MSc in Management of Innovation and Business Development

Master of Science Thesis

Business Networks for Startup’s International Expansion and Globalization.

Author: Oscar Perales
Hand-in date: August 27, 2015
Supervisor: Prof. Jing Chen
No. of pages: 70 pages
No. of characters (including spaces): 125,590

“Copenhagen Business School” 2015
Abstract

The rapidly overall integration of the world has shortened physical distance between actors around the world causing what we call “globalization”. Some startups are nowadays born global and others are aiming to internationalize in order to reach new and prosperous markets and become part of this globalized world. This is a master thesis research that is intended to explain and explore the importance of business networks and how can this help a startup to achieve international expansion. After exploring the advantages and benefits of business networks, it will be cover specific skills a startup should have that are assumed important for their internationalization process. Also, important factors and drivers that startups take in consideration for international expansion as well as fears and concerns they might face during this process will be analyzed. Furthermore, the role of Intellectual Property will be address and the impact that this protection tool has in a startup’s internationalization process related with business networks. The analysis was based on surveys made to 28 different startups located around the world in order to gather data for the research purpose.
# Table of Contents

1. **Introduction** .................................................................................................................. 6  
   1.1 Globalization and Startups .................................................................................. 6  
   1.2 Research Field .................................................................................................. 8  
   1.3 Delimitations and General Assumptions ......................................................... 9  
   1.4 Personal Motivation .......................................................................................... 9  
   1.5 Key Concepts ....................................................................................................10  

2. **Literature Review** ......................................................................................................... 14  
   2.1 The Global Startup ............................................................................................. 14  
   2.2 Business Networks ............................................................................................. 17  
   2.3 Networks and Startups ......................................................................................... 18  
   2.4 Types of Networks ............................................................................................... 20  
      2.4.1 Classification of Strategic Networks ............................................................ 20  
      2.4.2 Management Classification in Networks ....................................................... 21  
   2.5 Networks and Clusters ......................................................................................... 24  
      2.5.1 Clusters ....................................................................................................... 24  
      2.5.2 Clusters and Startups .................................................................................. 26  
      2.5.3 Difference between Clusters and Networks ............................................... 27  
   2.6 Startups’ Globalization through Networks ............................................................ 29  
      2.6.1 Drivers towards a Startup Globalization ....................................................... 29  
      2.6.2 Startups’ Internationalization and Business Networks .................................. 30  
      2.6.3 Advantages of Startups belonging to Networks ........................................... 35  
   2.7 Strategic Networks for Startups .............................................................................. 35  
      2.7.1 Intermediation and Collaboration ................................................................. 36  
      2.7.2 Alliances ...................................................................................................... 37  
   2.8 Intellectual Property ............................................................................................... 39  
      2.8.1 Protecting Intellectual Property ................................................................. 40  
      2.8.2 Startup’s IP Protection ............................................................................... 41  
      2.8.3 Benefits of IP Protection ............................................................................ 43  

3. **Hypotheses and Research Purpose** .............................................................................. 45  
   3.1 Hypotheses .......................................................................................................... 45  
      3.1.1 Explaining H1 .............................................................................................. 46  
      3.1.2 Explaining H2 .............................................................................................. 47  
   3.2 Research Purpose .................................................................................................. 47
1. Introduction

1.1 Globalization and Startups

Globalization, as a concept, refers both to the “shrinking” of the world and our increased consciousness of the world as a whole. It is a term used to describe the changes in societies and the world economy that have resulted from dramatically increased cross-border trade, investment, and cultural exchange. The affects of globalization have been felt in every nation, region, and culture as it has produced a growing interdependence of people with regard to political systems, societal influence, economies, and cultural exchange. As the world becomes more and more globalized, businesses from all sizes and industries are force to adapt into this phenomenon and create strategies that will allow them to become more globalized and international.

Globalization is indeed something important for startups, as it would increase their flow of goods, services, people, real capital, and money across national borders, resulting in a more integrated and interdependent world economy. The fact that domestic economies are globalizing is true. In fact, the shift in economic activity from a local or national sphere to an international or global orientation ranks among the most vehement changes shaping the current economic landscape. Nowadays, it is not enough to stay local and interact only with local players. Startups then need to adept into this and not only become global and international but also get involved with players and stakeholders at a global scale.

A startup is made to grow fast, therefore, in order to accomplish this a startup needs to aim for a big market, else staying local will slow down this process. Globalization should provide advantages to startups by enlarging the market for their goods and shifting competitive dynamics. Getting to this big market will allow the startup to grow faster and become global. If a startup stays local, it might run the risk of getting eaten up by competition and experience not surviving or growing. However, startups may be able to escape harsh competition in their local
markets by capitalizing on opportunities in others. Globalized sales are positively associated with startups survival.

Globalization may resolve some liabilities of small firms or startups. It can help small firms extend beyond the limits of domestic markets, enhancing their growth and likelihood of survival. Startups can take advantage on markets imperfections in other geographic regions as well as achieve greater production volume. Startups possess a creative way of doing thing and they can use this creativity to enable their few assets to position themselves in the global market.

All type of companies will be affected by the changes that one nowadays could observe, not only for small firms or innovative entrepreneurship but of course the behavior of multinationals and large firms, and the relations between large and small firms. Just as big companies, startups represent an important actor on a global market. One reason being the new technology which means that even very small local firms will have such a possibility. The key lies in whether this small companies or startups have the connections and information that they need in order to expand into new horizons in a faster, smoother and cheap way.

Startups operating in technology intensive environments can expand the market for their technologies through sales internationalization. They may do so in response to small, mature, or highly competitive domestic markets, or because they perceive greater opportunities in foreign markets (Evangelista 2005; Fletcher 2004). Overall, the globalization of startups is likely to increase as the world becomes more integrated, as trade barriers decline, and as transportation and communication become more efficient (Lu and Beamish 2001; McDougall and Oviatt 2000). This technology resources acts like a moderator in the relationship between global sales and the startup survival. Porter indicated that the success of startups, under the effects of globalization, depended on the formulation and implementation of strategies. Some of these strategies take the form of marketing, innovation and the creation of business networks, which will be explain more in detail later on and emphasize their relevance.
Alliances and networks are another factor that affects startups ability to globalize. The liabilities of newness and smallness perspective recognize that a new small firm can increase its survival and connections through external relationships by creating networks. There are two reasons for this. First, exchange relationships with key constituencies in the environment are associated with external recognition, enhancing a firm’s reputation and credibility (Singh, House, and Tucker 1986). Second, alliances and networks provide access to resources that would otherwise take years to build, thereby buffering a firm from the hazard of young age. Evidence from the resource-based view suggests that a startup can benefit from resources beyond those it possesses, to include those it leverages from others. Resources, reputation, credibility and valuable information, are important factors that a startup can beneficiate from building relationships and business networks.

1.2 Research Field

An important factor, which it is consider in this research that would benefit a startup ability to globalize, is to expand and become global by using business networks.

One of the major factors influencing the need for a network as a company is the globalization of the economy. Supply and demand are no longer local but global. The price of commodities is affected by the conditions half way across the world or by demand in developing countries. Production takes place wherever the assets and human resources can most effectively deploy. Networks can be the practical and cost-effective method to accomplish these objectives in where the members of the network will have access to other members and work together for their own and common benefit as a whole. Networks can be an effective model and a powerful system of enhancing contacts, services, relationships and economic advantages.

Furthermore, assuming that the startup believes that business networks are important for their international expansion, the startup’s concerns and worries behind this process will be analyzed. The analysis will therefore cover topics such as what is something that a startups will
be skeptical and concern when joining business networks and what are their main reasons and motivations not only for joining business networks but also to become global and international. Finally, Intellectual Property will be discussed and the effect of this on a startup’s business network integration.

1.3 Delimitations and General Assumptions

The delimitation is to focus on the relationship between business networks and startups to achieve globalization and internationalization in a better and smoother way. The focus of business networks will be on those building relationships and creating contacts on an international scale. Also, using networks as an effective model and a powerful system for launching startups in an international environment. These network approaches will be analyze and study to see what effect they have on a startup’s internationalization process.

The assumption underlying this study is that startups have the willingness to become global and international. To aim expansion, startups in general possess limited resources, thereby no investment or financial study is included that could increase or decrease the possibility of startup’s opportunity and success.

1.4 Personal Motivation

The topic of business networks and startups are of personal interest to me, as I personally believe that startups have a huge potential to do big things, create new standards and enable radical innovation. Studying elements within this field can contribute to a better understanding and perspective for those startups with interest to become global and give them a perspective of an option they can use to achieve it. For many years I have been surrounded by an entrepreneurship atmosphere where I directly collaborated with startups in their business processes and help them to identify new markets. I have seen some of the problems they are actually facing were, becoming global and the process of how to achieve internationalization is often one of them.
I am amazed of how important the startups are for the economy, people, and society. They generate many jobs and fill those opportunity gaps that big companies don’t. Because of this, I believe it is worth to study methods and ways to make them more efficient and achieve their goals. Apart from this, in my present situation of soon leaving university and studies ecosystem, I have considered my option of joining a startup and help developing it or starting my own company. The analysis and study of a business development approach that a startup can use, will allow me to put it into practice in my future career as an entrepreneur or business developer.

1.5 Key Concepts

Startup

A Startup is a key term of high importance for the understanding of this study, and it will be use throughout the paper. Therefore, it is important to clarify what the term implies and its delimitations to understand the meaning and purpose of the research. It is also relevant for this study to understand the difference between a “Startup” and a “Small Business”.

The term “Startup” has been bandied around with increasing frequency over the past few years to describe scrappy young ventures. However, “A startup is a company working to solve a problem where the solution is not obvious and success is not guaranteed,” says Neil Blumenthal, cofounder and co-CEO of Warby Parker.

According to Merriam-Webster, startup means “the act or an instance of settling in operation or motion”. The key attribute of a startup is its ability to grow and scale very quickly. It is this focus on growth, unconstrained by geography, which differentiates startups from small businesses. A restaurant in one town is not a startup, nor is a franchise a startup. A startup is a temporary organization design to search for a repeatable and scalable business model.
**Business Network**

“Business Network” is an effective low-cost marketing method for developing sales opportunities and contacts, based on referrals and introductions, either face-to-face at meetings and gatherings, or by other contact methods such as phone, email, and increasingly social and business networking websites. In addition, business networking brings with it the added advantage of recommendation and personal introduction, which are always very helpful for developing business opportunities (Holm, D. B., Eriksson, K., 1996).

According to Emerson (1981) a network is a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors. Network theorists see firm’s internationalization as a natural development from network relationships with foreign individuals and firms (Johansson & Mattson, 1988). Networking is seen as a source of market information and knowledge, which are often acquire in longer terms when there are no relationships with the host country. Therefore, networks are a bridging mechanism that allow for rapid internationalization (Mitgwe, 2006). The emphasis of the network approach is in bringing the involved parties closer by using the information that the firm acquires by establishing close relationships with customers, suppliers, the industry, distributors, regulatory and public agencies as well as other market actors. Relationships are based on mutual trust, knowledge and commitment towards each other.

Networks provide opportunities for small firms and startups. Evidence of growing importance of networking in a specifically international context is provided by Dunning (1995) and by Holm (1997). In this study, it will be analyzed the importance of networks in providing opportunities for startups internationalization.

It is also to be aware that the shortened term ‘networking’ can be confused with computer networking/networks, which is different terminology, relating to connection and accessibility of multiple computer systems.
Internationalization

From a historical perspective, internationalization of businesses and firms began with mankind’s ability to travel across the seas and borders. Scholars and academics have tried to define internationalization on many occasions using many different perspectives and variables. The term ‘internationalization’ is ambiguous and definitions vary depending on the phenomenon they include. Penrose’s (1959) point of view on the topic focuses on the firm’s core competences and opportunities in the foreign environment. Welch and Luostarinen (1988) defined internationalization as the process in which firms increase their involvements in international operations. Johanson and Vahlne (1977) also agree with that. To some scholars internationalization is also defined as the process by which firms both increase their awareness of the direct and indirect influences of international transactions on their future and establish and conduct transactions with other countries. Later on, Calof and Beamish (1995, p. 116) defined internationalization as “the process of adapting firms operations such as strategy, structure and resource into international environments”.

