established between the early 1970’s and the early 1990’s (X).

As mentioned in our methodology chapter, we took on a case study based research where we focused on six organizations within the forest technology industry in the Västerbotten County in Northern Sweden. We then categorized these organizations into three. In each category we had two organizations and we compared them to each other. Given the age of the organizations we expected the organizations to have all strong ties because they have been in the business for long so they were accustomed to interacting with the same network partners. We also wanted to investigate if the practice supported the theory in the case of organic organizations. We wanted to see if these organizations actually had these attributes. This led us to the following propositions:

**P₂**: An organization with a mechanistic form will most likely have strong tie networks

**P₃**: An organization with an organic form will most likely have strong tie networks

Our findings support that organizations develop over time; this because the organizations we interviewed were all started as family businesses and now have international reach. They started off with less than five employees and even those that do not have a tall hierarchy like
Organization B, they have managed to expand operations across their national borders. However, we found that relative to the age of the forest industry here in Sweden, theory did not completely match the practice. The practice partly supported theory while some of it went contrary to theory. From the results, we expected all the six organizations to be mechanistic since they are all in the late stages of development in reference to the organizational lifecycle. However, the organizations depicted different characteristics, some of which were related to the mechanistic form, some to the organic form and interestingly enough, some organizations had a strong mixture of both forms such that they could not be categorized to be either form. For instance, Organizations A and F portrayed more of the mechanistic characteristics which supports theory; Organizations C and E portrayed more of the organic characteristics which is contrary to theory; and Organizations B and D had strong characteristics of both the mechanistic and organic forms which again did not support theory.

In trying to answer the first parts of these two propositions, we compared literature to what the practice was. As organizations develop, literature suggests that they aim to be innovative (Capaldo, 2007, p.587; Swedberg, 2000; Hansen, 1999, p.105; Hoojiberg et al., 2007, p.80; p.81) so as to remain competitive (Hoopes et al., 2003, p.892) and this is seen as their motivation to form inter-organizational networks (Moller & Halinen, 1999, p.423; Scherer et al., 2012, p.9; Granovetter, 1983, p.219; Lavie & Rosenkopf, 2006, p.798; p.799). However, from the data we collected, we learnt that organizations prefer to invest a lot of money in research and development so as to maintain the innovation in house which is contrary to the suggestion by literature (Huggins, 2010, p.518; Tiwana, 2008, p.251; p.252), because the strong network ties do not inhibit their creativity. Although the network ties are strong which seem to lack novel information, they serve vital functions to the organizations. Some of the organizations we interviewed use their network interactions as sales outlets. They share skills and technology through training sessions but most of the organizations have developed the innovation techniques internally, this knowledge is what gives them a competitive edge.

The strength of these network interactions is demonstrated mainly by the continued frequent interaction between the organizations. The organizations mainly have strong ties which are more common among the repeated interactions but with an increasing number of weak ties. These organizations focused on establishing interactions what would meet their changing resource needs and best place them at an advantage over their competitors.

Literature (Tolbert & Hall, 2009; Daft et al., 2010) also suggests that organizations can only be either mechanistic or organic. Ambrose & Schminke (2003) suggested that there should be intermediate phases between these two forms. As earlier mentioned, we concur with these authors but unlike them, we seek to investigate if there are other forms of Formal Organizational Structures between the mechanistic and organic forms rather than an intermediate phase. We concur that there may be more forms because it is unlikely that the organization can change from one form to another without having some transitional form. We proposed the same and tested for this.

**P.4: There are other forms between mechanistic and organic forms**
Our findings showed that there are actually other forms of Formal Organizational Structures between the mechanistic and organic forms. In fact, none of the six organizations were purely mechanistic or purely organic. They had characteristic of both just that some were more inclined towards one form more than the other. This means that our fourth proposition holds. Organizations B and D have attributes of both the mechanistic and an organic forms. They do not lie more towards either form but rather strike a balance between the attributes. In table 13 below, we summarize the proposition outcome.