Globalization

Globalization is the growing interdependence of national economics involving consumers, producers, suppliers, and governments in different countries. Boundaries between domestic and international markets are becoming less relevant as businesses increase their profiles abroad (Dunning 1993). Globalization reflects the trend of firms selling and distributing products and brands in many countries around the world. It is associated with governments reducing trade and investment barriers, large firms manufacturing in multiple countries, local firms sourcing raw materials or parts from cost-effective suppliers abroad, and foreign firms increasingly competing in domestic markets (Dunning 1993).

Startups are likely to become more important as economies become more globally integrated because globalization is itself a process of entrepreneurial discovery. Firms that succeed in the global market must be innovative and able to hold on to the profit opportunities
their innovations present. This is also because the residents of one country are more likely now than they were 50 years ago to consume the products of another country, to invest in another country, to earn income from other countries, to know that they are being affected by economic developments in other countries and to know about developments in other countries.

It is worth to mention that globalization and internationalization are two different things. Internationalization refers to the increasing importance of international trade, international relations, treaties, alliances, etc. Globalization refers to the economic integration of many formerly national economies into one global economy, mainly by free trade and free capital mobility, but also by easy or uncontrolled migration. Globalization is also a process that is a result of shrinking of the world because of faster and more efficient modes of transportation and communication while internationalization is the action of taking one country’s business across other nations.

**Intellectual Property**

According to the World Intellectual Property Organization (WIPO), Intellectual property refers to creations of the mind: inventions; literary and artistic works; and symbols, names and images used in commerce. Intellectual property is divided into two categories:

1. Industrial Property. Includes patents for inventions, trademarks, industrial designs and geographical indications.
2. Copyright. Covers literary works (such as novels, poems and plays), films, music, artistic work and architectural design.

Intellectual property rights (IPRs) allow creators, or owners, of patents, trademarks or copyrighted works to benefit from their own work or investment in a creation. IP confers on individuals, enterprises or other entities the right to exclude others from the use of their creations. Consequently, IPRs may have a direct and substantial impact on industry and trade as the owner of an IPR may, through the enforcement of such a right, prevent the manufacture, use or sale of a product, which incorporates the IPR.
Startups and Intellectual Property are very well related, as startups are known for developing new and innovative creations. These creations can be worth to protect and obtain IPRs in order to commercialize them without having the competition or other actors to steal their idea. IP for a startup’s internationalization process can also be truly beneficial. However, they are also downsides for IP in a startup such as high costs and lack of IP knowledge, e.g. where to register, under what terms and region, etc.

2. Literature Review

2.1 The Global Startup

Oviatt and McDougall (1994) defines the Global Startup as on that seeks to derive significant competitive advantage from extensive co-ordination along multiple organizational activities, the location of which is geographically unlimited. Such firms not only respond to globalizing market conditions, but also proactively act upon opportunities, to acquire resources and sell outputs wherever in the world they have the greatest value. This means that global startups are highly entrepreneurial firms were they seem to pursue opportunities wherever they arise. These types of startups are already born with an integrated global connection and with a wide range of different actors.

For much of the history of modern business, startups were local during the early years. However, most startups companies today consider overseas expansion from their inception. Several developments have facilitated the trend such as technological progress, including the development of fast, low-cost telecommunications connections and the advent of the Internet. Startups and their managers often underestimate the cost of an expansion move to foreign shores and lack a clear conceptual framework for international expansion and its implications.

There are different motivations for startups becoming global. Demand for a new product or service, how to produced them at lower cost or through a new business model and selling this products or services into new geographic markets, which represent a new opportunity.
Resources comprise everything that the entrepreneur might enlist to pursue an opportunity. These include specific talent and human capital, specific information useful for pursuing a business opportunity and risk-capital providers that can offer more than financial capital, such as expertise and deal-structuring advice. Also crucial for startups are social and professional networks. Often these networks form the basis for a venture’s success because they provide unique and timely access to the more visible resources such as capital and management talent for a startup company (Poole, R. 2012).

Going abroad can significantly increase opportunity as it expands the market for existing product and introduces the possibility of product-line extension. Also, setting up a subsidiary abroad can afford a company better access to resources such as capital, well-trained managers and engineers, and specialized supplier services. Often entrepreneurs expand both to enlarge their opportunities and to gain access to more resources (Knight, G. 2000).

The initial local success of a startup will often enable a company to attract geographically distant resource providers including large private equity investors, banks, public equity markets abroad and large customers offering lucrative nationwide or even overseas contracts. Therefore, initial success can be directly correlated with the ability to create business networks.

In order for a startup to be successful in a global scale it is necessary to enforce a global mindset throughout the company, seek out individuals with international experience, ensure that the problem is small enough to be solved by the established startup, sell a minimum viable product to foreign customers at an early stage, leverage the assets of well-established companies and adopt a business model that is global and not local anymore (Poole, R. 2012).

According to Hyunsuk Lee, Donna Kelley and Jangwoo Lee (2012), a startup must possess certain qualities and resources in order to succeed in an international atmosphere. Ideally, in order to successfully create international sales, a startup should have:

• Technology Resources  
• External R&D
When a startup possesses technology resources, its ability to communicate with the external environment and make business is higher. The technology level varies from the industry the startup is involved in and with the resources that it possess. However, nowadays it would be very difficult or impossible to go global without technology. Patents is also something crucial that startups should have straight, in order to achieve expansion and internationalization. More about this will be cover in the next sections. External R&D can be also seen as alliances or networks that are established in international settings. These will allow the startups to get an insight about the market and customers that is planning to reach. The following figure summarizes this part of the theory.

![Relationship between Resources & Internationalization for survival](image)

*Figure 1. Relationship between Resources & Internationalization for survival (Lee, Hyunsuk. Kelly, Donna, and Lee, Jangwoo 2012)*

It is also worth to mention the difference between a global startup and a born global firm. A born global firm is typically used in relation to export marketing issues in young but established ventures, while the concept of global startup is used more often in connection to
entrepreneurial processes in startups. Furthermore, global startups possess a coordination of multiple value added activities from inception and seek to derive a significant competitive advantage (Oviatt & McDougall, 1994). A Born Global firm should have at least 25% of international sales in more than 3 countries in within 3 years of being born (Knighty, 1997; Harveston, 2000).

2.2 Business Networks

A business network is a complex network of companies, working together to accomplish personal and common goals. A business network is far more than the business itself as it incorporates suppliers, customers, third party developers, distributors, and others. These outsiders must have a reason to support the network and remain active in it. The scope of the network is to support the informational and operational requirements of the business such as marketing, sales, accounting, and manufacturing departments (Emerson, 1981). However, for this study, business networks would not only be companies but also connections, people and other different stakeholders.

Networks can be differentiated with respect to their duration and stability, as well as whether they are forged to accomplish a specific task or evolve out of pre-existing bonds of association. Networks vary from short-term projects to long-term relationships, and the different temporal dimensions have important implications for governance. Some networks are hierarchical, monitored by a central authority; while other are more heterarchical, with distributed authority and strong self-organizing features (Holm D. B., Eriksson. K, 1996).

Networks can also have bridges or ties. These ties can be strong or weak. There is a debate whether strong or weak ties, or bridges, offer greater opportunities for innovation (Ahuja 2000; Ruef 2002). Clearly, variation in network structures is associated with different content in relationships. Strong ties between two parties may restrict information gathering in terms of the breadth search, but the information that is exchanges is “thick”, or detailed and rich. Weak ties
are thinner and less durable, but provide better access to non-redundant information. More about networks and how startups can use these will be analyze in the further sections.

2.3 Networks and Startups

In order for a startup to successfully develop it has to be involved in an interface between the firm and its environment. There has been an assumption of a clear boundary between the two, in which environment has been defined as “anything not part of the organization itself” (Miles 1980, P. 195). A firm’s relationship with its environment is one of adapting to constraints imposed by an intractable externality and forming networks. A network gives each startup a certain influence over the other, which means that each startup is gaining control of at least one part of its environment while giving away some of its internal control. Belonging to this network environment will also be beneficial for the startup when there is change in the market, economy or government regulations. Belonging to a business network can give a startup certain security against the mentioned adversities.

A business network can also be defined as a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors (Emerson 1981). Connected means the extent to which exchange is one relation in contingent upon exchange (or non-exchange) in the other relation”. At the same time, two connected relationships of interest can be both directly and indirectly connected with other relationships that have some bearing on them, as part of a larger business network.

Networks are vital for a startup due to their initial lack of resources. By creating a network the startup can gain access to this resources that it could not get just by itself. Example of business networks for a startup can be competing companies/startups, supplementary firms, customers, third parties in common and suppliers, among others. A business network is build up by business relationships and a critical point is that there is no simple one-to-one relation between the relationship and the networks (cf. Aldrich and Whetten 1981; Van de Ven 1976).
Developing relationships can be stabilizing as the development builds further on the earlier principle of the network, it will strengthen it. Saying this, a startup can consider to be stronger and with more resources when being part of a business network.

A network identity is meant to capture the perceived attractiveness of a firm as an exchange partner due to its unique set of connected relations with other firms, links to their activities, and ties with their resources. It refers how the startups see themselves in the network and how other network actors see them. When creating networks a startup needs to sell itself and the added value that it can provide to the future partner. Both sides should possess something that the other part is attracted to and that will benefit from it. A network in startups gives them heterogeneity in the portfolio of collaborators and allows them to learn from a wide stock of knowledge (Hitt, Michael A., 2002).

The effect of networks on startup survival is crucial. Larson’s (1992) study of how a startup firm grew and prospered by drawing on external resources and support for key businesses functions shows how relationships are forged and sustained as a startup firms grow. While not explicitly looking at innovative output, there is an importance of networks in obtaining resources necessary to fuel a startup firm’s success. For example, it has been examined whether biotechnology startup firms’ cooperative relationship with other firms had a positive effect on patenting (Shan, Walker and Kogut, 1994). By sharing resources and knowledge, both parts can help each other to achieve their own goals.

Collaborative relationships increased innovation, because formal cooperative relationships explained innovative output, while innovative output did not account for the pattern of alliances. Stuart (2000) shows that startups establishing strategic alliances with large partners also grew at a higher rate than firms without access to such partners. The returns to networks with regard to patenting were greatest for both young and small firms. In this respect, startups benefit from the knowledge and experience from the large partner while the large partner gets creativity, innovativeness and entrepreneurial vibes from the startups.
Before selecting a network, the startup needs to assess and take into consideration the risk and benefits that the network can bring not only in the short term but also in the long term. Once a network is assessed and chosen, startups need to know how to manage the chosen network. Factors need to be taken into consideration such as how to coordinate and mobilize key actors inside a network, how to develop and manage an optimal strategic portfolio and how to assess and enter into new networks. These factors are vital for a startup to implement and keep the business network alive, growing and influencing each other in a reciprocal way.

2.4 Types of Networks

2.4.1 Classification of Strategic Networks

Networks can be classified in different ways depending on the influence they have and their position in the value-system. When the value-system information is combined with the goals of the actors and the structure of the network, these networks can be classified in either Vertical value networks or Horizontal value networks (Möller, K., Rajala, A. & Svahn, S. (2005).

Vertical Networks

Vertical networks include supplier, channel and customer networks and vertically integrated value systems. The dominant goal of vertical networks is to increase the operational efficiency of their underlying value system. Most vertical networks also pursue developmental goals, which primarily lead to incremental and local improvements in the products/processes of the established value system (Dyer, 1996 and Dyer and Nobeoka, 2000). The main goal is to integrate the complete value system, from the raw materials to the distribution of products to the end customers. This sometimes can require advance integration of complex information systems and management processes. Vertical networks can help a startup to achieve these optimization procedures in a cheaper and faster way.
Horizontal Networks

Horizontal networks can cover several modes such as competition alliances, resource/capability access alliances, resource and capability development alliances, market and channel cooperation alliances and “network forums”. Horizontal networks are characterized by competitor alliances and cooperative arrangements involving various institutional actors such as government agencies, industry associations, research institutes and universities. These actors aim either to provide access to existing resources or to co-develop new resources. Competition alliances are widely known as strategic networks. Resource access and development networks range from local export cycles to global technology alliances aiming to develop next-generation technologies. Horizontal market and channel networks are created when competing firms recognize that they have products, channel relationships or customer-service systems that can be combined to achieve a stronger position in the global-level competition.

Horizontal networks are seldom purely horizontal. They also get together competitors, research institutions and authorities, but also often contain vertically positioned supplier and distributor companies. It is also worth to mention that a good way for a startup to get investment, capital and workshops is by using horizontal networks.