<table>
<thead>
<tr>
<th>Propositions</th>
<th>Hold</th>
<th>Do Not Hold</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13: Proposition Outcome (Complied by the Authors, 2013)

Although our study was set out to investigate the early, mid and late stages of organizations in the life cycle perspective we only managed to investigate those in the late stage (due to the age of the industry chosen), It is important to mention at this point that we will not revise our conceptual model, see figure 5. It is arguable that a revised model is required but since all our propositions held, we find a revision unnecessary.

5.4 Summary

According to the literature we reviewed on formal organization structures, the authors depicted that organizations fall on either side the two extremes, that is, either the mechanistic or organic form. However, from the empirical data we have collected in our research paper and the analysis we have done, it is clear that none of the six organizations is purely characterized by traits from either the mechanistic or organic form. We instead found out that these organizations contain tendencies from both the mechanistic and organic forms. Some organization portrayed characteristics of a particular form more than the other while other organizations seemed to strike a balance between the two forms. Table 14 shows how the literature we reviewed compares to the data we analyzed.

From our literature review, we proposed that there should be some other forms of Formal Organizational Structures that exist between the organic and mechanistic forms. The results we found from our research support this proposition.

In regards to the life cycle perspective, the six organizations we chose for our research were all in the late stages of development. According to the literature we reviewed in earlier chapters, mechanistic organizations are found in the late stages of the organizational life cycle while organic organizations are in the early stages. However, the results of our research did not completely support theory in this regard. Some organizations were mechanistic, some were organic and others were a mixture of both forms.
From our research we observed some interesting results; we found out that all organizations do not start off as being organic then end up as mechanistic but instead they tend to have a mixture of both forms. No organization has purely mechanistic or organic attributes but the attributes are shared among the forms however some lean more towards one form than another. We also found out that there are other forms between the organic and the mechanistic forms.

<table>
<thead>
<tr>
<th>Organizational Forms</th>
<th>According to Literature</th>
<th>According to Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td></td>
<td>Organization C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organization E</td>
</tr>
<tr>
<td>Other form (Mixture of Organic and Mechanistic)</td>
<td></td>
<td>Organization B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organization D</td>
</tr>
<tr>
<td>Mechanistic</td>
<td>Organization A</td>
<td>Organization A</td>
</tr>
<tr>
<td></td>
<td>Organization B</td>
<td>Organization F</td>
</tr>
<tr>
<td></td>
<td>Organization C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organization D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organization E</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organization F</td>
<td></td>
</tr>
</tbody>
</table>

Table 14: Literature and Data Analysis comparison (Complied by the Authors, 2013)

From our analysis, we also found out that various elements of the three dimensions of FOS affect how, who and when organizations form and maintain network interactions. We found that the various elements of the three dimensions of the FOS affect the formation of interactions in different ways. Out of those elements, decision making, hierarchy, job description and roles, communication, rules and regulations, training and departmentalizing are seen to affect inter-organizational networks though not all did so directly. Some need to be considered alongside the decision making process.
Chapter Six: Conclusion

This chapter looks at what our findings mean in relation to our study objectives. We show what implications our results have on the organizations, limitations of the study and then make recommendations for further research.

Our study set out to investigate the effect that the Formal Organizational Structure has on the inter-organizational networks that an organization forms. In doing so we looked at three dimensions; centralization, formalization and complexity, whose degree of interaction determined the form of the formal organizational structure. Literature shows that an organization can have either a mechanistic form or an organic form. We approached our study from a life cycle perspective which showed that the development of an organization is a progressive one. This perspective also showed that recently established organizations tend to be organic and more mature organizations tend to be mechanistic.

We also considered the Inter-organizational Networks in regards to the resource needs that an organization has. The life cycle perspective argued that the resource needs of a recently established organization are different from those of a more mature organization. We used the resource based view in collaboration with the inter-organizational network theory to study this change in resource needs. Organizations are said to align themselves strategically with potential network partners that have the right position within a network and as such have access to vital and unique resources.