2.4.2 Management Classification in Networks

Management issues in a network context can be exceedingly complicated due to the embedded and reciprocal character of business relationships forming both networks and strategic networks (Ford and McDowell, 1999). It is suggested that the key issues in managing strategic networks fall within three levels, which are: (1) industries as macro networks, (2) strategic networks and (3) network and relationship portfolios.

Industries as macro networks

Industries are constituted of enmeshed networks of actors, making them often non-transparent and very dynamic. Management has to be able to identify and understand the value systems and the
actors through which the macro network produces value for the end customers. The more complex and volatile the value system is, the more challenging the task are and the more a startup will have problems to create presence abroad. It requires knowledge of the actors influencing the network evolution, and competence in interpreting their views and orientation. Even companies with extensive resources do not guarantee this capability.

Large corporations may try to shape the development of whole industries or macro networks by trying to influence the beliefs, goals and behavior of other key actors through “orchestration”. This is something that startups don’t have access to it and cannot create a big influence as large companies can. This kind of orchestration gives a vision of the network and a strong position and credibility in the certain field. Startups should be careful and aware of the type of network they will join in this scenario as it can be at already stiff environment where values and behaviors are already established. Therefore, the startup won’t have enough room for creativity and innovation, as the standards are already set.

The level of strategic networks
Clusters (Porter, 1990) are made up of several overlapping strategic networks. Being able to mobilize and coordinate the value activities of other relevant actors is essential in managing strategic networks. Crucial questions are the fact of how a company can mobilize value-producing networks, and what kinds of positions and roles it should try to achieve in different and overlapping networks across different strategic situations. In this level, networks strategies can be divided into different factors such as (i) improving the operational efficiency of a strategic network, (ii) improving the leverage of existing capabilities through participating in one or several networks and (iii) developing new capabilities through innovation networks (Loeser, 1999). These strategic networks are something that a Startup could definitely beneficiate from as it can create synergies and relationships with other parts that will have similar or same goals. Several goals can be pursue through one complex network or a set of overlapping networks.
A very specific example directly linked to startups is when these ones try to create new technologies, complex business models, or new business concepts, managers have to be able to orchestrate actors from several different fields (Dahanarag, C., Parkhe, A. (1985). This demands to create networking capabilities in activities, such as actor evaluation, creating direction through agenda setting and motivation, coordination and control. A key aspect for the startups is to identify the roles, capabilities and goals of other important actors, and to modify one’s strategy to match the network situation and where the company or startup wants to head.

**The network and relationship-portfolio level**

It is important for companies to evaluate the future importance of the network in terms of its business and influential potential and how the company or startup should take into account in coordinating its portfolio of network positions. Having a portfolio perspective will give the company the capability of developing managerial processes and organizational devices for efficient business operation (Möller, K., Rajala, A. & Svahn, S. (2005).

Each network is constituted of relationships between its key actors. Relationship-portfolio management in a specific strategic network is closely related to questions of position and roles. The portfolio perspective highlights the need to handle suppliers, customers and different horizontal relationships such as coalitions and alliances, as effective as possible. The challenge in portfolio management is to evaluate the future value of potential customers, suppliers and other relevant actors to adapt investments in relationships to their value. No matter how big or small the company is, managers should also foresee the potential risk and benefits of actor bonds. Some customer relationships/networks will prevent some new relationships, while encouraging others (Ford and McDowell, 1999).

However, it doesn’t mean that the bigger a startup’s network portfolio is the better it will be for the startup. It is intended to analyze each network and see the type of value that a startup can get from the future network. Also, startups need to take in consideration if they also add value to the joining network, as a reciprocal activity should exist. A startup should carefully...
select its networks and try to build strong ties with these ones. As seen before, the stronger the tie, the biggest the level of cooperation and sharing is. Is not about the number of networks a startup has that will determined their success but how solid and complementary these networks are for the startup.

<table>
<thead>
<tr>
<th>Level of Management Issues</th>
<th>Key Themes</th>
<th>Managerial Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1. Industries as Networks, Networks Visioning &amp; Orchestration</td>
<td>Networks, as configurations of actors and activities are not transparent. Capability to influence other core actors is essential.</td>
<td>How to develop valid views of relevant networks and their opportunities? How to orchestrate the whole networks?</td>
</tr>
<tr>
<td>Level 2. Firms in Strategic Networks, Net Management</td>
<td>Firms’ network behavior related to: I-strategic networks they belong to, II-positions and roles they play in these networks, III-major business relationships, IV-capability to identify, evaluate, construct and maintain positions and relationships is essential in strategic networks.</td>
<td>How to develop and manage strategic networks? How to mobilize and coordinate key actors? How to enter new networks (market entry, new product field, new technology network)?</td>
</tr>
<tr>
<td>Level 3. Networks &amp; Relationship Portfolios, Portfolio Management</td>
<td>Firms is a nexus of resources and activities. Which activities to carry internally and which through different types of nets in a core strategic issue Capability of creating and managing strategic relationships is a core resource for a firm.</td>
<td>How to develop and manage an optimal strategic portfolio? How to manage the actor relationships in particular networks from organizational and analytical perspectives?</td>
</tr>
</tbody>
</table>

Table 1. Management classification levels in Networks (Moeller and Svahn, 2005).

2.5 Networks and Clusters

2.5.1 Clusters

A business cluster is a geographic concentration of interconnected businesses, suppliers, and associates institutions in a particular field. In a case of a startup, they are different startup clusters, which is were a lot of startups or companies with the same market or industry focus are agglomerated (Pe’er, A., Keil, T. 2013). An example of this startup clusters are Cambridge startup cluster, Berkeley startup cluster, London’s Tech City and Silicon Valley, among others. Clusters are considered to increase the productivity with which companies can compete, nationally and globally. Clusters are also very important aspects of strategic management.
Alliance networks tend to be highly clustered: Some groups of firms will have more links connecting them to each other than to the other firms in the network. A firm’s clustering coefficient can be calculated as the proportion of its partners that are themselves directly linked to each other. The clustering coefficient of the overall network is the average of the measure across all firms in the network. Several mechanisms lead to clustering in inter-firm knowledge networks, but two of the most common are linking based on similarity or complementarity (Ketels, Christian. 2012). Firms tend to interact more intensely or frequently with other firms with which they share some type of proximity or similarity such as geography or technology. This tends to result in a high degree of clustering. The bigger the cluster is the bigger the network creation should be, as it is impossible belonging in a cluster without any networks.

Clustering increases the information transmission capacity of a network. First, the dense connectivity of individual clusters ensures that information introduced into a cluster will quickly reach other firms in the cluster. The multiple pathways between firms also enhance the fidelity of the information received. Second, clusters within networks are important structures for making information exchange meaningful and useful. The internal density of a cluster can increase the dissemination of alternative interpretations of problems and their potential solutions, deepening the collective’s understanding and stimulating collective problem solving (Powell and Smith-Doerr 1994). The development of a shared understanding of problems and solutions greatly facilitates communication further learning. Third, dense clustering can make firms and startups more willing and able to exchange information (Ahuja 2000). Therefore, enhancing the creation of business networks among startups and what they surround them.

It has been suggested that densely clustered networks give rise to trust, reciprocity norms, and a shared identity, all of which lead to a high level of cooperation and can facilitate collaboration by providing self-enforcing informal governance mechanisms (Dyer and Singh 1998). When dense clusters are sparsely connected to each other, they become important structures for creating and preserving the requisite variety of knowledge in the broader network.

Oscar Perales

25
that enables knowledge creation. Clustering offers for startups both local and global advantages. Firms benefit from having redundant connectivity among their immediate neighbors because it enhances the speed and likelihood of information access, and the depth of information interpretation.

2.5.2 Clusters and Startups

Clusters can enhance the survival of startups through distinct mechanisms. Startups may find recruiting easier because clusters attract a higher number of skilled employees. Startups may find a larger number of specialized suppliers to work with, allowing them to focus their own activities. A larger number of customers may be attracted to clusters, thereby enabling a startup to form initial customer relationships more easily. Saying this, clusters allow startups to create both, vertical and horizontal business networks (Pe’er, A., Keil, T. 2013).

However, clusters may also have detrimental effects on survival, in particular when a large number of relatively small competitors may create a high level of rivalry, thereby offsetting the advantages of agglomeration. Well-known examples of agglomeration include the high-tech clusters in the Silicon Valley and around Route 128 in the US, the textile cluster in the Emilia-Romagna region in Italy and the machinery and automotive cluster in Baden-Württemberg in Germany. Startups with similar business ideas and models can interfere between each other and affect each others development if regulations does not exist in the cluster that startups are part of.

In addition to facilitating the formation of employment relationships, agglomeration may also have a beneficial effect on the productivity of employees. For instance, in clusters such as Silicon Valley or Route 128, engineers may learn the tricks of the trade from informal interactions with other engineers in the same location. In addition to productivity benefits from informal spillover of knowledge, in clusters employees may also be more willing to invest in industry-specific human capital because they may have a greater ability to appropriate the
benefits, but also because they may face competition from other qualified employees (Rotemberg and Saloner, 2000), which further enhances their value to recruiting firms.

In a cluster with a large number of suppliers, at least some suppliers will specialize, thereby startups will be more likelihood of finding the inputs that might be necessary for them to follow a niche strategy. Local subcontracting also permits startups to specialize while benefiting from economies of scale with lower expansion of production capacity. The ticker local market for inputs in dense clusters of suppliers therefore improves matching opportunities between specialized suppliers and buyers of intermediate inputs.

A high density of customers in the same location provides several advantages to a startup. The higher the density of customers, the more likely it is that startups will be able to secure the first customers that are central to a firm’s survival. Locating in a dense cluster of purchasers increases the opportunities for a startup to utilize social and professional ties to increase its visibility and legitimacy and thus reduce the liabilities of smallness and newness (Delmar and Shane, 2004). A higher density also increases the likelihood of differentiated customers needs and will therefore make niche strategies more feasible. Fierce competition for customers between startups can also exist in a cluster but it is up to the startup to market themselves and have a clear value proposition for the customer. Finally, belonging to a big cluster will not only gives a startup all the mentioned before opportunities but also affects its reputation when belonging to a big and recognized cluster.

2.5.3 Difference between Cluster and Networks

Clusters and networks are different yet linked phenomena. These two are increasingly seen as catalyst for accelerating industrial transformation and for developing new regional competitive advantages, speeding up the creation of firms and jobs and thereby contributing to growth and prosperity. Clusters are agglomerations of interconnected companies and associated institutions. Firms in a cluster produce similar or related goods or services and are supported by a range of
dedicated institutions located in spatial proximity, such as business associations, training and technical assistance providers. Vibrant clusters are home of innovation oriented firms that reap the benefits of an integrated support system and dynamic business networks (Ketels, Christian. 2012).

Networks are alliances of firms that work together towards an economic goal. They can be established between firms within clusters but also exist outside clusters. Networks can be horizontal and vertical. Horizontal networks are built between firms that compete for the same market, such as a group of producers establishing a joint retail shop. Vertical networks, particularly suppliers’ development schemes, are alliances between firms belonging to different levels of the same value chain, such as a buyer assisting its suppliers for upgrading.

It is important to draw a line between clusters and networks, even though they can appear to be very similar. Networks of firms are structures specifically created for active collaboration. This collaboration could be open-ended or focused on a specific project task. They may or may not be confined to a specific geographical location and set of industries. Clusters are a specific type of network that is concentrated in a particular geographical area. Clusters and networks can greatly complement each other as one will provide the business agglomeration and the other one the connections and sharing of knowledge and information to achieve common goals.

Clustering enables even a globally sparse network to achieve high information transmission capacity through locally dense pockets of closely connected firms. The reach increases the quantity and diversity of the information available to firms in the network by bringing the information resources of more firms within relatively close range. Networks that have both the high information transmission capacity enabled by clustering, and the high quantity and diversity of information provided by reach, should facilitate greater innovation by firms that are members of networks. Also innovation is enhanced by network density and efficiency (Ahuja 2000): Both local density and global efficiency can exist simultaneously, and it is this combination that enhances innovation. Networks and clusters also foster knowledge
spillovers in which the knowledge produced by one firm can be appropriated, at little cost, by other firms (Jaffe 1986).

Furthermore, different types of relationships will be more or less costly to maintain, and thus affect the efficiency of networks structure for knowledge creation. Network structure may also differentially interact with different dimensions of knowledge. For example, the high density of clusters may facilitate the search and transfer of tacit, complex knowledge, but the relatively few connections to other clusters may make such search and transfer problematic. In addition, because knowledge can flow between firms through other mechanisms such as individual mobility, geographic clustering, participation in technical committees, or learning from information made public through patenting, it is possible that some of the knowledge creation advantages of a particular alliance network structure might spill over to other industry participants.