From our findings we observed that elements of the Formal Organizational Structure affect the Inter-organizational Networks formed by organizations but to different degrees. We found that the decision making process, an organization’s hierarchy, its communication procedures, training needs and departments greatly affect the inter-organizational networks that an organizations enters into. However, certain elements of the formal organizational structure such as the job descriptions, roles, rules and regulations affect the networks formed by organizations but have to be considered alongside the decision making process. We also deduced from our findings that changes in resource needs have more potential to be met if the organization has access to more network interactions.

In regard to the life cycle perspective, literature suggests that recently established organizations are likely to be organic and that as they mature they become mechanistic. We found that no organization is purely organic or purely mechanistic but rather they have a mixture of attributes from both formal organizational structure forms. Organizations can be more organic and others more mechanistic but none are either entirely one or the other. This mixture of attributes also shows that recently established organizations can be mechanistic; they do not have to start off as being organic. Also, mature organizations can become organic if this suits their needs, they do not have to be mechanistic.

We proposed that both forms of formal organizational structure have strong tie networks. Our findings supported this. We found that organizations tend to maintain the network connections they have and even when these connections are inactive for a while, they still make an effort to keep in contact. Organizations tend to have more repeat interactions than new network
interactions. We also learnt that in as much as theory suggests that organizations tend to align themselves with organizations that are closest to the centre of the network thus having access to most resources, the practice is a bit different. Organizations are always seeking opportunities to form network partnerships as long as they contribute to their goals and objectives. Organizations rarely pay attention to which position within the network the potential organization holds. They are more concerned about meeting their objectives. If a potential network partner is considered to be in the periphery but has an opportunity to network then an organization would rather take on this connection than wait for the organization at the centre of the network to present an opportunity.

Our study showed that an organization changes its formal structure over time and that this change affects how it relates to other organizations as it seeks to meet the different resource needs that it has. Since we also found that the formal organizational forms have mixed attributes and that none are purely mechanistic or purely organic, then a change in the formal organizational structure would affect each organization’s networks differently. There is no standard answer to how a change in the formal organizational structure would affect the network the organization forms.

6.1 Limitations

One of our limitations was the respondents we had for our research. We interviewed top managers in the various organizations but they did not hold the same position within their organizations. We believe that this may have led to some bias when it came to answering the questions.

The fact that we decided to do our research on organizations that had been in operation over a long period of time also limited us in that it excluded a number of organizations from our sample, although this limitation is somehow justified by the fact that the industry we were researching on doesn’t have new organizations in the field we did our research on, that is, OEMs. However, our research on this particular industry and to a particular sector also restricted us in terms of generalizing our results. This study also focuses on organizations that were started as family businesses which are common in Sweden and to be particular in the region we conducted our study on but we believe that these could be different if the research was to be done in a different country or region.

6.2 Contributions

We have identified a gap in that there is little research on how the interaction of the three dimensions of formal organizational structures affects networks formed by organizations. A second gap we have identified is the lack of research on other forms that could exist between the two mechanistic and organic polar extremes.

This study contributes to theory in the fields of organizational structure and networks and particularly in Formal Organizational Structures and Interorganizational Networks respectively. The research contributes to these two fields by showing how the three dimensions of Formal Organizational Structure interact to influence network formations by organizations as they develop. The results show that the Formal Organizational Structure does actually affect the Inter-
organizational Networks formed by organizations; this proves that there is so much more that can be done in this area in terms of research to further contribute to theory. Researchers can perform the same kind of study but in a different industry to improve the generalizability of the results in this study. The same study could also be conducted on organizations considered to be in the early and mid stages of the lifecycle whose results could also be used to gauge the generalizability of this research. Considering that this research was done on OEMs and hence on tangible goods, it would be interesting if a study was conducted on a service providing industry for the purposes of finding out whether network formation is influenced by the same elements or different ones.

We as researchers proposed the existence of other forms of organizational forms in between the two polar extremes of organic and mechanistic forms, we feel that there should be research done for the purpose of categorizing them and in the process find out what kind of tie networks they have and require.

Another aspect of our research that we think would be interesting to study would be to compare whether the FOS affects ION more or vice versa so as to determine which between external and internal factors influence more change in organizations.

Our research also made some contributions to methodology. We undertook an inductive deductive study showing that research can have elements of both. We also combined different research designs; cross-sectional, comparative and multiple-case study. We demonstrated how these can be applied together in a research.

Our study also makes a social contribution. We discovered that innovation is important for survival and that this is affected by the formal organizational structure and as such it is also important for the society. We realize that scientific research is important for the society to understand the complexities of everyday life and as such, the applicability of these theories must be periodically reviewed. In this regard, our research makes another societal contribution in that we showed that the life cycle perspective is not very reliable when considering the development of organizations. Organizations are not making a conscious strategy based decision to develop, it is a dynamic fluid change and it no longer follows the rigid, deterministic progressive approach suggested by the life cycle perspective.

6.3 Implications of results

- The results from our study are relevant to managers across all sizes of organizations. They are now better placed to see how they can use their Formal Organizational Structures to optimize their network interactions.
- By decentralizing the decision making process an organization is able to widen its reach through the network interactions it forms.
- Organization development is no longer limited by a lack of resources; they can alter their current structure to include network interactions and access more resources.
- It is possible for the organizations to know that since resources are scarce, having a Formal Organizational Structures that encourages Inter-organizational Networks can help them utilize their resources efficiently.
- The sharing of resources may ensure that they are replenished and thus can last over a longer time without depletion.
Identifying whether there are other forms of Formal Organizational Structures helps managers to know how their choice of elements translates within the dimensions of Formal Organizational Structures. This in turn indicates how their inter-organizational network interactions are affected.

6.4 Areas of Further Research

Research can be done to further this study. Our approach offers enough qualitative empirical data that can be used to support our propositions which are a preliminary framework on which we base our recommendations for areas of further studies.

Researchers can compare what has more effect on the other; whether Formal Organizational Structure affects Inter-organizational Networks more than how inter-organizational networks affect formal organizational structures.

The same research can also be done but applied to another industry other than forest technology or even the same industry but in a different county, region or country.

Research can also be carried out in another industry on the effect of Formal Organizational Structure on Inter-organizational Network that might enable investigation of organizations in the early and mid stages of the life cycle.

We also focused on the original equipment manufacturers; researchers can consider the organizations that offer the services in this sector to see how they compare to those offering products.

Further research can also be done to determine what the other forms between the organic and mechanistic forms are.

Future research can also investigate the types of tie networks that organizations found in the other forms, between mechanistic and organic forms, have.
Reference List


Lapadat, J.C. and Lindsay, A.C. (1999). Transcription in research and practice: from standardization of technique to interpretive positionings. Qualitative Inquiry 5, 64 - 86.


Martinsons, 2013


Tortoriello, M., Reagans, R., & Mcevily, B. (2012). Bridging the Knowledge Gap: The Influence of Strong Ties, Network Cohesion, and Network Range on the Transfer of Knowledge between Organizational Units Organization Science 23 (4), 1024-1039

Vimek, 2013


APPENDIX I: ORGANIZATIONAL LIFE CYCLE

Organizational Life Cycle
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(Adopted from Daft et al., 2010, p.357)
APPENDIX II: INTERVIEW GUIDE

Introduction

Our research aims to investigate the effect that formal organizational structure (how the organization functions internally) has on inter-organizational networks (the interactions that organizations form with other organizations).

What position do you hold in the organization? ............
Can we mention your company name in the thesis? ............
Would you like us to send you a copy of our research paper/results? ............

PART A: FORMAL ORGANIZATION STRUCTURE

Decision Making:
1. Who makes decisions within your organization?
2. Are sensitive organizational decisions made by top executives?
3. Are sensitive organizational decisions made by other managers (not top executives)?
4. How does your decision making system look like? (Does it involve a few individuals or many? Is it centered to the top management or delegated to other staff?)

Communication:
5. What are the communication procedures in your organization?
6. How do you communicate job roles? (In writing or verbally? Who is responsible for this communication?)
7. How are your organizational rules and regulations communicated to employees?
8. Are the rules and regulations followed strictly or are they applied with flexibility?