2.6 Startups’ Globalization through Networks

2.6.1 Drivers towards a Startup Globalization

There are many reasons for a startup to become global and international. Globalization became a necessity because of the convergence of several political, technological, social and competitive factors. The main political factor has been the development of free trade among nations. One driver of globalization for startups is believed to be the development of advanced communications technology. This increased access to information may decrease the physical distance between countries, which have previously been seen as a major obstacle for international expansion of firms (Johanson and Vahlne 1977, Lasserre 2003).

An important factor that motivates startups to internationalize, is identified by Treadgold (1988) and Kacker (1985) as “push” and “pull” groupings of motives along macro environmental and micro-firm-level or startups dimensions. Push factors are those that motivates or force the startup to expand abroad in search of new opportunities. This push factors included, for example,
industry competition, economy, legislation, and domestic saturation. Pull factors include, for example, economic and political stability in international markets and the opportunity for profit in the foreign market.

Another set of push factor that startups have benefited from in regards of becoming global is related to technological progress that has lowered the cost of transport and communication as well as the unit cost of production through economies of scale or the localization of productive capabilities and sourcing in low-cost economies. Besides manufacturing concentration, companies have been able to source components or services from low-cost countries, either by setting up their own operations or by purchasing locally (Lasserre 2003). This gives startups more options in regards of where are they getting their resources and production.

Furthermore, startups nowadays are offering simpler and more technical products to consumers as it makes them cheaper and easier for the consumer to use. The less cultural and the more technical are the products, the more likely it can be standardized and appeal to masses of consumers in different countries. Startups that enter new markets usually do it as pioneers or early followers. These two approaches of entering a market have a different outcome on the continuation of the startup’s globalization process. These respect to the startup’s degree of internalization and the market’s degree of globalization. A high degree of globalization of the foreign market refers to the startups in the local market having many connections with outside markets. A low degree of markets globalization indicates the startup or firm having business connection within the own nation (Lijia and Lindhe 2003).

2.6.2 Startups’ Internationalization and Business Networks

Everything, what is happening in the economy, increasing internationalization, rapid technological evolution, rapidly increasing business complexity, and pervasive globalization, is also affecting on every startup, and on every business network, in which startups are involved.
One of the most significant paradigm shifts of modern business environment is that individual companies no longer compete as solely autonomous entities; rather, the competition is between closely coordinated, cooperative business networks (Lambert, Cooper & Pagh 1998, Christopher 1998, Best 1990). Each company no matter how big or small is somehow integrated into a business network of selected suppliers, customers and value-added resellers, and even with competitors. The more integrated, the more chances of survival and growth a firm has.

Every startup must adapt to local conditions, either cultural or regulatory in the different countries in which they wish to operate and expand. They must find customers and, often, local partners. This process of transferring businesses from one culture to another requires some in-depth experience and a strong international network (Nohria, N. & Robert, G. 1992). Startups can quickly attain global reach by striking networks through partnerships with large companies headquartered in other countries. Many entrepreneurs have taken advantage of networks to formulate and execute a global strategy. The culture, values, and social norms members hold in common forge understanding and trust, making it easier to establish and enforce contracts. Through networks, global entrepreneurs can quickly gain access to information, funding, talent, technology and contacts in the international target market.

Entrepreneurs must often choose suppliers on the other side of the world and monitor them without having managers nearby. The only way they can effectively do this is by having strong network structures, keep constant communication with them and follow up with the business processes. Besides, the manufacturing locations change as labor and fuel costs rise and quality problems show up, as they did for example in China. Startups find it daunting to manage complex supply networks, but they gain competitive advantage by doing so. Sometimes the global supply chain lies at the heart of the business opportunity (Wakkee, I. A., 2004).

Networking seems to be a common trend in today’s international business and industry practice. According to Johanson and Mattsson (1988), the network has a significant effect on startups internationalization and globalization. Startups have to seek access to other startups or
big companies’ competencies, which can support their own internal core skills. Networking seems to be the most significant paradigm of today’s modern business environment, and networking with a large company seems to offer plenty of opportunities for startups. Hence, startup’s success is often closely associated with the larger company’s success. Large companies are also affected by the globalization and the changing demands of the customers in the international markets, forcing them to act and think more globally, and forcing their suppliers to do similarly. That kind of development presents new opportunities for startups and SMEs. When startups have networks with big companies, they are able to capitalize on loopholes that big companies can’t. So in a way, through networks, big companies and startups can complement.

Business networks are a remarkable source of innovation for startups. Innovations are crucial success factors in practice for every industry. Khalil (2000) states, that innovation represents the important connection between an idea and its exploitation or commercialization. The innovation does not have to be new to the world; rather it is viewed as the first use of an idea within an organization whether or not the idea has been adopted by other organizations already. According to Kolehmainen (2001) innovative networks are such relationships that canalize new information, knowledge, technology and other enabling resources for development and learning to the enterprise. Something surely a startup can achieve great benefits from.

The first step a startup must follow in order to internationalize is the understanding of the market where it operates, its environmental conditions and the firm’s relationships (Madsen & Servais, 1997). Johanson and Mattsson (1988) argue that as firms internationalize, the number and strength of relationships brought up in the network increases, helping their international integration. By using trust and increasing commitment in established foreign networks, the firm gains penetration. After having some penetration, firms can gain international integration by using the network and getting involved with other firms in various countries.
When startups follow these three activities shown in Figure 2, relationships are formed, gaining access to the market and its resources. Resources in the network are controlled by the firms itself, which can be obtained depending on their position in the network.

Startups, while becoming international are engaged in a domestic network with the goal to develop business relationship in a foreign country. The firm’s position in the local network determines its process of internationalization since that position determines their ability to mobilize their resources within the network (Johanson and Mattsson 1998). All firms in the market are related in a certain way to other actors, whether they are local or international. As actions take place on the startups interacting in the network, their activities should be coordinated to get a better profit from those relations. Coordination in the market comes from the interaction of the firms involved in the network, where price is only one of the many factors influencing decision (Lindblom, 1959).

The ties resulted from the startup’s network, are hard to imitate. The startups will learn from the ties made in the network, information about what is going on in the market, as it is open to the network itself. Thus, there is information that is not available for everyone. Ties also
influence on timing when some information reaches a particular startup. And referrals startups get interested on other firms, in the right time and place. Ties may be strong or weak. Granovetter (1973, p.1361) defines the strength of ties as a combination of time, emotional intensity, intimacy and the reciprocal services of the ties. They are weak when the relationships are low and distant. When there is a tight interaction the ties are strong, parties involved enjoy autonomy and easily adapt to each other. No tie is static. As time passes by startups can make the ties become stronger or weaker depending the relation between them.

Networks see the presence of the whole productive and commercial chain, in which upstream suppliers provide raw materials, specialized equipment and services, technology, and downstream customers are represented by either the final consumer of the product or an intermediate link in the overall supply chain. Indeed, local network relationships could provide useful access for startups in order to get into foreign markets and, if leveraged appropriately, lead to joint efforts that are synergistically efficient (Brown and Bell, 2001). The network approach states that internationalization is a process that takes place through networks of relationships (Hakansson and Snehota, 1995). In particular, startups are forced to begin or accelerate their internationalization process in order to overcome the aggressive local competitiveness, in search of new markets for their products, new opportunities and profitability growth in an ever more global environment (Cedrola, 2005).

Networks in startups benefit from both competition and cooperation. Competition forces the market to improve their efficiency in controlling costs and look for ways to enhance their differentiation capabilities (Delmar, F., & Shane, S. 2004). This competitive environment motivates firms to improve themselves. Moreover, productivity increases due to better access to employees and suppliers, to specialized information and public institutions, increased availability of complementary products and services, and better motivation and measurement.
2.6.3 Advantages of Startups belonging to Networks

Belonging to a network enables startups to drive benefits from various advantages. Firstly, a firm’s reputation benefits from the collective network resources, thus enhancing the possibility of unsolicited orders and a positive disposition towards a firm from the network that proactively seeks business from a prospective foreign customer, when this reputation becomes international (Karagozoglou and Lindell, 1998). Secondly, better access to public institutions that offer training and specialized infrastructures are more likely to align the capabilities and products of startups with network than with a single firm. Thirdly, quality in terms of product and relationship depends on the access to specialized resources (Saxenian, 1990; Lorenzoni and Ornati, 1988). Moreover, the close proximity within the group of firms or similar startups that produce complementary products and services directly and strongly affect each firm’s upgrades in their product portfolio.

Finally, startups have a better access to local network relationships with useful international links (Birkinshaw and Hood, 2000), which has the potential to lead to international business opportunities. Structural and organizational characteristics of the business, influence the international strategies: how small or big the startup is, both in terms of employees and sales, the availability to certain technological capacities, the motivations and skills of the managers involved in the internationalization process and the development of an appropriate marketing policy are key factors that have played a part in the internationalization and globalization process of startups (Miesembock, 1998; Chetty and Hamilton, 1993). For many startups establishing and/or reinforcing relationships with local counterparts is a fundamental key for creating an international network: relationships are developed as bridges into foreign markets (Meyer and Skak, 2002).

2.7 Strategic Networks for Startup
2.7.1 Intermediation and Collaboration

How can a network best be constructed to obtain a desire outcome for a startup? Resource-based theory suggests the decision as to selection is predicated the partner’s potential to provide additional resources to their mutual benefit (Kogut et al., 1992). But searching for and deciding on who to collaborate with to create an effective network can be difficult for a startup, who has limited information sources, and lack the financial resources to gather vital information (Julien, 2002) compared to large firms, who can often afford professional intelligence processes for scanning and monitoring their environment to search for competitors, potential collaborators and customers in the markets for their technology (Makadok and Barney, 2001). Due to these difficulties, startups are likely to build only deep and lasting ties once they organize a network (Simard and West, 2006). To solve the problem of finding a suitable partner, it is suggested a collaboration model that emphasizes the role of an intermediary in supporting startups ability to make a collaboration network and eventually work together more effectively. An intermediary can help startups to maximize their chances of innovation and increase their likelihood of success in developing new products and services. Recognizing the potential value of such role, several policies and programs have been developed around the world in order to support startups innovation and network building, with public authorities adopting the role of intermediary.

The role of an intermediary consists of three direct activities. First, the purpose of the network database is to identify appropriate collaborative partners. An intermediary can create and maintain a relevant database, and share the information to support startups search processes. Secondly, much support may be needed at the network construction stage, where an intermediary can help network construction by supporting technology transfer to improve strategic technology management (Rosenfeld, 1996), by evaluating each firm to assist in the construction of a network of matching startups, by proposing an effective network structure, and by encouraging geographical clustering (Simard and West, 2006). An intermediary can hold important information to evaluate each startup objectively and provide other startups with the results of their analysis, rather than original technological information. Finally, network management is
another important role for an intermediary in supporting the process of collaboration. In addition to these three direct activities, two indirect activities, one designed to develop the culture of collaboration and the other to facilitate collaboration, can help startups networking efforts (Rosenfeld, 1996). With the help of an intermediary, the conventional collaboration model, based normally on reliance on larger firms or outsourcing to other startups, can be developed towards a more open structure.

![Diagram of intermediary role](image)

**Figure 3. Conceptual framework of intermediary role. Lee, S., Park, G., Yoon, B., & Park, J. (2010)**

### 2.7.2 Alliances

An alliance is similar to a network however; they are not the same thing. A startup can benefit from an alliance by bringing social capital from their network of relationships with other firms, in this case with the allied partner. The startup will then have access to the sets of networks that the partner already possesses. Social capital refers to a firm’s relationship/networks with other companies that have important resources. Trust is the foundation through which social capital
can be leveraged to achieve alliance success. These set of networks obtain by the alliance can help the startup’s aim to globalize and become international. Network and alliance can be use to reach the same goal and purpose. Following is a comparison chart between network and alliance.

<table>
<thead>
<tr>
<th></th>
<th>Network</th>
<th>Alliances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Connection between 3 or more persons, companies or things.</td>
<td>An exclusive partnership</td>
</tr>
<tr>
<td><strong>Formalization</strong></td>
<td>In principle None</td>
<td>Incomplete contracts, dependent on relationship</td>
</tr>
<tr>
<td><strong>Relation to knowledge</strong></td>
<td>Flows through ties. Knowledge is an effect</td>
<td>Alliances are formed in order to learn from partner. Knowledge is located in partner.</td>
</tr>
<tr>
<td><strong>Boundaries</strong></td>
<td>Networks are open</td>
<td>Firms</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Each node or company have an individual purpose</td>
<td>Partnering firms have to some extent a common purpose.</td>
</tr>
</tbody>
</table>

*Table 2. Difference between Network and Alliances*  

Often, startups can form alliance as part of their strategic network to strengthen or extend resources that in turn sustain current competitive advantages or help develop new advantages (Kumar & Nti, 1998). Searching for access to new resources or know-how through alliances, startups carefully select partners with needed resources profiles and learn by intensifying their relationship with them. In this way, alliances can simultaneously prevent organizational inertia while promoting environmental adaptation (Doz, 1996). Saying this, alliances provide firms with access to information and knowledge that contribute to superior adaptation to their competitive environments.
Knowledge can be transferred through a firm’s alliance network (Powell, Koput, and Smith, 1996). Startups can gain access to marketing and technological knowledge from key customer relationships, which demonstrates a strong role for alliance partners in helping young firms access knowledge. The costs of strategic alliances are important, and their benefits are increasing in the startup world. One of the primary benefits of alliances is the access to previously unavailable resources and the joint development of new resources through the alliance.

To develop and exploit a competitive advantage, startups must possess resources that can be used to create inimitable and rare value for customers. The increasing complexity of markets, because of accelerating and rapid globalization, make it difficult for firms to have all of the resources necessary to compete effectively in many markets (Ariño & de la Torre, 1998). This resource-based view can help understand the formation and management of alliances. Alliances provide access to information, resources, technology, and markets. It is believed that resources are the primary reason for alliances. Pooling of resources can produce substantial benefits for alliance partners as it is believed that partners bring at least four categories of potentially important resources: financial, technological, physical, and managerial.

2.8 Intellectual Property

It is known that Intellectual Capital in the form of intangible assets such as skills, knowledge, and creativity is becoming increasingly important as a source of competitive advantage for individuals, firms, and nations (Albert and Bradley, 1996). Startups are not the exception in this matter as they are important innovators in the economy. It is possible for a startup to protect some IP through formal legal rights such as patents, copyrights, or contractual agreements. However, small business owners may also attempt to protect such property using informal methods such as keeping information confidential as ‘trade secrets’. Even though many startups and SMEs undoubtedly create intellectual property, research has focused mainly on large enterprises and, in particular, on patenting activity (Hayward and Greenhalgh, 1994). For many startups, the owners face the facts of high cost of acquiring formal intellectual property rights in
terms of money and time, which means that informal protection methods are often preferred. In addition other methods such as trade secrets, company names and web domains can be associated with protection of immaterial property.

2.8.1 Protecting Intellectual Property

The increased intellectualization of business has lead to a development where legal instruments designed to protect intellectual property (IP), have a very important role in companies’ business strategies and in defining their competitive positions in the market (Hall 2007; Powell & Snellman 2004, 199).

Intellectual Property Rights (IPRs) infringements are plaintiff crimes, meaning that the IP owner is responsible for taking proceedings in the civil courts if they observe their rights being infringed (Lambert 2009, 57). There is no public authority monitoring these violations. Therefore, the startups and big companies need to look beyond their own business to make sure their operations are not infringing anyone else’s rights.

The original purpose of the IPR system has been to promote technical advance and progress of science and useful arts by ensuring returns from R&D investment (Cohen, Nelson & Walsh 2000). For example the patent system is build on the bargain that when filing for a patent, the inventor reveals the society the information of the invention and in return gets a temporary monopoly over the information (Macdonald 2004, 136). However, IP has also been criticizing quite strongly for not longer fulfilling this original purpose of promoting innovation. It has also been described that it has only fit correctly into certain industries, such as pharmaceuticals, where R&D investments are very high and development times are long. This has been rather a hinder than promote the competitive free market, which is seen as accelerator of innovation. Therefore, it also greatly depends in what industry the startup or firm is heavily involved and how is IP going to affect their business strategy. Intellectual Property legal instruments are summarized in the following table:
Table 3. IP Protection Instruments Summary.

2.8.2 Startup’s IP Protection

Today’s reality is that startups may find it difficult to protect and commercialize their IP, either because of their unawareness of the IPR system, or because of the un-proportionately high costs for using the system (Siegel & Wright 2007, 532). According to Petrusson (2004, 21), the increased focus on IPRs from the point of view of a small company means usually a more severe market climate, where large firms can create a web of overlapping IPRs claims within which the
small firms can then easily get caught. In fact, many empirical research studies show that small and medium-sized enterprises do not use IPRs in the same way and as much as larger firms (Hanel 2006, 903, 914; Iversen, Mäkinen, Loof & Bech 2009, 3-5).

Small companies operating in fields such as retailing or foods do not necessarily even have to be aware of IP, other than perhaps paying attention to choosing a business name that is not yet owned by someone else and creating an original logo. However, for an innovative new company that is seeking fast growth and operates in a knowledge-intensive industry, globalization and intellectualization of business have opened up new business opportunities which are related to utilizing intellectual capital (Lönnqvist et. Al. 2005, 63). These startup companies seeking fast growth are often focusing on achieving immediate, short-term targets such as sales. With short-term concentration and business objectives, even startup company managers often stand against spending money on IP, as that investment does not necessarily help the company reach these immediate targets. In addition, for example in technology intensive fields where the use of IP is common and even aggressive, and when companies operate in international markets already in the beginning of their lifecycle, neglecting IPR may not be wise, even for a small, young company. According to Palfrey (2012, 15), ignoring, neglecting or failing to manage intellectual property means probably running unnecessarily risks as an organization, and almost certainly leads into missing opportunities.

The key managerial challenge for startup companies is not usually the innovation itself, as they are usually quite innovative, but the commercialization of it. In other words, the translation of promising technologies into a stream of economic returns for their founders, investors and employees (Gans & Stern 2003, 333). Therefore neglecting IPRs as part of this commercialization process and as a way to appropriate returns from innovation can lead to making mistakes or overlooking some central business opportunities. Seeing how IP is used for business strategy nowadays, it is increasingly important for startups to understand the strategic perspective of IPR’s and the different choices companies can make to compete on the increasingly international markets (eg. Candelín- Palmqvist, Sandberg & Mylly 2012, 502). A
startup needs to be smart on when to invest in IP and how they can be able to capitalize on it and use it as a future business strategy. Startups cannot only use IP for protecting their innovations but they can also use it for other benefits such as fast growth and investment acquisition, as it will be discussed in the next section.

2.8.3 Benefits of IP Protection

It is recognized that the reasons for which companies use IP rights vary based on the size and strategy of the company as well as across industries (e.g. Cohen et al. 2000, 23-24, Hanel 2006, 901). Earlier literature has recognized several reasons for why companies typically protect IPRs. The most predominant reasons include:

1. Protecting competitive advantage
2. Generating licensing revenue
3. Preventing others from registering the property
4. Blocking
5. Strengthening positions in negotiations
6. Deterring a patent infringement lawsuit
7. Stimulating and acquisition or an investment
8. Enhancing the company image or credibility
9. Measuring R&D performance
10. Access to markets
11. Motivating personnel

The decision taken by a startup to protect IP can be based in a single reason or a combination of several reasons from above. The key to successful utilization of IP in business is recognized in many studies to be efficient integration of IPRs into the overall company strategy. These IP reasons can help a startup and put them in a better position in order to become international. However, it also depends and varies from the type of industry that the startup is involved in.
The strongest benefits startups can gain from protecting their Intellectual Property and registering IPRs seems to be linked with the financial lifecycle of the company growth. At an early stage, a startup can at list file a patent in order to protect its IP. At the second stage of a lifecycle, also called survival or startup stage, the company needs outside investment. Then IPRs are a good test for seeing if they actually have something innovative and in many cases, that is already a good enough argument (Martti Mikkola, 2013). The third stage of the lifecycle is described as a milestone and is when a startup faces the transformation from a small new venture into a real growth company. At this point, acquiring angel investment can also be a crucial concern (Ala-Mukta 2005, 218). Therefore, from this third stage onwards, the role of IPRs as a stimulator of investment can also be very important. The fourth stage is the point when the startup is likely to have an opportunity to attract venture capital investment, as it has enough proof of its viability and potential for extremely fast growth that venture capitalist often look for (Bagley & Dauchy 1999, 263; Chang 2004, 724-725). At the last stage, also labeled resources maturity or expansion, acquisitions and other exit-opportunities such as initial public offering become relevant considerations, especially if the startup wishes to be acquired by another company.

The startup needs to be able to demonstrate in detail all aspects related to its IPR portfolio and IP management. This relation between IP and as startups financial lifecycles shows that in relation to enhancing the company image and stimulating an acquisition or investment, the importance of proper IPR protection and management seems to increase as the startup company matures. This is also logical seeing that investments, acquisitions and exists become more and more relevant to the startup company as it grows.

On the following table, it can be visually seen what was explained before in regards of the financial lifecycle of a startup and its relationship with Intellectual Property. The different stages shows each step of how a startup can be finance through different actors.
3. Hypotheses and Research Purpose

3.1 Hypothesis

In this thesis I have been trying to explain the importance of business networks as a business development tool for startups’ international expansion. Knowing the importance of business networks from an external view, now it is aim to get an insight from an internal point of view and see what startups actually think about business networks to help them achieve their international expansion goals. Furthermore, it was also notice that due to the fact that startups try to solve a not obvious problem in an innovative way, they can appear to be reserve and limit themselves to create only certain type of networks. This can be because of fear from others to steal their innovation and capitalize on it, as they might have more resources and contacts. Therefore, the following hypotheses were established:

• H1: Startups consider that business networks are an important tool that can benefit them for international expansion.

• H2: Startups with strong IP are more likely to go international and globalize through business networks.

3.1.1 Explaining H1

Through this hypothesis it is aim to explain and find the importance of business network for not only survival but also international expansion from the startup perspective. According to Stinchcombe (1965), new firms are assumed to lack broad bases of influence and endorsement, stable exchange relationships with important external constituents, and perceptions of quality, reliability and legitimacy that years of experience in providing particular products or services confers on more established suppliers. Therefore, it is known that startups lack good influences and relationships in order to grow and flourish. When startups are able to secure relationships with key actors at the time of their founding, they mitigate the risks of newness because the knowledge, resources, stability and associative legitimacy that partners confer on the startups will tend to compensate for the disadvantages of organizational inexperience (Hitie and Hesterly, 1999). It is aim to find out if startups will use business tools such as networks to filled in this gaps for international expansion.

In the theory, it is well known all the advantages that a business network can provide to a startup and in what way. However, the purpose of this hypothesis is to find out and prove the core reasons of why startups consider business networks important for their growth and international expansion, plus the level of importance that they put into this. Is there something that will stop them from building business networks & relationships and possible concerns startups might have. Finally, it will also be research the startups’ level of importance to create business networks and if they will prioritize them for their international expansion goals or they rather prefer to use other conventional methods.
3.1.2 Explaining H2

The mechanisms by which IPRs operate vary across functional areas (patents, trademarks, copyrights, and rules against disclosure of trade secrets) and their importance differs across sectors (Maskus, Keith Eugene, 2000). Through this second hypothesis, it is aim to explain the role that Intellectual Property plays in a startup for internationalization purposes. There is a correlation between business networks and IP. Therefore, I want to prove that a startup with strong IP is more likely to internationalize by using business networks. Furthermore, it will also be analyzed any kind of fears or concerns a startup can have in regards of using IP for international expansion purposes as it is known that designing an effective and appropriate system of IPRs is complex for any country. Finally, it will be shown if they are any side benefits that a startup can obtain from using IP in their internationalization process and downsides of using IP for this matter.

3.2 Research Purpose

There is a lot of literature and information about startups and networks and how these two are linked together. However, there is yet not much literature in regards of concerns for a startup to create business networks for internationalization and globalization purposes while keeping their business idea and innovation safe. Also, if a startup actually thinks that a business network is useful for this matter or not. Therefore, the purpose of this study can be classified into two major categories: exploratory and explanatory.

**Exploratory**

An exploratory study deals with phenomenon that we do not know much about, such as a new or undiscovered topic about which very little research has been done (Yin, 2003). It usually requires extensive preliminary work to be done in order to become familiar with the phenomenon (Sekaran, 1992). One essential aim of exploratory studies is to gain a better understanding of the problem since very little studies might have been done to comprehend the phenomenon. This
study enables researchers to provide a comprehensive view of the problem area. It also helps to generate hypotheses and suggests direction and feasibility for further research. “Exploratory studies are thus important for obtaining a good grasp of the phenomena of interest and for advancing knowledge through good theory building” (Sekaran, 1992, p.95).