Training:
9. Do you offer any employee training? (Including graduate trainee programs).
   i) If yes, is the training on the job (performed while the employee works) or off the job (time is taken off the job to train)?
   ii) If no, kindly elaborate why.
10. How often do you have employee training? (Skip this question if the answer to the above question is “No”)
11. What do you consider as long term and short term employee training? (Skip this question if the answer to the above question is “No” – go to question 14)
12. How much time (in hours or days) do your employee trainings take? (Skip this question if the answer to the above question is “No” – go to question 14)
13. What qualifications do you prefer your potential employees to poses? (Basic academic training or professional training with experience)

Structure:
14. What is the range of job titles in your organization? (Such as managers, assistant manager etc.). Has this changed over the past ten years?
15. Do you consider the tasks performed by employees as permanent (specific to the individual or are they flexible (can be performed by several other employees)?
16. How many departments does your organization have? Has this changed over the past ten years?
17. Do the different departments sit in separate offices or in an open office system?
18. Do you have separate cafeterias for the different departments?
19. Does your organization have other branches? If yes, Where?
20. Do the branches have a specific role (like manufacturing, production … is it task specific?)
21. Why did you choose these locations? (Skip this question if the answer to the above question is “No”)
22. When did you open these branches? (Skip this question if the answer to question 19 is “No”)
23. What functions do these branches serve? (Skip this question if the answer to question 19 is “No”)
24. Are the decisions making processes and communication procedures in the various branches similar to the ones in your branch? (Skip this question if the answer to question 19 is “No”)
25. Is training organization wide or branch specific?

PART B: INTER-ORGANIZATIONAL NETWORKS

1. What organizations do you interact with? (Could be suppliers, customers who are also organizations, competitors or government agencies)
2. How do you choose which ones you interact with?
3. Why do you choose to interact with these organizations? (Do you exchange resources? What kind of resources? What are the benefits of these interactions? Do they help you achieve your goals? Do they help you remain competitive? Do they help you become innovative?)
4. How did the interactions start? (Did you approach them or did they approach you? What made them approach you? What made you approach them?)
5. Do you interact with some organizations more than others? (If so, why? Which ones?)
6. How often do you interact?
7. What kind of interactions do you have? (Face to face, telephone or email communications, conferences or seminars, exhibitions?)
8. How much do you feel you offer the other organizations you interact with? (resources, contacts, opportunities)
9. How much do you feel you receive in exchange for what you offer? (resources, contacts, opportunities)
10. How do you ensure that you get as much out of the interactions as you put in? (that the reciprocation is even)
11. Do you feel like your interactions are the best or are there other organizations that you would rather interact with? (Why or why not?)
12. How easy is it to form new interactions?
13. How many new interactions have you formed in the last five years?
14. How many repeat interactions do you currently have?
15. How long have you been in interaction with these organizations?
16. Do you consider the organizations with which you interact with to be part of your network? (a network being organizations with which you continuously interact and that you mutually benefit from)
17. How easy is it to move from one network to another?
18. Have you ever had difficult joining a network you wanted to?

PART C: STRUCTURE AND NETWORK INTERACTION

1. Who decides on the interactions to be formed?
2. How is this decision made? (Criteria)
3. How is this decision communicated? (either to the employees or to other organizations)
4. How do you make and maintain contact with these organizations? (Do you appoint one person to maintain contact for each interaction separately?)
5. Are there trainings conducted within these interactions? If so, what kind of trainings? How often?
   a) What’s the importance of the training to your organization? (Skip this question if the answer to the above question above is “No”)
6. Does your management structure affect how you interact with other organizations? (For example, does it take too long to decide whether to interact or not such that the opportunity might be lost?)
7. Does your internal decision making system influence how you interact with other organizations? If yes, kindly elaborate.
8. Does your internal set up of rules and regulations affect your interaction with other organizations? If yes, kindly elaborate.
9. Is your interaction with other organizations central to the head office or can your branches also form networks in their different locations?
10. Does the location of your branches influence your interactions with other organizations in the specific branch sites?
11. Are personal interactions amongst your employees and those of other organizations considered significant to your organization?