**Explanatory**

Based on previous theories and knowledge an explanatory study is undertaken in order to explain the patterns related to the phenomenon of interest and to answer the research question (Yin, 2003). It often involves formulating hypothesis and testing them empirically in order to explain the nature of certain relationships. One of the goals of explanatory research is to identify plausible relationships between the factors related to the phenomenon of interest. Explanatory research uses theory and often focuses on “why” questions.

Although typically only one of these two research purposes is used as the dominant purpose, occasionally within larger projects the two approaches can be fulfilled. Since the purpose of the study is to gain a better understanding of what are the main reasons and factors for startups choosing networks and if they are worry about exposing their Nobel and innovative idea to different actors, this research would mainly be exploratory as information will be taken straight from different startups via surveys and empirical data will consequently be analyzed. Nevertheless, explanatory approach will be also use at a minor extent.

4. **Methodology**

4.1 Research Approach

A research can be approached in two different ways, in a qualitative or a quantitative way. However, a research can also be approached with the combination of both qualitative and quantitative methods. The distinctions between the two different research methods are based on how data is treated and dealt with analytically.
The quantitative research approach emphasizes on transforming the data to numbers, quantities and statistical models for the purpose of measurement and analysis. Researchers with this approach have a clear idea of what they are looking for and they often use tools such as questionnaire to collect data. This approach focuses on preciseness in terms of analyzing and measuring data. Since quantitative research is based on the measurement of quantity or amount, it involves studies that use statistical analysis to obtain information.

In the other hand with a qualitative research approach, the researcher focuses on gaining a better understanding of the research problem through detailed information about the topic in question. One essential aim of this research approach is to have a complete and detailed description of the questioned topic through the application of reasoning. Qualitative research often involves interviews and observations without formal measurement. The main purpose of this kind of research is to understand the phenomenon studied and describe the situation. Qualitative data consists of descriptions, quotations, observations, and excerpts from documents (Quinn, 2002).

The approach for this thesis will be a combination of both, qualitative and quantitative. Due to the nature of the research, a qualitative research approach will be held to gather more information and describe the situation. However, a quantitative research approach will be also use since it will allow to input statistics and percentages to measure some of the factors in consideration. Therefore, a combination of both qualitative and quantitative research approach will be use.

4.2 Research Strategy

According to Yin (2003), there are five major research strategies, which are: experiments, surveys, archival analysis, history and case studies. Each of the five strategies has advantages, disadvantages and different ways of collecting and analyzing data on the basis of the following three conditions:
1. The type of research questions posed
2. The extent of control and investigator has over actual behavioral events.
3. The degree of focus on contemporary as opposed to historical events.

<table>
<thead>
<tr>
<th>Research Strategy</th>
<th>Form of research questions</th>
<th>Requires control over behavioral events</th>
<th>Focuses on temporary events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>How, why</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Survey</td>
<td>Who, what, where, how, many, much</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Archival Analysis</td>
<td>Who, what, where, how, many, much</td>
<td>No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>History</td>
<td>How, why</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Case Study</td>
<td>How, why</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 5. Research Strategy (Yin, 2013).

Since the main aim of the research is to gain in depth knowledge about what are startups concerns and considerations when selecting business networks in order to protect their business idea and if they really do consider business networks useful for their expansion project, direct surveys to startups are find suitable to be the most appropriate strategy for this research.

4.3 Data Collection Method

To get accurate information for the research, it is very important to choose the correct data collection method. The selected method determines how the data is collected. Some of the frequently used methods are interviews, questionnaire, documentation, observations,
standardized tests and archival records. According to Sekaran (1992), there are two categories of data; primary and secondary. Primary data are the ones that a researcher collects by itself for a specific purpose or study. They are often collected through direct observations, surveys and interviews. In this research, the primary method will be conducted by surveys. These surveys will be held to a target segment, which is exclusively startups with the potential of growing internationally and globalized, and startups already in the international environment.

Secondary data is easier to acquire than primary data. Even though primary data is difficult to acquire, they are a lot more trustworthy compares to secondary data. Secondary data comes along with a question regarding reliability and therefore, must be treated with caution. For this study, prestigious and recognized journals will be used to find reliable data that can help understand the research question and prove the hypothesis. Examples of these journals are the Strategic Management Journal, Academy Management Journal, Strategic Entrepreneurship Journal and Academy Management Review just to mention some, among others.

4.4 Sample Selection

A technique for gathering the desire data in an optimal way is by sampling. “Sampling is the process of selecting a sufficient number of elements from the population so that by studying the sample, and understanding the properties or the characteristics of the sample subjects, it will be able to generalize the properties or characteristics to the population elements” (Sekaran, 1992, p. 226). Basically a sample is considered to be a subset of the population. There are many sampling techniques available for the researcher. Sampling techniques allows a researcher to collect data from a subgroup rather than the whole population and therefore reduces the amount of data to fit the purpose of the study. This will allow to obtain a more precise and accurate data and information from the desire area of knowledge and expertise. For this research, convenience sampling will be use. According to Sekaran (1992), convenience sampling involves collecting information from members of the population who are conveniently available to provide it. As for
collecting data through the surveys and questionnaires, the criteria for sample selection involves two major sub segments in startups:

- Startups already doing business internationally
- Startups doing business locally but with aims to expand internationally

4.5 Interview Survey Design

There are different types of questions for a survey or questionnaire. Three of the most common type of questions used in these includes open-ended questions, closed-ended questions and Likert scales. An open-ended question does not provide the participant with a choice of answers. Instead, participants are free to answer the question in the manner they choose. An example of an open-ended question is the following: Who/what are your domestic business networks? In the contrary, a closed-ended question provides the participant with several answers to choose from, for example:

What is the main reason why you will join business networks for your startup?

- a) Information & Knowledge
- b) Contacts
- c) Suppliers & Costumers
- d) Distributors
- e) Any combination of the above

Last but not least, the Likert scale will be use, which asks participants to provide a response along a continuum of possible responses. For example:

Do you think that is important for startup managers to have previous experience of internationalization in order to go abroad and get network connections?

(1) Strongly agree (2) Agree (3) Neutral (4) Disagree (5) Strongly disagree.

The three types of questions describe before will be use for the startup surveys in this thesis. While developing the survey questions, special focus on the research question will be made in order to get a better understanding and prove the hypothesis right or wrong.
5. Empirical Findings and Analysis

Surveys were distributed to different startups with the aim to gather relevant information for the study. Furthermore, it is also aim to find out if startups with a strong IP are more likely to go global and international by using business networks. With this, I want to find out what are startups fears and concerns while using business networks.

5.1 General Information

A number of 28 surveys were collected from different startups around the world. These surveys were collected mostly from startups in Mexico, USA, and Europe. The founder and creator of the startup was the one who answered the survey in all cases. The time of inception from the creation of the startup ranged from 4 months to 4 years to date. Startups cover different fields of business such as food industry, innovation, biotechnology, education, high tech, health & fitness, services, market research, media and fashion. From the 28 different startups, 46% operates locally, 18% operates internationally and 36% operates locally but with ongoing plans of internationalization. From the 46% operating locally, as their inception was pretty resent (4-8 months ago), they are planning on going internationally in the coming year or have already do something about their internationalization process. There is no startup in the survey with desires of remaining local.

5.2 Business networks Importance for startups and expansion reasons

It is quite clear that startups believe that business networks are important for them to become international. From the 28 startups that answer the survey to this question, 96% of them answered that they believe business networks are important, only 4% showed indifference and none of them believed business networks were not important. These same results and percentages were shown when answering if they believe that having a good structure of business networks will help them for their business international process. This proves what Johanson and Mattsson (1988) argued when they stated that networking seems to be a common trend in today’s
international business and industry practice as they have a significant effect on startup’s internationalization and globalization.

Nowadays, startups realize the importance of using business networks as these open them many doors for new opportunities. It is not the same being isolated and trying to do the job just by themselves, than with a set of networks where they can interact, share and learn from others. With the use of technology, it is even easier to create business networks not only at a local scale but at a global scale as well. Technology plays an important role on startup’s business networks creation because it allows them to connect with different players around the world in a fast, cheap and reliable way. This means that startups do not need many resources in order to build business networks around the globe.

Now, knowing that most startups believe business networks are important for their internationalization process, it was a need to find out what are the main reasons and drivers that startups have for internationalization purposes. Six different options for this analysis were given to the startup, which are: market opportunity, profit, expansion, motivation, target new customers and other. The percentage of what the startups answered for each category looks like this:

![Graph 1. Startup Survey “What would your main reasons for Internationalization be?”](image_url)
In the graph it can be seen that there are three main categories that startup’s chose as main internationalization reason/drivers. These main drivers are mainly for expansion purposes follow by pursuing a better or different market opportunity and to target new customers. Profit, motivation and other are still important but not as the previous mentioned before. For the “other” answered, startups mentioned they do it to be the first ones in the local market, have a greater impact in society on a global scale, export culture and history from home country and to create a global corporate image.

Startups are aware that they need business networks to achieve their main internationalization reasons. When they are looking for new market opportunities and target new customers, startups need to interact with other players in the geographical location where they want to join. Business networks will not only help them to build these interactions, locate their new target customers and explore their market opportunity. Business networks in the target location will also help them to understand how the market and customers behave differently from their local ones, and what they need to do in order to adapt into the new environment. Startups then can learn, adapt and execute an expansion plan in a more efficient and effective way, as knowledge for the new market will be bigger. Therefore, internationalization decisions will be more accurate. The more a startup knows about the new entry market, the more they will also know their potential customers, how they behave and preferences. Then, startups can adapt and tailor to customer’s specific needs and trends.

It was observed in the survey that startups do consider business networks and building of external relationships as tools to achieve in a faster way, the “internationalization drivers” explained in the graph before. It was with no surprise that 90% of the 28 startups believe that business networks will make their expansion and internationalization drivers to achieve faster, including target new customers and new market opportunities, as seen in the graph below.
This means that startups strongly believe that business networks are truly important to achieve internationalization. However, business networks seems to be not only important for internationalization in general but for other expansion drivers that startups have on their list, such as increase profits, growth, motivation, be first movers and presence creation among other reasons.

5.3 Startups and business Alliances

Part of the research also includes if startups would consider making business alliances with other startups or firms. These alliances can be locally or internationally but with the aim of creating a network, become stronger and eventually internationalize. When ask to 28 different startups if they will consider making business alliances with other companies locally and/or internationally, 93% of them answer yes and only 7% were not interested in making business alliances with other companies. It was seen that from those 7% of startups that were not interested in making alliances, was because they had an innovation or Nobel idea that they did not want to disclose before having a strong IP. This topic will be cover more in detail later on the research.
Knowing the reason of these alliances seems to also be important for the research. It was found out that startups have different main purposes to create alliances. Surprisingly, profitability and economic interests were not in the top spots. The following graph shows the purposes of why startups can be motivated to make alliances.

From the 26 startups (93%) that answered to this question, two main motivation drivers were identified and acknowledge as the ones with more relevance. “To complement each other” and “to reach other markets” was the top two options selected by the startups with 50% and 19% respectively, followed by “get knowledge & information” with 15% and “boost sales” with only 11%. When selected “other” the respondents answered that they want to grow their portfolio and that they believe all of the stated purposes were important for them when getting into alliances.

It is no surprise that startups selected these two factors as the top ones. Wanting to complement each other goes in hand with the fact of getting knowledge & information. These two reasons will provide the startups with ground information that eventually will lead them to
reach other markets. If there is something that startups do not possess in abundance are resources. By making these alliances, they will gain access to these resources and obtain information in a cheaper way. While analyzing the survey, it was interesting to find that financial and economical drivers were not startup’s main objective and purpose. Startups realize that in order to get financial and economical benefits and growth, it is important to first have a solid base of connections, partnerships, relationships, alliances and overall good business networks to allow them to grow locally and therefore internationally. Then the financial and economical part will eventually fall in place by itself. Information and knowledge are one of the best assets a startup can have for growth and expansion. These are also expensive assets, which costs can be minimized through business networks.

Nevertheless, another topic worth to bring attention to is the concern of startups regarding their Intellectual Property. Startups try to make something new or something that already exist but in a more efficient and original way. A startup usually has an innovation or Nobel idea that has not been try out on the market. For this reason, startups can be worry about this topic when joining alliances and business networks. Therefore, they are not exempt of getting their ideas and concepts stolen from other players.

Graph 4. Startups Survey. “Startup's IP concern when joining alliances or business network”.
In the startup survey, it was seen that 46% of the startups would be concern about their IP situation when joining an alliance or business network, while in the other hand, 54% respond that they would not be concern. Therefore, it can be observed that the concern is still latent and is something that almost half of the startups would worry about. However, this will also vary depending of what is the main activity of the startup, if it is located in a very specific and close cluster or if their main business requires a strong IP protection or not. When a startup is located in a big cluster, the IP concern has more weight than if the startup was located outside of the cluster. This is because when in a big cluster, there is more competition, more information sharing and interaction with other similar startups operating within the same market. It also has to do with the startup’s main business, if it is a very specific service, technology, a very simple product with a lot of utility or a totally new product or service. More of this will be analyze in the following section also taking into consideration the startup internationalization factor.

5.4 Likelihood of startups going international with strong IP

It is assume that perhaps startups are more likely on going international by using business networks if they have a strong IP. The reason behind this is because most of the times startups possess a unique and original idea. Saying this, startups can be afraid or skeptical to share their idea while interacting with different business network and creating relationships at any level. Therefore, the assumption is that startups with a strong IP are more likely to go international and expand by using business networks. Furthermore, advantages when a startup is starting to build IP or already has a strong IP are crucial. These advantages will help them to have a better competitive advantage, blocking from exterior competition, strengthening positions in negotiations while going international, stimulating and acquisition of investment for growth, enhancing the company image & credibility and access to markets.

Through the survey, it was aim to discover if startups carefully choose their business networks in order to protect their unique idea & innovation or if they will simply become part of a business network in order to gain knowledge, information and international goals. After
analyzing the survey, it was found that 79% of the startups would carefully choose their relationships and business networks in order to protect their innovations. Only 7% of them would not base their decision on that and 14% showed indifference towards the topic.

Graph 5. Startup Survey “Do startups choose their relationships/business networks in order to protect their business idea/innovations?”

According to the survey, there is a majority of startups that are aware of the issue and will carefully choose who will they do business with for protection purposes. It was also found out that for those startups that were indifferent to the topic or chose “no” as an answer, was because they were startups providing services and not products. And of those, their services ranging in the food and marketing industry. This tells that the level of concern towards this topic not only depends on being a startup but also on the industry that the startup is involved and if they are providing a service or a product. If they are providing a product in the technology industry, it is more likely they will be concern about IP. Nevertheless, if they provide a very specific service, is something that they would also be concern as process and procedures can also be protected. It all depends on the simplicity and use of the product or service. If these ones solve the customer’s pain in an easy, fast and efficient way that is different from conventional ways, then the worry about it will be more latent.
Now it is known that there is an existent concern for startups to join business networks and creating relationships. It is also the purpose of this research to find out what is the main concern that startups have when joining this business networks. After analyzing the survey, it was found that 61% of the respondents are afraid that their business idea will be copied or stolen when joining a business network. Therefore, based on what was previously discussed, it is no surprise that a strong 79% of the surveyed startups believe that it is important to have a solid IP before going international.

![Graph 6. Startup Survey. “Do startups believe it is important to have a solid IP before going international?”](image)

After analyzing the previous topic, it totally makes sense that a startup should have IP before creating new business networks, going into alliances or simply building any kind of relationship. This applies specially if the startup is involved in the IT or technology industry. However, the nature of the startup is that, as mentioned before, they don’t possess a lot of capital or resources to do this. Owning Intellectual Property is very expensive and can be even more for a startup. On top of this, IP not only means protecting the service process or the product by itself
but also all the basic things such as the name, logo and other practicalities. In the other hand, if the original service or product to be protected will generate a lot of income and be the main startup profit and revenue source, it is worth to protect it from the beginning, especially if the startup is planning to internationalize.

Combining the theory with the startup survey, it can be said that IP is important not only to go international but also to help the startup grow. Having IP will give startups trustworthiness to investors and stakeholders. Apart from protecting their idea and innovations, IP will make the internationalization process easier. However, it is not a must to have a strong solid IP but at least some kind of IP to prove, such as the mere fact of filing a patent or so. This also proves what Candelin- Palmqvist & Sandberg (2012) said, neglecting IPRs as part of a commercialization process and as a way to appropriate returns from innovation can lead to making mistakes or overlooking some central business opportunities. Seeing how IP is use for business strategy nowadays, it is increasingly important for startups to understand the strategic perspective of IPRs and the different choices companies can make to compete on the increasingly international markets.

5.5 Importance of previous skills for a startup international expansion

It is relevant to take in account what are important skills that startups should have before going international. Different skills that were considered important for a smoother and better internationalization process were analyzed and ask to the 28 surveyed startups. The question was intended to see what weight each of these skills had in this matter. The following are skills that startups consider important having prior to getting involve in their internationalization process:

- Previous International experience
- Market Knowledge
- Similar business culture
- Creativity & Innovation
- Ability to create business networks
• Strong IP

Graph 7. Startup Survey. “Importance of different skills that startups believe will help them before starting their international process.”

From the graph above it can be observed that there are two main skills that startups consider most important to have prior to their international expansion. Market knowledge and Creativity & Innovation seems to be the predominant areas that startups consider important to possess for their internationalization process. Having a Similar Business and Previous internationalization experience appear to be the least important for startups. Startups by nature are more creative and innovative as they are rising from scratch and they need to find new and non-conventional methods to break into the market and be successful.
Nowadays, if a startup were not creative and innovative, it would have serious problems not only to expand abroad but also to survive in their local environment. Innovation & creativity is crucial for the continuing success of any organization and most importantly for startups; these innovations can come from a new idea, a new method or new product. However, startups should not only have innovation and creativity in their business product/service but also in the way of how they launch it into the market and how they do their business development. Startups by nature seem to mark the innovativeness in the market with either incremental innovation in products or services or even with radical innovations. The most successful startups would be able to put on creativity and innovation in their product, services and commercial activities to help them break into the market, have customer acceptance and growth.

Going to the second important factor, having “good market knowledge” of the area where the startup wants to expand is critical. Getting knowledge of the desire market can be sometimes very expensive for a startup. Having this type of knowledge is indeed critical for a smoother transition as it will save the startup costs in the long run and it will provide them with the possibility to tailor their product and service to the new desire market. Not every market is the same and startups need to be willing to adapt and give what the new international market is demanding in a fast and simple way.

The third most important reason was the “ability to create business networks”. We know now that business networks are important but having the ability to easily build the right business networks is not easy and it can take time to develop. Having this ability dominated, startups can easily achieve the previous skill (market knowledge) if they know with who and where to build the networks. Related to this topic, to have a better understanding of where would startups obtain information about the market they want to conquer, it was ask to startups how would they gather information about the international target market before entering such market. The responses were as follow:
With the two top options it was identified first, having “Contacts in the desire market” and as a second option “Extensive market research”. The first option (Contacts in the desire market) is clearly identified as establishing relationships and creating business networks in the desire expansion market. Therefore, once again we can see the importance of using business networks and with what main purpose. This confirms once again that the use of business networks is critical and important for a startup internationalization process. In order to aim this, such business networks should not only be established locally but also internationally. This way, startups can learn from the market they desire to penetrate and get a good insight about it. These networks can be any source of contact that can provide the startup with useful information. By using this foreign networks, startups can know how the market behaves, how the customers behaves, what are the most reliable suppliers and the type of partners/alliances if so, they should join. In the above graph, “Previous experience” was not considered as important as the other. “Other”, referred to the support of government and business accelerators. This agrees with graph 7 and verifies that having previous internationalization experience is not as important. Therefore, it can be confirm that it is not much about the experience but more about the connections, relationships and networks that are created at a local and international level.
6. Conclusion and Limitations

6.1 Conclusion

This thesis has examined the importance of business networks for startups and how they can use this tool for internationalization purposes. To prove and analyze the hypothesis previously established a dataset of 28 different startups was created with an inception time ranging from 4 months to 3 years and with a variety of different industries. The main focus was to measure if startups in general believe that business networks are important for them, in regards of international business expansion. However, also specific concerns such as startup’s Intellectual Property was analyzed and how this plays an important role while joining business networks and expanding in the international market.

Looking back at the theory it was seen that the increased access to information by building business networks can decrease the physical distance between countries, which was previously seen as a major obstacle for firms international expansion. Startups possess limited resources and they don’t have the power to bargain and negotiate with their different stakeholders in order to achieve a better deal. Business networks are proven to be a great alternative for startups to put themselves in a better position where they can benefit from their stakeholders, get a deep insight about the target market, target new customers and eventually expand and create more opportunities for themselves without having to spend too many resources. The advantage is that they can use horizontal and vertical networks for their own good. By using vertical networks, startups can increase their operational efficiency of their value system. By using horizontal networks, startups can gain access to existing resources or to co-develop new resources, which is when they can form competition alliances or strategic networks.

The research showed that almost all of the startups are willing to go international having as top reasons to aim for expansion, target new customers and in search for a bigger and better market opportunity. Startup nowadays are aware that it is required to leave the local market in
order to succeed and grow as the world is becoming more and more globalized every day. Having good market knowledge of the desire expansion market is one of the main factors that startups consider important to use business networks before starting their international process. Through business networks, startups can get a deep insight of this market knowledge in order to plan their international business development. It is seem to be correlated the importance of skills startups must have before going international and the use of business networks to achieve these skills. This means that they need business networks to explore new markets and target new opportunities. Creating business networks in a big cluster was also seem beneficial for a startup’s knowledge and first customers acquisition due to firms agglomeration, flow of information and spillovers in the environment.

Startup’s business alliances are a great way to create synergies and expand their business networks to a wider dimension. From this research, it was realized that most startups would consider making business alliances with other startups and firms either locally and/or internationally. It was also shown that the reasons to join these alliances were first, expansion/growth, market opportunity and profit. Second, motivation as an important factor for the startups, as without motivation there in no action. Third, to gain from the alliance useful and specific knowledge that will help them achieve their goals and international expansion. This knowledge can range from specific details and insights about the target market, methodologies, optimization procedures or key contacts, among others.

Another analyzed key topic was the relation between a startup’s Intellectual Property and how this affects in giving the startup confidence and eventually building up business networks for internationalization process. It was prove that startups show a big degree of skepticism and concern towards creating business networks if they have a unique and original idea/innovation. This skepticism and fear comes with the concern of getting their innovation stolen. As startups do not possess many resources, sometimes paying to have their own IP can be very expensive.
Therefore, this research proved that startups that can afford a strong and solid IP are more likely to internationalize by using business networks than those which their IP is weaker or zero. The reason behind this is because at the moment that business networks are created, no matter in which form, information is exposed. The level of exposure can vary from little to a lot, depending the network agreement and ties. However, the startups can get into a vulnerable scenario where they can see themselves in a live or die situation if their inventions/innovation are jeopardized. Intellectual Property proves to protect the startup from this type of scenarios and offers the startup with security and assured revenues from IPR. Nevertheless, IP will also create added benefits to the startup such as positioning them to have a better and faster external financing and investment depending on the lifecycle and IP development the startup has.

It was also shown that a startup’s ability to succeed is not based on the amount of developed networks, but on how solid and beneficial this networks are for the startup. Network management to coordinate and mobilize key actors inside a network, how to develop an optimal strategic portfolio and how to assess and enter into new networks are important factors that a startup must consider while involve in business networks.

Entrepreneurs should not fear the fact that the world is not flat. Being global may not be a pursuit for the faint hearted, but even startups can thrive by using distance to gain competitive advantage. A good, efficient, effective and cheap way for startups to break the barriers of this distance and capitalize in global opportunities is through business networks. By using business networks startups can optimize their resources and take advantage of other players to achieve their personal and common goals. Business networks and startups should be hand-to-hand whenever internationalization wants to be achieved.

6.2 Limitations

This master thesis contributes to the literature that focused on startup’s benefits of using business networks for international expansion. Also, this study can generate many possibilities for further
research as the topic is very wide and its interest is considerably growing due to globalization and internationalization. However, several limitations of the study may be observed due to the assumptions made and the restricted information available.

In this study, the results have been obtained from relatively small samples of startups due to lack of time and resources. Therefore, it would be worth conducting a research covering the analyzed topics taking in consideration a bigger pool of startups. Moreover, the following limitations may provide useful suggestions for further research.

First, it is not possible to generalize the findings for a specific industry as it has seen that each industry behaves very different on its own. Secondly, only the survival period from the analyzed startups was taken in consideration as a measure of performance, while other indicators such as growth rate, profitability, sales and market share have not been considered. Additionally, it would be recommended to perform face to face in depth interviews for further research, which enables the researcher to acquire more data in a reliable way. As far as innovativeness concerns, patent granting is just one aspect of innovative startup activity and it should also be able to account for product or process innovation activity, as well as R&D performance. Finally, results have been obtained from a wide spectrum of places around the globe; it would be worth conducting the same analysis in specific geographical contexts and with a larger sample. All this limitations represent steps that could be address by future studies in order to outperform and have an accurate view of the topic in study.
7. Acknowledgments

I would like to express my thanks to Jing Chen, my supervisor, who has provided me with her valuable time, comments, suggestions, and support throughout the project by giving me feedback from time to time to improve my work.

I also want to thank my father Oscar, my mother Norma and my brother Rodrigo for their unconditional support and motivation across the distance.

I would also like to thank my amazing fiancée Angelica for her great love and support at all times and to my good friends David and Rebekka who has been with me through this whole process.

Last but not least, thanks to all the startups that were willing to answer the surveys and to my friend Victor who was a great contact at a business incubator and put me in touch with a lot of the analyzed startups.
8. References


Paul Graham, Altman, Marc Andreessen, Paul Buchheit, Patrick Collison, Jessica Livingston, Geoff Ralston, and Harj Taggar (September 2012). Startup = Growth. Paul Graham website


Oscar Perales


9. Appendix

Figures

Figure 1. Relationship between Resources & Internationalization for survival
Figure 2. Network approach to internationalization
Figure 3. Conceptual framework of intermediary role.

Tables

Table 1. Levels of management classification in Networks
Table 2. Difference between Network and Alliances
Table 3. Summary of IP Protection Instruments
Table 4. Financial lifecycle of a startup
Table 5. Research Strategy

Graphs

Graph 1. Startup Survey “What would your main reasons for Internationalization be?”
Graph 2. Startup Survey “Does the startup believe business networks will make their internationalization reason(s) achieve faster?”
Graph 3. Startups Survey. “Startup’s main purpose for business alliances.”
Graph 4. Startups Survey. “Startup's IP concern when joining alliances or business network”.
Graph 5. Startup Survey “Do startups choose their relationships/business networks in order to protect their business idea/IP?”
Graph 6. Startup Survey. “Do startups believe it is important to have a solid IP before going international?”
Graph 7. Startup Survey. “Importance of different factors that startups believe will help them on going international.”
Graph 8. Startup Survey. “How would startups gather information about the international target market before entering such market.”

Startup Survey

General Information

Name of the company:
Country of Origin:
Position of the Respondent:
Year of Foundation:
Product/Service/Field of business:
Survey Questions

1. How is your startup operating at the moment?
   a) Locally
   b) Locally but with plans of internationalization
   c) Internationally

   If “locally”, please answer questions 2 & 3.

2. Would you consider going international with your startup?
   a) YES  b) NO

3. Have you tried something in the past in order to go international
   a) YES  b) NO

4. Do you think business networks are important for startups to become international and
global?
   a) Important
   b) Not Important
   c) Indifferent

5. Do you believe that having a good structure of business networks will help you with the
   international process?
   a) YES  b) NO

6. What would your main reason for internationalization be?
   a) Market Opportunity
   b) Profit
   c) Expansion
   d) Market for new product
   e) Motivation
   f) Other

7. Do you believe that business networks/relationships would make this process faster?
   a) YES  b) NO

8. Do you carefully choose your relationships and business networks in order to protect
   your business idea/Intellectual Property?
   a) YES  b) NO  c) Indifferent
9. Do you believe that your business idea/Intellectual Property might be stolen or jeopardize by joining business networks?
   a) YES  b) NO

10. Do you believe it is important to have a solid IP before going International?
    a) YES  b) NO  c) Indifferent

11. Which of the following factors do you think will help your startup’s international process? Please rate them according to importance.

1- not important, 2- little importance, 3- moderately important, 4- important, 5- very important.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous international experience</td>
<td></td>
</tr>
<tr>
<td>Market Knowledge</td>
<td></td>
</tr>
<tr>
<td>Similar business culture</td>
<td></td>
</tr>
<tr>
<td>Creativity &amp; Innovation</td>
<td></td>
</tr>
<tr>
<td>Local Networks &amp; Relationships</td>
<td></td>
</tr>
<tr>
<td>Foreign Networks/Relationships</td>
<td></td>
</tr>
<tr>
<td>Ability to create business networks</td>
<td></td>
</tr>
<tr>
<td>Strong IP</td>
<td></td>
</tr>
</tbody>
</table>

12. Would you consider making business alliances with other startups or companies locally and/or internationally?
   a) YES  b) NO  c) Indifferent

13. If yes, what would the main purpose of this alliance be?
    a) Get Knowledge  d) Boost sales
    b) Get Information e) Reach other markets
    c) To complement each other f) Other

14. Would you be concern about your Intellectual Property when joining these alliances?
    a) YES  b) NO  c) Indifferent

15. What do you believe has more importance for international expansion in your startup?
    a) Business networks
    b) Entrepreneurial activity
    c) Both a and b.

Oscar Perales
16. How would you gather information about the international target market before entering that market?
   a) Extensive market research
   b) Contacts in the desire market
   c) Previous experience
   d) Other

   Thank you!!

### Startups Info

<table>
<thead>
<tr>
<th>Startup Name</th>
<th>Country of Origin</th>
<th>Time from inception</th>
<th>Field of Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Churchdesk</td>
<td>Denmark</td>
<td>2.5 years</td>
<td>IT Software</td>
</tr>
<tr>
<td>Thinkers</td>
<td>Mexico</td>
<td>2 years</td>
<td>Education</td>
</tr>
<tr>
<td>Habichuela</td>
<td>Spain</td>
<td>4 years</td>
<td>Marketing</td>
</tr>
<tr>
<td>snabs healthy fix</td>
<td>Mexico</td>
<td>4 months</td>
<td>Restaurant</td>
</tr>
<tr>
<td>Margarita Garcia</td>
<td>Chile</td>
<td>1 year</td>
<td>IT Software</td>
</tr>
<tr>
<td>Jerardo Martinez</td>
<td>Mexico</td>
<td>4 months</td>
<td>Telecomunication</td>
</tr>
<tr>
<td>FIQA</td>
<td>Mexico</td>
<td>1.5 years</td>
<td>Food Industry</td>
</tr>
<tr>
<td>Empresa Maritima Offshore</td>
<td>USA</td>
<td>4 months</td>
<td>Maritime service to Oil &amp; Gas</td>
</tr>
<tr>
<td>tierra mia</td>
<td>Mexico</td>
<td>1.5 years</td>
<td>Food &amp; wine</td>
</tr>
<tr>
<td>OGMA</td>
<td>Sweden</td>
<td>1 year</td>
<td>Innovation</td>
</tr>
<tr>
<td>Dharma Mushrooms</td>
<td>Denmark</td>
<td>1 year</td>
<td>Bicotechnology</td>
</tr>
<tr>
<td>Mis Tutores</td>
<td>Mexico</td>
<td>3 months</td>
<td>Education</td>
</tr>
<tr>
<td>Lab It Studio</td>
<td>Mexico</td>
<td>8 months</td>
<td>High Tech Education</td>
</tr>
<tr>
<td>Asurela</td>
<td>Mexico</td>
<td>6 months</td>
<td>Interior &amp; exterior design</td>
</tr>
<tr>
<td>Fitness Academy</td>
<td>Sweden</td>
<td>2 years, 5 months</td>
<td>Health &amp; Fitness</td>
</tr>
<tr>
<td>Avior Intelligence</td>
<td>Norway</td>
<td>1 year</td>
<td>Consultancy</td>
</tr>
<tr>
<td>Republic24</td>
<td>Mexico</td>
<td>1 year 4 months</td>
<td>Video Production</td>
</tr>
<tr>
<td>ALFA</td>
<td>Denmark</td>
<td>6 months</td>
<td>servicios</td>
</tr>
<tr>
<td>FIQA</td>
<td>Sweden</td>
<td>1.5 years</td>
<td>Food Science</td>
</tr>
<tr>
<td>Ziseky</td>
<td>Poland</td>
<td>4 years</td>
<td>didactic products</td>
</tr>
<tr>
<td>Manzara</td>
<td>Mexico</td>
<td>1 year 4 months</td>
<td>Market research</td>
</tr>
<tr>
<td>Biocon</td>
<td>Germany</td>
<td>2 years</td>
<td>Bioplastic</td>
</tr>
<tr>
<td>Mexart Deco</td>
<td>Mexico</td>
<td>4 months</td>
<td>Handcraft exports</td>
</tr>
<tr>
<td>Hergran</td>
<td>Germany</td>
<td>4 years</td>
<td>Food</td>
</tr>
<tr>
<td>Go Fit</td>
<td>Mexico</td>
<td>1 year</td>
<td>Sports</td>
</tr>
<tr>
<td>Healtfit</td>
<td>Denmark</td>
<td>6 months</td>
<td>Fitness</td>
</tr>
<tr>
<td>Absolutum</td>
<td>India</td>
<td>3 years</td>
<td>Big Data</td>
</tr>
<tr>
<td>Avatar</td>
<td>Finland</td>
<td>2 years</td>
<td>Consultancy</td>
</tr>
</tbody>
</table>
Other Survey Answers

Q2 How is your startup operating at the moment?

Answered: 28   Skipped: 0

- Locally: 46.4% (13)
- Locally but with plans of Internationalization: 35.7% (10)
- Internationally: 17.9% (5)

Q3 Would you consider going international with your startup?

Answered: 21   Skipped: 7

- Yes: 95.2%
- No: 4.8%
Q4 Have you tried something in the past in order to go international?

Answered: 23  Skipped: 5

Yes: 21.7%
No: 78.3%

Q5 How important you think business networks are for startups to become international and global?

Answered: 28  Skipped: 0

Very Important: 96.4% (27)
Indifferent: 3.6% (1)
Not Important: 0%
Q6 Do you believe that having a good structure of business networks will help you with the international process?

Answered: 28  Skipped: 0

- Yes: 96.4%
- No: 3.6%

Q10 Do you believe that your business idea/Intellectual Property might be stolen or jeopardize by joining business networks?

Answered: 28  Skipped: 0

- Yes: 60.7% (17)
- No: 39.3% (11)
Q16 If Yes, what would your main Intellectual Property concern be when joining alliances or business networks?
Answered: 17 Skipped: 11

- Get my Idea/IP stolen: 23.5%
- Get my Idea/IP copied: 64.7%
- Other (please specify): 11.8%

Q17 What do you believe has more importance for international expansion in a startup?
Answered: 28 Skipped: 0

- Entrepreneurial Activity: 57.1% (16)
- Business Networks: 25.0% (7)
- Both: 17.9% (5)

Oscar Perales
<table>
<thead>
<tr>
<th></th>
<th>Not Important</th>
<th>Little Importance</th>
<th>Neutral</th>
<th>Important</th>
<th>Very Important</th>
<th>Total</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous international experience</td>
<td>4%</td>
<td>11%</td>
<td>29%</td>
<td>32%</td>
<td>25%</td>
<td>28</td>
<td>3.8</td>
</tr>
<tr>
<td>Market Knowledge</td>
<td>0%</td>
<td>0%</td>
<td>7%</td>
<td>21%</td>
<td>71%</td>
<td>28</td>
<td>4.6</td>
</tr>
<tr>
<td>Similar business culture</td>
<td>0%</td>
<td>4%</td>
<td>21%</td>
<td>50%</td>
<td>25%</td>
<td>28</td>
<td>3.9</td>
</tr>
<tr>
<td>Creativity &amp; Innovation</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>29%</td>
<td>68%</td>
<td>19</td>
<td>4.6</td>
</tr>
<tr>
<td>Ability to create business networks</td>
<td>0%</td>
<td>0%</td>
<td>7%</td>
<td>50%</td>
<td>43%</td>
<td>28</td>
<td>4.3</td>
</tr>
<tr>
<td>Strong IP</td>
<td>0%</td>
<td>0%</td>
<td>29%</td>
<td>43%</td>
<td>29%</td>
<td>28</td>
<td>4.0</td>
</tr>
</tbody>
</table>